

COMPREHENSIVE GRAMMAR RESOURCES

Henk van Riemsdijk & István Kenesei, series editors

Syntax of *Dutch*

*Verbs and
Verb Phrases*

VOLUME I

Hans Broekhuis
Norbert Corver
Riet Vos

Amsterdam
University
Press

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Verbs and Verb Phrases
Volume 1

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Editors:

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Abbreviations and symbols

This appendix contains a list of abbreviations and symbols that are used in this volume. Sometimes, conventions are adopted that differ from the ones given in this list, but if this is the case this is always explicitly mentioned in the text.

References to the other volumes of the *Syntax of Dutch*.

References to the chapters and sections to the other volume in the series *Syntax of Dutch* are preceded by a letter: N + section # refers to the two volumes on nouns and noun phrases, A + section # refers to the volume on *Adjectives and adjective Phrases*, and P+section # refers to the volume on *Adpositions and adpositional phrases*. For example, refers to Section P3.2. in Hans Broekhuis (2013). *Syntax of Dutch: Adpositions and adpositional phrases*. Amsterdam: AUP.

Symbols and abbreviation used in the main text

°xxx refers to the xxx glossary

Domain D Domain of discourse

Abbreviations used in both the main text and the examples

AP Adjectival Phrase

CP Complementizer Phrase

DP Determiner phrase

NP Noun Phrase

Noun phrase used when the NP-DP distinction is not relevant

NumP Numeral Phrase

PP Prepositional Phrase

PO-verb Verb with a prepositional object

QP Quantifier Phrase

TP Tense Phrase

VP Verb Phrase

Aux₂-Main₁ Verb cluster. The numeral indices indicate the hierarchical order of the verbs: V_{n+m} is superior to V_n. the en-dash indicates linear order: the element to the left precedes the element to the right in the surface order of the sentence: see Section 7.2, sub I, for details.

Symbols, Abbreviations and conventions used in the examples

e Phonetically empty element

Ref Referent argument (external °thematic role of nouns/adjectives)

Rel Related argument (internal thematic role of relational nouns)

OP Empty operator

PG Parasitic gap

PRO Implied subject in, e.g., infinitival clauses

PRO_{arb} Implied subject PRO with arbitrary (generic) reference

t Trace (the original position of a moved element)

xxx Small caps indicates that xxx is assigned contrastive accent

Abbreviations used as subscripts in the examples

1p/2p/3p	1 st , 2 nd , 3 rd person	pl	Plural
acc	Accusative	poss	Possessor
dat	Dative	pred	Predicate
ben	Beneficiary	rec	Recipient
nom	Nominative	sg	Singular

Abbreviations used in the glosses of the examples

AFF	Affirmative marker
COMP	Complementizer: <i>dat</i> ‘that’ in finite declarative clauses, <i>of</i> ‘whether/if’ in finite interrogative clauses, and <i>om</i> in infinitival clauses
prt.	Particle that combines with a particle verb
PRT	Particle of different kinds
REFL	The short form of the reflexive pronoun, e.g., <i>zich</i> ; the long form <i>zichzelf</i> is usually translated as <i>himself/herself/itself</i>
XXX	Small caps in other cases indicates that XXX cannot be translated

Diacritics used for indicating acceptability judgments

*	Unacceptable
*?	Relatively acceptable compared to *
??	Intermediate or unclear status
?	Marked: not completely acceptable or disfavored form
(?)	Slightly marked, but probably acceptable
no marking	Fully acceptable
%	Varying judgments among speakers
#	Unacceptable under intended reading
\$	Special status: old-fashioned, archaic, very formal, semantically incoherent, degraded/unacceptable for non-syntactic reasons, etc. The nature of the deviation is normally explained in the main text.

Other conventions

xx/yy	Acceptable both with xx and with yy
*xx/yy	Unacceptable with xx, but acceptable with yy
xx/*yy	Acceptable with xx, but unacceptable with yy
(xx)	Acceptable both with and without xx
*(xx)	Acceptable with, but unacceptable without xx
(*xx)	Acceptable without, but unacceptable with xx
.. <xx>	Alternative placement of xx in an example
.. <*xx> ..	Impossible placement of xx in an example
⇒	Necessarily implies
⇏	Does not necessarily imply
<i>XX ... YY</i>	Italics indicate binding
XX _i ... YY _i	Coindexing indicates coreference
XX _i ... YY _j	Counter-indexing indicates disjoint reference
XX _{*i/j}	Unacceptable with index <i>i</i> , acceptable with index <i>j</i>
XX _{i/*j}	Unacceptable with index <i>j</i> , acceptable with index <i>i</i>
[XP ...]	Constituent brackets of a constituent XP

Preface and acknowledgments

1. General introduction

Dutch is an official language in the Netherlands, Belgium-Flanders, Surinam, Aruba and the Netherlands Antilles. With about 22 million native speakers it is one of the world's greater languages. It is taught and studied at more than 175 universities around the world (source: taalunieversum.org). Furthermore, Dutch is one of the most well-studied living languages; research on it has had a major, and still continuing, impact on the development of formal linguistic theory, and it plays an important role in various other types of linguistic research. It is therefore unfortunate that there is no recent comprehensive scientifically based description of the grammar of Dutch that is accessible to a wider international audience. As a result, much information remains hidden in scientific publications: some information is embedded in theoretical discussions that are mainly of interest for and accessible to certain groups of formal linguists or that are more or less outdated in the light of more recent findings and theoretical developments, some is buried in publications with only a limited distribution, and some is simply inaccessible to large groups of readers given that it is written in Dutch. The series *Syntax of Dutch* (SoD) aims at filling this gap for syntax.

2. Main objective

The main objective of *SoD* is to present a synthesis of currently available syntactic knowledge of Dutch. It gives a comprehensive overview of the relevant research on Dutch that not only presents the findings of earlier approaches to the language, but also includes the results of the formal linguistic research carried out over the last four or five decades that often cannot be found in the existing reference books. It should be emphasized, however, that *SoD* is primarily concerned with language description and not with linguistic theory; the reader will generally look in vain for critical assessments of theoretical proposals made to account for specific phenomena. Although *SoD* addresses many of the central issues of current linguistic theory, it does *not* provide an introduction to current linguistic theory. Readers interested in such an introduction are referred to one of the many existing introductory textbooks, or to handbooks like *The Blackwell Companion to Syntax*, edited by Martin Everaert & Henk van Riemsdijk, or *The Cambridge Handbook of Generative Syntax*, edited by Marcel den Dikken. A recent publication that aims at providing a description of Dutch in a more theoretical setting is *The Syntax of Dutch* by Jan-Wouter Zwart in the *Cambridge Syntax Guides* series.

3. Intended readership

SoD is not intended for a specific group of linguists, but aims at a more general readership. Our intention was to produce a work of reference that is accessible to a large audience that has some training in linguistics and/or neighboring disciplines and that provides support to all researchers interested in matters relating to the syntax of Dutch. Although we did not originally target this group, we believe that

the descriptions we provide are normally also accessible to advanced students of language and linguistics. The specification of our target group above implies that we have tried to avoid jargon from specific theoretical frameworks and to use as much as possible the *lingua franca* that linguists use in a broader context. Whenever we introduce a notion that we believe not to be part of the *lingua franca*, we will provide a brief clarification of this notion in a glossary; first occurrences of such notions in a certain context are normally marked by means of °.

4. Object of description

The object of description is aptly described by the title of the series, *Syntax of Dutch*. This title suggests a number of ways in which the empirical domain is restricted, which we want to spell out here in more detail by briefly discussing the two notions *syntax* and *Dutch*.

1. *Syntax*

Syntax is the field of linguistics that studies how words are combined into larger phrases and, ultimately, sentences. This means that we do not systematically discuss the internal structure of words (this is the domain of morphology) or the way in which sentences are put to use in discourse: we only digress on such matters if this is instrumental in describing the syntactic properties of the language. For example, Chapter N1 contains an extensive discussion of deverbal nominalization, but this is only because this morphological process is relevant for the discussion of complementation of nouns in Chapter N2. And Section N8.1.3 will show that the word order difference between the two examples in (1) is related to the preceding discourse: if pronounced with neutral (non-contrastive) accent, the object *Marie* may only precede clausal adverbs like *waarschijnlijk* ‘probably’ if it refers to some person who has already been mentioned in (or is implied by) the preceding discourse.

- (1) a. Jan heeft waarschijnlijk *Marie* gezien. [Marie = discourse new]
Jan has probably Marie seen
‘Jan has probably seen Marie.’
b. Jan heeft *Marie* waarschijnlijk gezien. [Marie = discourse old]
Jan has Marie probably seen
‘Jan has probably seen Marie.’

Our goal of describing the internal structure of phrases and sentences means that we focus on competence (the internalized grammar of native speakers), and not on performance (the actual use of language). This implies that we will make extensive use of constructed examples that are geared to the syntactic problem at hand, and that we will not systematically incorporate the findings of currently flourishing corpus/usage-based approaches to language: this will be done only insofar as this may shed light on matters concerning the internal structure of phrases. A case for which this type of research may be syntactically relevant is the word order variation of the verb-final sequence in (2), which has been extensively studied since Pauwels (1950) and which has been shown to be sensitive to a large number of interacting variables, see De Sutter (2005/2007) for extensive discussion.

- (2) a. dat Jan dat boek *gelezen heeft*.
 that Jan that book read has
 ‘that Jan has read that book.’
- b. dat Jan dat boek *heeft gelezen*.
 that Jan that book has read
 ‘that Jan has read that book.’

This being said, it is important to point out that *SoD* will pay ample attention to certain aspects of meaning, and reference will also be made to phonological aspects such as stress and intonation wherever they are relevant (e.g., in the context of word order phenomena like in (1)). The reason for this is that current formal grammar assumes that the output of the syntactic module of the grammar consists of objects (sentences) that relate form and meaning. Furthermore, formal syntax has been quite successful in establishing and describing a large number of restrictions on this relationship. A prime example of this is the formulation of so-called °binding theory, which accounts (among other things) for the fact that referential pronouns like *hem* ‘him’ and anaphoric pronouns like *zichzelf* ‘himself’ differ in the domain within which they can/must find an antecedent. For instance, the examples in (3), in which the intended antecedent of the pronouns is given in italics, show that whereas referential object pronouns like *hem* cannot have an antecedent within their clause, anaphoric pronouns like *zichzelf* ‘himself’ must have an antecedent in their clause, see Section N5.2.1.5, sub III, for more detailed discussion.

- (3) a. *Jan* denkt dat Peter *hem*/**zichzelf* bewondert.
 Jan thinks that Peter *him*/himself admires
 ‘Jan thinks that Peter is admiring him [= Jan].’
- b. Jan denkt dat *Peter* *zichzelf*/**hem* bewondert.
 Jan thinks that Peter *himself*/him admires
 ‘Jan thinks that Peter is admiring himself [= Peter].’

II. Dutch

SoD aims at giving a syntactic description of what we will loosely refer to as Standard Dutch, although we are aware that there are many problems with this notion. First, the notion of Standard Dutch is often used to refer to written language and more formal registers, which are perceived as more prestigious than the colloquial uses of the language. Second, the notion of Standard Dutch suggests that there is an invariant language system that is shared by a large group of speakers. Third, the notion carries the suggestion that some, often unnamed, authority is able to determine what should or should not be part of the language, or what should or should not be considered proper language use. See Milroy (2001) for extensive discussion of this notion of standard language.

SoD does not provide a description of this prestigious, invariant, externally determined language system. The reason for this is that knowledge of this system does not involve the competence of the individual language user but “is the product of a series of educational and social factors which have overtly impinged on the linguistic experiences of individuals, prescribing the correctness/incorrectness of certain constructions” (Adger & Trousdale 2007). Instead, the notion of standard

language in *SoD* should be understood more neutrally as an idealization that refers to certain properties of linguistic competence that we assume to be shared by the individual speakers of the language. This notion of standard language deviates from the notion of standard language discussed earlier in that it may include properties that would be rejected by language teachers, and exclude certain properties that are explicitly taught as being part of the standard language. To state the latter in more technical terms: our notion of standard language refers to the core grammar (those aspects of the language system that arise spontaneously in the language learning child by exposure to utterances in the standard language) and excludes the periphery (those properties of the standard language that are explicitly taught at some later age). This does not mean that we will completely ignore the more peripheral issues, but it should be kept in mind that these have a special status and may exhibit properties that are alien to the core system.

A distinguishing property of standard languages is that they may be used among speakers of different dialects, and that they sometimes have to be acquired by speakers of such dialects as a second language at a later age, that is, in a similar fashion as a foreign language (although this may be rare in the context of Dutch). This property of standard languages entails that it is not contradictory to distinguish various varieties of, e.g., Standard Dutch. This view is also assumed by Haeseryn et al. (1997: Section 0.6.2), who make the four-way distinction in (4) when it comes to geographically determined variation.

- (4) • Types of Dutch according to Haeseryn et al. (1997)
 - a. Standard language
 - b. Regional variety of Standard Dutch
 - c. Regional variety of Dutch
 - d. Dialect

The types in (4b&c) are characterized by certain properties that are found in certain larger, but geographically restricted regions only. The difference between the two varieties is defined by Haeseryn et al. (1997) by appealing to the perception of the properties in question by other speakers of the standard language: if the majority of these speakers do not consider the property in question characteristic for a certain geographical region, the property is part of a regional variety of *Standard Dutch*; if the property in question is unknown to certain speakers of the standard language or considered to be characteristic for a certain geographical region, it is part of a regional variety of *Dutch*. We will not adopt the distinction between the types in (4b) and (4c) since we are not aware of any large-scale perception studies that could help us to distinguish the two varieties in question. We therefore simply join the two categories into a single one, which leads to the typology in (5).

- (5) • Types of Dutch distinguished in *SoD*
 - a. Standard Dutch
 - b. Regional variety of Dutch
 - c. Dialect of Dutch

We believe it to be useful to think of the notions in (5) in terms of grammatical properties that are part of the competence of groups of speakers. Standard Dutch

can then be seen as a set of properties that is part of the competence of all speakers of the language. Examples of such properties in the nominal domain are that non-pronominal noun phrases are not morphologically case-marked and that the word order within noun phrases is such that nouns normally follow attributively used adjectives but precede PP-modifiers and that articles precede attributive adjectives (if present); cf. (6a). Relevant properties within the clausal domain are that finite verbs occupy the co-called second position in main clauses whereas non-finite verbs tend to cluster in the right-hand side of the clause (see (6b)), and that finite verbs join the clause-final non-finite verbs in embedded clauses (see (6c)).

- (6) a. de oude man in de stoel [word order within noun phrases]
 the old man in the chair
- b. Jan heeft de man een lied horen zingen. [verb second/clustering]
 Jan has the man a song hear sing
 ‘Jan has heard the man sing a song.’
- c. dat Jan de man een lied heeft horen zingen. [verb clustering]
 that Jan the man a song has hear sing
 ‘that Jan has heard the man sing a song.’

Regional varieties of Dutch arise as the result of sets of additional properties that are part of the competence of larger subgroups of speakers—such properties will define certain special characteristics of the variety in question but will normally not give rise to linguistic outputs that are inaccessible to speakers of other varieties; see the discussion of (7) below for a typical example. Dialects can be seen as a set of properties that characterizes a group of speakers in a restricted geographical area—such properties may be alien to speakers of the standard language and may give rise to linguistic outputs that are not immediately accessible to other speakers of Dutch; see the examples in (9) below for a potential case. This way of thinking about the typology in (5) enables us to use the language types in a more gradient way, which may do more justice to the situation that we actually find. Furthermore, it makes it possible to define varieties of Dutch along various (e.g., geographical and possibly social) dimensions.

The examples in (7) provide an example of a property that belongs to regional varieties of Dutch: speakers of northern varieties of Dutch require that the direct object *boeken* ‘books’ precede all verbs in clause-final position, whereas many speakers of the southern varieties of Dutch (especially those spoken in the Flemish part of Belgium) will also allow the object to permeate the verb sequence, as long as it precedes the main verb.

- (7) a. dat Jan <boeken> wil <*boeken> kopen. [Northern Dutch]
 that Jan books wants buy
 ‘that Jan wants to buy books.’
- b. dat Jan <boeken> wil <boeken> kopen. [Southern Dutch]
 that Jan books wants buy
 ‘that Jan wants to buy books.’

Dialects of Dutch may deviate in various respects from Standard Dutch. There are, for example, various dialects that exhibit morphological agreement between the

subject and the complementizer, which is illustrated in (8) by examples taken from Van Haeringen (1939); see Haegeman (1992), Hoekstra & Smit (1997), Zwart (1997), Barbiers et al. (2005) and the references given there for more examples and extensive discussion. Complementizer agreement is a typical dialect property as it does not occur in (the regional varieties of) Standard Dutch.

- (8) a. $A_{S_{sg}}$ Wim $komp_{sg}$, mot jə zorgə dat je tuis ben.
 when Wim comes must you make.sure that you at.home are
 ‘When Wim comes, you must make sure to be home.’
 b. Azz_{pl} Kees en Wim $kommə_{pl}$, mot jə zorgə dat je tuis ben.
 when Kees and Wim come must you make.sure that you home are
 ‘When Kees and Wim come, you must make sure to be home.’

The examples in (9) illustrate another property that belongs to a certain set of dialects. Speakers of most varieties of Dutch would agree that the use of possessive datives is only possible in a limited set of constructions: whereas possessive datives are possible in constructions such as (9a), in which the possessee is embedded in a °complementive PP, they are excluded in constructions such as (9b), in which the possessee is a direct object. Constructions such as (9b) are perceived (if understood at all) as belonging to certain eastern and southern dialects, which is indicated here by means of a percentage sign.

- (9) a. Marie zet Peter/hem_{possessor} het kind op de knie_{possessee}.
 Marie puts Peter/him the child onto the knee
 ‘Marie puts the child on Peter’s/his knee.’
 b. %Marie wast Peter/hem_{possessor} de handen_{possessee}.
 Marie washes Peter/him the hands
 ‘Marie is washing Peter’s/his hands.’

Note that the typology in (5) should allow for certain dialectal properties to become part of certain regional varieties of Dutch, as indeed seems to be the case for possessive datives of the type in (9b); cf. Cornips (1994). This shows again that it is not possible to draw sharp dividing lines between regional varieties and dialects and emphasizes that we are dealing with dynamic systems; see the discussion of (5) above. For our limited purpose, however, the proposed distinctions seem to suffice.

It should be stressed that the description of the types of Dutch in (5) in terms of properties of the competence of groups of speakers implies that Standard Dutch is actually not a language in the traditional sense; it is just a subset of properties that all non-dialectal varieties of Dutch have in common. Selecting one of these varieties as *Standard Dutch in the more traditional sense described in the beginning of this subsection* is not a linguistic enterprise and will therefore not concern us here. For practical reasons, however, we will focus on the variety of Dutch that is spoken in the northwestern part of the Netherlands. One reason for doing this is that, so far, the authors who have contributed to *SoD* are all native speakers of this variety and can therefore simply appeal to their own intuitions in order to establish whether this variety does or does not exhibit a certain property. A second reason is that this variety seems close to the varieties that have been discussed in the linguistic literature on “Standard Dutch”. This does not mean that we will not

discuss other varieties of Dutch, but we will do this only if we have reason to believe that they behave differently. Unfortunately, however, not much is known about the syntactic differences between the various varieties of Dutch and since it is not part of our goal to solve this problem, we want to encourage the reader to restrict the judgments given in *SoD* to speakers of the northwestern variety (unless indicated otherwise). Although in the vast majority of cases the other varieties of Dutch will exhibit identical or similar behavior given that the behavior in question reflects properties that are part of the standard language (in the technical sense given above), the reader should keep in mind that this cannot be taken for granted as it may also reflect properties of the regional variety spoken by the authors of this work.

5. Organization of the material

SoD is divided in four main parts that focus on the four LEXICAL CATEGORIES: verbs, nouns, adjectives and adpositions. Lexical categories have denotations and normally take arguments: nouns denote sets of entities, verbs denote states-of-affairs (activities, processes, etc.) that these entities may be involved in, adjectives denote properties of entities, and adpositions denote (temporal and locational) relations between entities.

The lexical categories, of course, do not exhaust the set of word classes; there are also FUNCTIONAL CATEGORIES like complementizers, articles, numerals, and quantifiers. Such elements normally play a role in phrases headed by the lexical categories: articles, numerals and quantifiers are normally part of noun phrases and complementizers are part of clauses (that is, verbal phrases). For this reason, these functional elements will be discussed in relation to the lexical categories.

The four main parts of *SoD* are given the subtitle *Xs and X phrases*, where *X* stands for one of the lexical categories. This subtitle expresses that each part discusses one lexical category and the ways in which it combines with other elements (like arguments and functional categories) to form constituents. Furthermore, the four main parts of *SoD* all have more or less the same overall organization in the sense that they contain (one or more) chapters on the following issues.

I. Characterization and classification

Each main part starts with an introductory chapter that provides a general characterization of the lexical category under discussion by describing some of its more conspicuous properties. The reader will find here not only a brief overview of the syntactic properties of these lexical categories, but also relevant discussions on morphology (e.g., inflection of verbs and adjectives) and semantics (e.g., the aspectual and tense properties of verbs). The introductory chapter will furthermore discuss ways in which the lexical categories can be divided into smaller natural subclasses.

II. Internal syntax

The main body of the work is concerned with the internal structure of the °projections of lexical categories/heads. These projections can be divided into two

subdomains, which are sometimes referred to as the lexical and the functional domain. Taken together, the two domains are sometimes referred to as the EXTENDED PROJECTION of the lexical head in question; cf. Grimshaw (1991). We will see that there is reason for assuming that the lexical domain is embedded in the functional domain, as in (10), in which LEX stands for the lexical heads V, N, A or P, and F stands for one or more functional heads like the article *de* ‘the’ or the complementizer *dat* ‘that’.

(10) [FUNCTIONAL ... F ... [LEXICAL LEX]]

The lexical domain of a lexical head is that part of its projection that affects its denotation. The denotation of a lexical head can be affected by its complements and its modifiers, as can be readily illustrated by means of the examples in (11).

- (11) a. Jan leest.
 Jan reads
 b. Jan leest een krant.
 Jan reads a newspaper
 c. Jan leest nauwkeurig.
 Jan reads carefully

The phrase *een krant lezen* ‘to read a newspaper’ in (11b) denotes a smaller set of states-of-affairs than the phrase *lezen* ‘to read’ in (11a), and so does the phrase *nauwkeurig lezen* ‘to read carefully’ in (11c). The elements in the functional domain do not affect the denotation of the lexical head but provide various sorts of additional information.

A. The lexical domain I: Argument structure

Lexical heads function as predicates, which means that they normally take arguments, that is, they enter into so-called thematic relations with entities that they semantically imply. For example, intransitive verbs normally take an agent as their subject; transitive verbs normally take an agent and a theme that are syntactically realized as, respectively, their subject and their object; and verbs like *wachten* ‘to wait’ normally take an agent that is realized as their subject and a theme that is realized as a prepositional complement.

- (12) a. Jan_{Agent} lacht. [intransitive verb]
 Jan laughs
 b. Jan_{Agent} weet een oplossing_{Theme}. [transitive verb]
 Jan knows a solution
 c. Jan_{Agent} wacht op de postbode_{Theme}. [verb with PP-complement]
 Jan waits for the postman

Although this is often less conspicuous with nouns, adjectives and prepositions, it is possible to describe examples such as (13) in the same terms. The phrases between straight brackets can be seen as predicates that are predicated of the noun phrase *Jan*, which we may therefore call their logical SUBJECT (we use small caps to distinguish this notion from the notion of nominative subject of the clause). Furthermore, the examples in (13) show (a) that the noun *vriend* may combine with

a PP-complement that explicates with whom the SUBJECT *Jan* is in a relation of friendship, (b) that the adjective *trots* ‘proud’ optionally may take a PP-complement that explicates the subject matter that the SUBJECT *Jan* is proud about, and (c) that the preposition *onder* ‘under’ may take a nominal complement that refers to the location of its SUBJECT *Jan*.

- (13) a. Jan is [*een vriend van Peter*].
 Jan is a friend of Peter
 b. Jan is [*trots op zijn dochter*].
 Jan is proud of his daughter
 c. Marie stopt Jan [*onder de dekens*].
 Marie puts Jan under the blankets

That the italicized phrases are complements is somewhat obscured by the fact that there are certain contexts in which they can readily be omitted (e.g., when they would express information that the addressee can infer from the linguistic or non-linguistic context). The fact that they are always semantically implied, however, shows that they are semantically selected by the lexical head.

B. The lexical domain II: Modification

The projection consisting of a lexical head and its arguments can be modified in various ways. The examples in (14), for example, show that the projection of the verb *wachten* ‘to wait’ can be modified by various adverbial phrases. Examples (14a) and (14b), for instance, indicate when and where the state of affairs of Jan waiting for his father took place.

- (14) a. Jan wachtte *gisteren* op zijn vader. [time]
 Jan waited yesterday for his father
 ‘Jan waited for his father yesterday.’
 b. Jan wacht op zijn vader *bij het station*. [place]
 Jan waits for his father at the station
 ‘Jan is waiting for his father at the station.’

The examples in (15) show that the lexical projections of nouns, adjectives and prepositions can likewise be modified; the modifiers are italicized.

- (15) a. Jan is een *vroegere* vriend van Peter.
 Jan is a former friend of Peter
 b. Jan is *erg* trots op zijn dochter.
 Jan is very proud of his daughter
 c. Marie stopt Jan *diep* onder de dekens.
 Marie puts Jan deep under the blankets

C. The functional domain

Projections of the lexical heads may contain various elements that are not arguments or modifiers, and thus do not affect the denotation of the head noun. Such elements simply provide additional information about the denotation. Examples of such functional categories are articles, numerals and quantifiers, which we find in the nominal phrases in (16).

- (16) a. Jan is *de/een* vroegere vriend van Peter. [article]
 Jan is the/a former friend of Peter
 b. Peter heeft *twee/veel* goede vrienden. [numeral/quantifier]
 Jan has two/many good friends

That functional categories provide additional information about the denotation of the lexical domain can readily be demonstrated by means of these examples. The definite article *de* in (16a), for example, expresses that the set denoted by the phrase *vroegere vriend van Peter* has just a single member; the use of the indefinite article *een*, on the other hand, suggests that there are more members in this set. Similarly, the use of the numeral *twee* ‘two’ in (16b) expresses that there are just two members in the set, and the quantifier *veel* ‘many’ expresses that the set is large.

Functional elements that can be found in verbal projections are tense (which is generally expressed as inflection on the finite verb) and complementizers: the difference between *dat* ‘that’ and *of* ‘whether’ in (17), for example, is related to the illocutionary type of the expression: the former introduces embedded declarative and the latter embedded interrogative clauses.

- (17) a. Jan zegt [*dat* Marie ziek is]. [declarative]
 Jan says that Marie ill is
 ‘Jan says that Marie is ill.’
 b. Jan vroeg [*of* Marie ziek is]. [interrogative]
 Jan asked whether Marie ill is
 ‘Jan asked whether Marie is ill.’

Given that functional categories provide information about the lexical domain, it is often assumed that they are part of a functional domain that is built on top of the lexical domain; cf. (10) above. This functional domain is generally taken to have an intricate structure and to be highly relevant for word order: functional heads are taken to project, just like lexical heads, and thus to create positions that can be used as landing sites for movement. A familiar case is *wh*-movement, which is assumed to target some position in the projection of the complementizer; in this way it can be explained that, in colloquial Dutch, *wh*-movement may result in placing the interrogative phrase to the immediate left of the complementizer *of* ‘whether’. This is shown in (18b), in which the trace *t* indicates the original position of the moved *wh*-element and the index *i* is just a convenient means to indicate that the two positions are related. Discussion of word order phenomena will therefore play a prominent role in the chapters devoted to the functional domain.

- (18) a. Jan zegt [*dat* Marie een boek van Louis Couperus gelezen heeft].
 Jan says that Marie a book by Louis Couperus read has
 ‘Jan said that Marie has read a book by Louis Couperus.’
 b. Jan vroeg [*wat_i* (of) Marie *t_i* gelezen heeft].
 Jan asked what whether Marie read has
 ‘Jan asked what Marie has read.’

Whereas (relatively) much is known about the functional domain of verbal and nominal projections, research on the functional domain of adjectival and pre-

positional phrases is still in its infancy. For this reason, the reader will find independent chapters on this issue only in the parts on verbs and nouns.

III. External syntax

The discussion of each lexical category will be concluded with a look at the external syntax of their projections, that is, an examination of how such projections can be used in larger structures. Adjectives, for example, can be used as °complementives (predicative complements of verbs), as attributive modifiers of noun phrases, and also as adverbial modifiers of verb phrases.

- (19) a. Die auto is *snel*. [complementive use]
 that car is fast
 b. Een *snelle* auto [attributive use]
 a fast car
 c. De auto reed *snel* weg. [adverbial use]
 the car drove quickly away
 ‘The car drove away quickly.’

Since the external syntax of the adjectival phrases in (19) can in principle also be described as the internal syntax of the verbal/nominal projections that contain these phrases, this may give rise to some redundancy. Complementives, for example, are discussed in Section V2.2 as part of the internal syntax of the verbal projection, but also in Sections N8.2, A6 and P4.2 as part of the external syntax of nominal, adjectival and adpositional phrases. We nevertheless have allowed this redundancy, given that it enables us to simplify the discussion of the internal syntax of verb phrases in V2.2: nominal, adjectival and adpositional complementives exhibit different behavior in various respects, and discussing all of these in Section V2.2 would have obscured the discussion of properties of complementives in general. Of course, a system of cross-references will inform the reader when a certain issue is discussed from the perspective of both internal and external syntax.

6. History of the project and future prospects

The idea for the project was initiated in 1992 by Henk van Riemsdijk. In 1993 a pilot study was conducted at Tilburg University and a steering committee was installed after a meeting with interested parties from Dutch and Flemish institutions. However, it was only in 1998 a substantial grant from the Netherlands Organization of Scientific Research (NWO) was finally obtained.

Funding has remained a problem, however, which is the main reason that *SoD* has not been completed yet. However financial guarantees have now been created for Hans Broekhuis to finish all four main parts of *SoD*. Due to the size of the complete set of materials comprising *SoD*, we have decided that the time has come to publish the currently available parts. In what follows, we inform the reader of what has been done so far and what is to be expected in the near future.

I. Noun and noun phrases (Hans Broekhuis, Evelien Keizer and Marcel den Dikken)

This work, which was published in two volumes in 2012, discusses the internal make-up as well as the distribution of noun phrases. Topics covered include complementation and modification of noun phrases, properties of determiners (article, demonstratives), numeral and quantifiers, and also the use of noun phrases as arguments, predicates and adverbial modifiers.

II. Adjectives and adjective phrases (Hans Broekhuis)

This work, which was published in the spring of 2013, discusses the internal make-up as well as the distribution of adjective phrases. Topics covered include complementation and modification, comparative and superlative formation, and the attributive, predicative and adverbial uses of adjective phrases. Special attention is paid to the so-called partitive genitive construction and the adverbial use of past/passive participles and infinitives.

III. Adpositions and adpositional phrases (Hans Broekhuis)

This work, which was published in late 2013, discusses the internal make-up and the distribution of adpositional phrases. Topics covered include complementation and modification of adpositional phrases, as well as their predicative, attributive and adverbial uses. A separate chapter is devoted to the formation and the syntactic behavior of pronominal PPs like *erop* ‘on it’, which also includes a more general discussion of the syntax of R-words such as *er* ‘there’.

IV. Verbs and Verb phrases (Hans Broekhuis, Norbert Corver and Riet Vos)

The present work will consist of three volumes of about 600 pages each. The first two volumes are published now, while the third volume is still in preparation and is expected to be ready for publication in the beginning of 2016. The first draft versions of chapters 2 and 3 were compiled by Riet Vos between May 1998 and May 2001. This work was expanded and completed by Hans Broekhuis, who is also the writer of the remaining chapters in the two volumes published now. Norbert Corver has supported him on a day-by-day basis: he meticulously read earlier versions of this material and his suggestions have led to numerous improvements. This work could not have been accomplished without this continuous input, which motivates his co-authorship of these volumes.

The first volume was again copy-edited by Carole Boster, who is unfortunately unable to continue her work: we consider this a great loss and are very grateful to her for her great dedication to the project. Carole’s activities will be continued by Frits Beukema: he has copy-edited the second volume and also suggested a number of changes related to the first volume.

V. Miscellaneous topics

In addition to the four main parts mentioned in I-IV, we have planned a separate volume in which topics like coordination and ellipsis (conjunction reduction, gapping, etc.), which cannot be done full justice within the main body of this work, are discussed in more detail. Funding for this project has not yet been acquired.

The *SoD* project will ultimately be integrated into a broader project initiated by Hans Bennis and Geert Booij, called *Language Portal Dutch/Frisian*, which includes similar projects on the phonology and the morphology of Dutch, so that the *SoD* will be complemented by a *PoD* and a *MoD*. The *Language Portal* aims at making a version of all this material accessible via internet before January 2016, and it will add various functionalities including advanced search options. As the name suggests, the *Language Portal Dutch/Frisian* will also include a grammatical description of Frisian. In fact, the *Language Portal* project is likely to be extended further and there are plans now to also include a grammatical description of Afrikaans.

The series editors of *Comprehensive Grammar Resources* series, Henk van Riemsdijk and István Kenesei, are in the process of initiating a number of grammar projects comparable to *SoD*: languages include Basque, Hungarian, Japanese, Mandarin, Polish, Russian, Spanish and Swedish. For this reason, the volumes of *SoD* are published as part of this series, which will bring together the future results of these initiatives.

7. Acknowledgments

Over the years many Dutch linguists have commented on parts of the work presented here and since we do not want to tire the reader by providing long lists of names, we simply thank the whole Dutch linguistic community; this will also safeguard us from the embarrassment of forgetting certain names. The persons mentioned on the title page have played a special role for the present study.

The pilot study for the project, which was undertaken from November 1993 to September 1994, was made possible by a subsidy from the *Center for Language Studies* and the *University of Tilburg*. It resulted in a project proposal that was eventually accepted by *The Netherlands Organisation for Scientific Research* (NWO) in 1998 and which enabled us to produce the main body of work mentioned in Section 6, sub I to III, during the period from May 1998 to May 2001. The work could be prepared for publication in the period from April 2008 to October 2010 thanks to a subsidy from the *Truus und Gerrit van Riemsdijk-Stiftung*. Since November 2010 Hans Broekhuis has continued his work on *SoD* as a staff member of the *Meertens Institute* (KNAW) in Amsterdam. *SoD* has become part of the project *Language Portal Dutch/Frisian*, which is again financed by *The Netherlands Organisation for Scientific Research* (NWO). We gratefully acknowledge the financial and moral support of these institutions and thank them for the opportunity they have given us for bringing *SoD* into being.

June 2014

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Introduction

Verbs (V), nouns (N), adjectives (A) and prepositions (P) constitute the four major word classes. The present study deals with verbs and their °projections (verb phrases). It is organized as follows.

I. Characterization and classification (Chapter 1)

Section 1.1 provides a brief survey of some conspicuous syntactic, morphological and semantic characteristics of verbs. Section 1.2 reviews a number of semantic and syntactic classifications of verbs and proposes a partly novel classification bringing together some of these proposals; this classification will be the starting point of the more extensive discussion of nominal complementation in Chapter 2. Section 1.3 discusses verbal inflection while Sections 1.4 and 1.5 discuss a number of semantic notions related to verbs: tense, mood/modality and aspect.

II. Argument structures (Chapter 2)

Verbs can project in the sense that they take °arguments (Chapter 2 to Chapter 5) and that the resulting projections can be modified by a large set of adverbial phrases (Chapter 8). We will begin the discussion of °complementation by focusing on the °adicity of verbs, that is, the *number* and *type* of °arguments they can take. The traditional classification is normally based on the number of nominal °arguments that verbs take, that is, whether a verb is intransitive, transitive or ditransitive.

- | | | | |
|-----|----|-------------------------------|----------------|
| (1) | a. | Jan lacht. | [intransitive] |
| | | Jan laughs | |
| | b. | Jan leest een boek. | [transitive] |
| | | Jan reads a book | |
| | c. | Jan biedt Peter een baan aan. | [ditransitive] |
| | | Jan offers Peter a job prt. | |

Chapter 2 provides evidence, however, that in order to arrive at a satisfactory classification not only the number but also the type of arguments should be taken into account: we have to distinguish between what have become known as UNERGATIVE and UNACCUSATIVE verbs, which exhibit systematic differences in syntactic behavior. Because the distinction is relatively new (it was first proposed in Perlmutter 1978, and has received wider recognition only after Burzio 1981/1986) but nevertheless plays an important role throughout this study, we will briefly introduce the distinction here.

Unaccusative verbs never take an accusative object. The subjects of these verbs maintain a similar semantic relation with the unaccusative verb as direct objects with transitive verbs; they are both assigned the °thematic role of theme. This is illustrated by the minimal pair in (2); the °nominative noun phrase *het glas* ‘the glass’ in the unaccusative construction (2b) maintains the same relation with the verb as the accusative noun phrase *het glas* in the transitive construction in (2a). It is therefore generally assumed that the subject in (2b) originates in the regular

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direct object position, but is not assigned \circ accusative case by the verb, so that it must be promoted to subject, for which reason we will call the subject of an unaccusative verb a \circ DO-subject. The fact that (2b) has a transitive alternant is an incidental property of the verb *breken* ‘to break’. Some verbs, such as *arriveren* ‘to arrive’, only occur in an unaccusative frame.

- | | | | | | |
|-----|----|--|-----|--|----------------|
| (2) | a. | Jan breekt het glas.
Jan breaks the glass | a'. | *Jan arriveert het boek.
Jan arrives the book | [transitive] |
| | b. | Het glas breekt.
the glass breaks | b'. | Het boek arriveert.
the book arrives | [unaccusative] |

Hoekstra (1984a) has argued that regular intransitive verbs and unaccusative verbs have three distinguishing properties: (a) intransitives take the perfect auxiliary *hebben* ‘to have’, whereas unaccusatives take the auxiliary *zijn* ‘to be’; (b) the past/passive participle of unaccusatives can be used attributively to modify a \circ head noun that corresponds to the subject of the verbal construction, whereas this is not possible with intransitive verbs; (c) the impersonal \circ passive is possible with intransitive verbs only. These properties are illustrated in (3) by means of the intransitive verb *lachen* ‘to laugh’ and the unaccusative *arriveren* ‘to arrive’.

- | | | | | |
|-----|----------------|---|------|--|
| (3) | • Intransitive | • Unaccusative | | |
| | a. | Jan heeft/*is gelachen.
Jan has/is laughed | b. | Jan is/*heeft gearriveerd.
Jan is/has arrived |
| | a'. | *de gelachen jongen
the laughed boy | b'. | de gearriveerde jongen
the arrived boy |
| | a''. | Er werd gelachen.
there was laughed | b''. | *Er werd gearriveerd.
there was arrived |

Mulder & Wehrmann (1989), however, argued that only a subset of the unaccusative verbs exhibits all the properties in (3). Locational verbs like *hangen* in (4), for example, enter into a similar alternation as the verb *breken* in (2), but nevertheless the verb in (4b) does not fully exhibit the behavior of the verb *arriveren*, as is clear from the fact that it takes the auxiliary *hebben* in the perfect tense. It has been suggested that this might be due to the fact that there is an aspectual difference between the verbs *arriveren* and *hangen*: the former is \circ telic whereas the latter is not.

- | | | | |
|-----|----|--|----------------|
| (4) | a. | Jan hangt de jas in de kast.
Jan hangs the coat into the wardrobe | [transitive] |
| | b. | De jas hangt in de kast.
the coat hangs in the wardrobe | [intransitive] |

The examples in (5) show that we can make a similar distinction for the \circ dyadic verbs. A verb like *bevallen* ‘to please’ in the (b)-examples behaves like an unaccusative verb in the sense that it selects the auxiliary *zijn* and cannot be passivized. Since the object would appear with \circ dative case in languages with morphological case (cf. the German verb *gefallen* ‘to please’), such verbs have become known as nominative-dative (NOM-DAT) verbs. A verb like *onderzoeken* ‘to examine’ in the (a)-examples behaves like a traditional transitive verb in that it

selects the auxiliary *hebben* and can be passivized while in a language with morphological case the object would be assigned accusative case (cf. the German verb *besuchen* ‘to visit’).

- (5) a. De dokter heeft/*is Marie gisteren onderzocht.
 the physician has/*is Marie yesterday examined
 a'. Marie is gisteren (door de dokter) onderzocht.
 Marie has.been yesterday by the physician examined
 b. De nieuwe voorzitter is/*heeft mij goed bevallen.
 the new chairman is/has me well pleased
 b'. *Ik ben goed bevallen (door de nieuwe voorzitter).
 I have.been well pleased by the new chairman

Given that unaccusative verbs have a DO-subject, that is, a subject that occupies an underlying object position, we correctly predict that unaccusative triadic verbs do not exist. Consequently, if the distinction between what is nowadays known as unergative (verbs that *in principle* can assign accusative case) and unaccusative verbs is indeed on the right track, we have to extend the traditional classification of verbs at least as in Figure 1. Sections 1.2 and 2.1 will argue that there are reasons to extend the classification in Figure 1 even further, but we will not digress on this here.

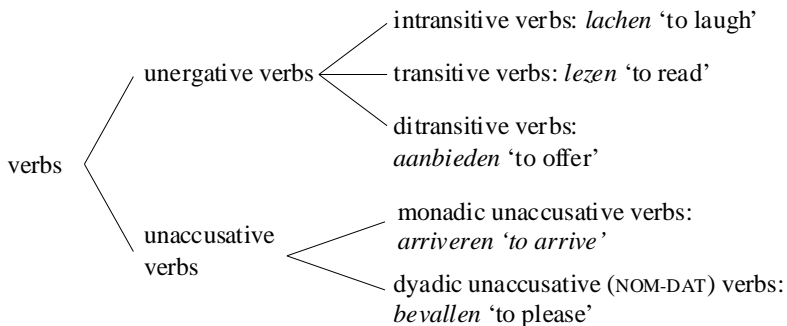


Figure 1: Classification of verbs taking nominal arguments

Section 2.2 discusses verbs taking various types of predicative complements. Examples are the copulas, the verb *vinden* ‘to consider’ and a large set of verbs that may combine with a resultative phrase.

- (6) a. Jan is aardig. [copular construction]
 Jan is nice
 b. Ik vind Jan aardig. [vinden-construction]
 I consider Jan nice
 c. Jan slaat Peter dood. [resultative construction]
 Jan hits Peter dead

We will also show that verbs entering the resultative construction may shift from one verb class to another by (apparently) changing their adicity, as illustrated in the (a)-examples in (7), or their selectional properties, as in the (b)-examples.

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- (7) a. Jan loopt (*het gras). [adicity]
Jan walks the grass
a'. Jan loopt *(het gras) plat.
Jan walks the grass flat
b. Jan veegt de vloer/^sbezem. [selection]
Jan brushes the floor/broom
b'. Jan veegt de bezem/^svloer kapot.
Jan brushes the broom/floor broken

Sections 2.3 and 2.4 discuss verbs taking PP-complements, like *wachten* 'to wait' in (8a). and the somewhat more special cases such as *wegen* 'to weigh' in (8b) that take an obligatory adjectival phrase. The discussion of complements in the form of a clause will be postponed to Chapter 5.

- (8) a. Jan wacht op vader. [PP-complements]
Jan waits for father
b. Jan weegt veel te zwaar. [AP-complements]
Jan weighs much too heavy

Section 2.5 concludes by discussing another number of more special verb types like inherently reflexive verbs and so-called object experiencer verbs.

- (9) a. Jan vergist zich. [inherently reflexive verb]
Jan be.mistaken REFL
b. Die opmerking irriteert Jan/hem. [object experiencer verb]
that remark annoys Jan/him

III. Verb frame alternations (Chapter 3)

The previous subsection has already shown that it is not always possible to say that a specific verb categorically belongs to a single class: examples (2) and (4), for example, demonstrate that the verbs *breken* 'to break' and *hangen* 'to hang' can be used both as a transitive and as an unaccusative verb. And the examples in (7) show that the class of the verb may apparently also depend on other elements in the clause. This phenomenon that verbs may be the head of more of one type of syntactic frame is known as VERB FRAME ALTERNATION will be discussed in Chapter 3. Another familiar type of alternation, known as DATIVE SHIFT, is illustrated in (10).

- (10) a. Marie geeft het boek aan Peter. [dative shift]
Marie gives the book to Peter
b. Marie geeft Peter het boek.
Marie gives Peter the book

We will take a broad view of the term verb frame alternation and include voice alternations such as the alternation between active and passive clauses, illustrated in the (a)-examples in (11), as well as alternations that are the result of derivational morphology, such as the so-called LOCATIVE ALTERNATION in the (b)-examples in (11), which is triggered by the affixation by the prefix *be-*.

- (11) a. Jan leest het boek. [passivization]
 Jan reads the book
 a'. Het boek wordt door Jan gelezen.
 the book is by Jan read
 b. Jan plakt een foto op zijn computer. [locative alternation]
 Jan pastes a picture on his computer
 b'. Jan beplakt zijn computer met foto's.
 Jan BE-pastes his computer with pictures

IV. Clausal/verbal complements (Chapter 4 to Chapter 7)

These chapters in a sense continue the discussion in Chapter 2 on argument structure by discussing cases in which verbs take a verbal dependent, that is, a clause or a smaller (extended) projection of some other verb. The reason not to discuss this type of complementation in Chapter 2 is that it does not essentially alter the syntactic verb classification developed there: for example, many of the verbs taking an internal °argument have the option of choosing between a nominal and a clausal complement. The reason for devoting a separate chapter to clausal/verbal arguments is that such arguments exhibit many special properties and introduce a number of complicating factors that have been investigated extensively in the literature. Even a brief discussion of these special properties and complicating factors would have seriously hampered the main line of argumentation in Chapter 2, and it is therefore better to discuss these properties in their own right.

A. Selection of clauses and verb phrases (Chapter 4)

We start our discussion of clausal/verbal complements by reviewing a number of central issues pertaining to the types of verbal dependents that can be distinguished and thus provides the necessary background for the more detailed discussions in Chapter 5 to Chapter 7.

B. Argument and complementive clauses (Chapter 5)

Chapter 5 provides an exhaustive discussion of dependent clauses functioning as arguments or °complementives. Section 5.1 starts with finite argument clauses; we will discuss subject, direct object, and prepositional clauses. This section also includes a discussion of fragment clauses and *wh*-extraction.

- (12) a. dat duidelijk is [dat Marie de nieuwe voorzitter wordt]. [subject]
 that clear is that Marie the new chairman becomes
 'that it is clear that Marie will be the new Chair.'
 b. dat Jan niet gemeld heeft [dat hij weg zou zijn]. [direct object]
 that Jan not reported has that he away would be
 'that Jan hasn't reported that he'd be away.'
 c. dat Peter erover klaagt [dat het regent]. [prepositional object]
 that Peter about.it complains that it rains
 'that Jan is complaining about it that it is raining.'

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A typical example of fragment clauses is given in (13b); constructions like these are arguably derived by a partial deletion of the phonetic contents of a finite clause, which is indicated here by means of strikethrough.

- (13) a. Jan heeft gisteren iemand bezocht. [speaker A]
Jan has yesterday someone visited
'Jan visited someone yesterday.'
- b. Kan je me ook zeggen wie ~~Jan gisteren bezocht heeft~~? [speaker B]
can you me also tell who Jan yesterday visited has
'Can you tell me who (Jan visited yesterday)?'

Wh-extraction is illustrated in (14b) by means of *wh*-movement of the direct object of the complement clause. In constructions like these the *wh*-phrase arguably originates in the same position as the direct object *dit boek* in (14a), that is, the embedded clause in (14b) contains an interpretative gap, which we have indicated by means of a horizontal line.

- (14) a. Ik denk [_{CLAUSE} dat Marie dit boek morgen zal kopen].
I think that Marie this book tomorrow will buy
- b. Wat denk je [_{CLAUSE} dat Marie morgen zal kopen]?
what think you that Marie tomorrow will buy
'What do you think that Marie will buy tomorrow?'

Section 5.2 discusses three types of formally different types of infinitival clauses: *Om + te*-infinitivals, *te*-infinitivals and bare infinitivals. The examples in (15) are control constructions, which are characterized by the fact that they typically have an implicit (phonetically empty) subject pronoun, which is normally represented as PRO. It seems that the construal of PRO, which is normally referred to as control, is subject to a set of context-sensitive conditions. In certain specific environments PRO is obligatorily controlled in the sense that it has an (i) overt, (ii) unique, (iii) local and (iv) °c-commanding antecedent, whereas in other environments it need not satisfy these four criteria.

- (15) a. Jan beloofde [om PRO het boek naar Els te sturen]. [om + te-infinitival]
Jan promised COMP the book to Els to send
'Jan promised to send the book to Els.'
- b. Jan beweerde [PRO het boek naar Els te sturen]. [te-infinitival]
Jan claimed the book to Els to send
'Jan claimed to send the book to Els.'
- c. Jan wilde [PRO het boek naar Els sturen]. [bare infinitival]
Jan wanted the book to Els send
'Jan wanted to send the book to Els.'

In addition to the control infinitivals in (15) there are also °subject raising and *accusativus-cum-infinitivo* infinitivals. An example of the first type is given in (16b). The fact that the °matrix verb *schijnen* in (16a) is unable to take a referential subject such as *Jan* suggests that the same holds for the verb *schijnen* in (16b). This has led to the hypothesis that the noun phrase *Jan* in (16b) is base-generated as the subject of the infinitival clause and subsequently raised to the subject position of

the matrix clause, in a similar way as the underlying object of a passive clause is promoted to subject. Subject raising is restricted to *te*-infinitivals and bare infinitivals and we will show that this can be accounted for by appealing to a generally assumed locality restriction on this type of passive-like movement.

- (16) a. Het schijnt [dat Jan een nieuwe auto koopt].
 it seems that Jan a new car buys
 ‘It seems that Jan is buying a new car.’
 b. Jan_i schijnt [t_i een nieuwe auto te kopen].
 Jan seems a new car to buy
 ‘Jan seems to be buying a new car.’

Accusativus-cum-infinitivo (lit.: accusative with infinitive) constructions are characterized by the fact that the subject of infinitival clause is phonetically expressed by an accusative noun phrase. In Dutch, this construction occurs with bare infinitivals headed by a causative or a perception verb only; cf. example (17).

- (17) a. Marie liet [hem_{acc} dansen].
 Marie make/let him dance
 ‘Marie made him dance.’
 b. Els hoorde [hen_{acc} een liedje zingen].
 Els heard them a song sing
 ‘Els heard them sing a song.’

Section 5.3 concludes with a discussion of °complementives, that is, clauses that function as secondary predicates; examples of cases that are sometimes analyzed as complementives are the copular constructions in (18).

- (18) a. Een feit is [dat hij te lui is].
 a fact is that he too lazy is
 ‘A fact is that he’s too lazy.’
 b. dat boek is moeilijk [(om) te lezen].
 that book is hard/not COMP to read
 ‘that book is hard to read.’

Because the complementive use of clauses is extremely rare, it seems advisable to not immediately commit ourselves to the suggested complementive analysis. Closer scrutiny will in fact reveal that at least in some cases there is reason for doubting this analysis: it seems plausible, for instance, that example (18b) should be analyzed as a construction with a complementive AP modified by an infinitival clause.

C. Complements of non-main verbs (Chapter 6)

Non-main verbs differ from main verbs in that they do not denote states of affairs, but express additional (e.g., aspectual) information about the state of affairs denoted by the main verb. This implies that non-main verbs do not have an argument structure and are thus not able to semantically select a clausal/verbal complement. Nevertheless, the use of the term SELECTION is also apt in this case since non-main verbs impose selection restrictions on the verb they are accompanied by: the examples in (19) show that perfect auxiliaries like *hebben* ‘to have’ select past

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participles, semi-aspectual verbs like *zitten* ‘to sit’ select *te*-infinitives, and aspectual verbs like *gaan* ‘to go’ select bare infinitives. Chapter 6 will review a number of characteristic properties of non-main verbs and will discuss the three subtypes illustrated in (19).

- (19) a. Jan heeft dat boek *gelezen*. [perfect auxiliary]
Jan has that book read
‘Jan has read that book.’
- b. Jan zit dat boek *te lezen*. [semi-aspectual verb]
Jan sits that book to read
‘Jan is reading that book.’
- c. Jan gaat dat boek *kopen*. [aspectual verb]
Jan goes that book buy
‘Jan is going to buy that book.’

D. Verb clustering (Chapter 7)

Verb clustering is probably one of the most discussed issues in the syntactic literature on Dutch and German, and the topic is certainly complex enough to devote a separate chapter to it. °Verb clustering refers to the phenomenon that verbs that are in a selection relation tend to group together in the right periphery of the clause (with the exception of finite verbs in main clauses, which must occur in second position). This phenomenon is illustrated in (20) by the embedded counterparts of the main clauses in (19).

- (20) a. dat Jan dat boek *heeft gelezen*. [perfect auxiliary]
that Jan that book has read
‘that Jan has read that book.’
- b. dat Jan dat boek *zit te lezen*. [semi-aspectual verb]
that Jan that book sits to read
‘that Jan is reading that book.’
- c. dat Jan dat boek *gaat kopen*. [aspectual verb]
that Jan that book goes buy
‘that Jan is going to buy that book.’

The examples in (20) show that verb clusters may arise if a non-main verb selects a past/passive participle, a *te*-infinitive, or a bare infinitive as its complement. Verb clusters may actually consist of more than two verbs as is shown in (21) by means of the perfect-tense counterparts of (20b&c).

- (21) a. dat Jan dat boek *heeft zitten te lezen*.
that Jan that book has sit to read
‘that Jan has been reading that book.’
- b. dat Jan dat boek *is gaan kopen*.
that Jan that book is go buy
‘that Jan has gone to buy that book.’

Furthermore, verb clustering is not restricted to non-main verbs: it is also possible with main verbs selecting a *te*-infinitival or a bare infinitival (but not with main verbs selecting an *om* + *te*-infinitival). Example (22) provides some examples on

the basis of the (b)-examples in (16) and (17), repeated here in a slightly different form for convenience.

- (22) a. Jan schijnt een nieuwe auto te kopen.
 Jan seems a new car to buy
 ‘Jan seems to be buying a new car.’
 a’. dat Jan een nieuwe auto *schijnt te kopen*.
 that Jan a new car seems to buy
 b. Els hoorde hen een liedje zingen.
 Els heard them a song sing
 ‘Els heard them sing a song.’
 b’. dat Els hen een liedje *hoorde zingen*.
 that Els them a song heard sing

In the examples in (20) and (22) verb clustering is obligatory but this does not hold true across-the-board. In some examples, verb clustering is (or seems) optional and in other cases it is forbidden:

- (23) a. dat Jan <dat boek> probeerde <dat boek> te lezen.
 that Jan that book tried to read
 ‘that Jan tried to read that book.’
 b. dat Jan Marie <??dat boek> aanbood <dat boek> te lezen.
 that Jan Marie that book prt.-offered to read
 ‘that Jan offered to Marie to read that book.’

Some descriptions of verb clustering take it more or less for granted that any string of verbs (or rather: verb-like elements) in clause-final position can be analyzed as a verb cluster. Section 5.2.2 and Chapter 6 show that many of such cases should in fact receive a different analysis: we may be dealing with, e.g., deverbal adjectives or nominalizations. These findings are important since this will enable us to present a much simpler description of verb clustering than is found in more descriptive grammars such as Haeseryn et al. (1997). Section 7.1 will therefore start by providing some diagnostics that may help us to identify genuine verb clusters. Sections 7.2 and 7.3 discuss the intricate relation between the hierarchical and the linear order of verb clusters. Section 7.4 concludes with a discussion of the permeation of verb clusters by clausal constituents, a phenomenon that is especially pervasive in the variety of Standard Dutch spoken in Flanders.

V. Modification (Chapter 8)

This chapter will discuss adverbial modification of the clause/verbal projection. Section 8.1 will discuss the various semantic types of adverbial clause: the basic distinction is the one between adverbial phrases modifying the VP, like manner and certain spatio-temporal °modifiers, and adverbial phrases modifying some larger part of the clause, like negation and modal modifiers. Section 8.2 will discuss the categorial status of adverbial phrase and show that there are often various options. temporal modifier, for example, can be APs (*vroeg* ‘early’), PPs (*na de wedstrijd* ‘after the game’, NPs (*de hele wedstrijd* ‘during the whole game’) and clauses (*nadat Ajax verloren had* ‘after Ajax had lost the game’). Section 8.3 concludes

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with word order restrictions related to adverbial clauses. These involves word order restrictions can be related to the semantic type of the adverbial modifiers (e.g., clausal modifiers precede VP-modifiers in the °middle field of the clause), but also to their categorial type (e.g. adverbial clauses tend to occur in extraposed position).

VI. *Word Order (Chapter 9 to Chapter 13)*

This chapter discusses the word order in the clause. Chapter 9 starts by providing a bird's eye view of the overall, internal organization of the clause by characterizing the positions in which the verbs normally occur (the so-called second and clause-final position), by defining specific topological fields in the clause that often enter the description (clause-initial position, middle field, postverbal position), as well as the major movement operations affecting the word order in the clause (*wh*-movement, °extraposition, various forms of “scrambling”, etc). Readers who are not familiar with Dutch syntax may find it profitable to read this chapter as a general introduction to the syntax of Dutch: it presents a number of issues pertaining to Dutch which the reader will encounter throughout this study. Chapter 10 to Chapter 13 will provide a more exhaustive discussion of the various issues introduced in Chapter 9.

VII. *Clause-external elements (Chapter 14)*

We conclude our study of verbs and verb phrases with a discussion of elements that can be assumed to be external to the sentence in the sense defined in Chapter 9. The clearest cases are those elements that precede the sentence-initial position like discourse particles, vocatives and left-dislocated elements.

- (24) a. *Hé*, [_{SENTENCE} wat doe jij daar]? [discourse particle]
hey what do you there
'Hey, what are you doing there?'
- b. *Jan*, [_{SENTENCE} kom alsjeblieft even hier]! [vocative]
Jan come please for.a.moment here
'Jan, please, come here for a moment!'
- c. *Marie_i*, [_{SENTENCE} ik heb haar_i niet gezien]. [left-dislocated element]
Marie I have here not seen
'Marie, I haven't seen her.'

Clause-external elements at the right edge of the sentence are more difficult to indentify, next to discourse particles and vocative, we find at least right right-dislocated elements and afterthoughts.

- (25) a. [_{SENTENCE} Ik heb haar_i niet gezien], *Marie_i*. [right-dislocated element]
I have here not seen
'I haven't seen her, Marie.'
- b. [_{SENTENCE} Ik heb Marie_i niet gezien]; mijn zuster_i. [afterthought]
I have Marie not seen my sister
'I haven't seen Marie—my sister.'

VIII. Syntactic uses of verbal projections

In the volumes on noun phrases, adjective phrases and adpositional phrases we included a separate discussion of the syntactic uses of these phrases, that is, their uses as arguments, modifiers and predicates. This does not seem to make sense in the case of verb phrase. The use of clauses as arguments and complementives is discussed in Chapter 5, and their adverbial use is discussed in Section 8.2.6. Clauses can also be used as modifiers of nouns; such relative clauses are extensively discussed in Section N3.3. Furthermore there is an extensive discussion on the attributive and predicative use of past/passive participles and so-called modal infinitives in Section A9. In short, since the addition of a separate discussion of the syntactic uses of verb phrases would simply lead to unwanted redundancy, we do not include such a discussion here but simply refer the reader to the sections mentioned above for relevant discussion.

Chapter 1

Characterization and classification

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Introduction

This chapter will be concerned with a number of distinctive semantic, morphological and syntactic properties of verbs. Section 1.1 gives a brief characterization of the category of verbs and verb phrases by describing some of their more conspicuous properties. This will help users to identify verbs and verb phrases in Dutch on the basis of their form, function and position in the sentence. Section 1.2 presents a syntactic and semantic classification of verbs. Given that meaning and form of linguistic expressions are two sides of the same coin, this section will also attempt to link the proposed classifications. Sections 1.3 and 1.4 continue with the most characteristic morphological features of verbs, their inflection. Dutch Inflection comes in three sorts depending on whether the verb is in the indicative, the imperative or the subjunctive mood. Section 1.3 confines itself to the discussion of the unmarked, indicative forms of the verb; Section 1.4 discusses the more special imperative and subjunctive forms of the verb, as well as their uses. Section 1.5 continues with a discussion of the temporal, modal and aspectual properties encoded within the verbal system by means of inflection and non-main verbs, and shows how they interact in providing a wide range of temporal and non-temporal interpretations of verbal sequences. Like nouns and adjectives, verbs form an open class and, as such, cannot be exhaustively listed. New verbal elements are introduced into the language through derivation, compounding, loaning etc. We will not discuss this here but refer the reader to Booij (2002), De Haas & Trommelen (1993) and Haeseryn et al. (1997) for a comprehensive overview of derivation and compounding. We also refer the reader to Section 3.3 for a discussion of the syntactic effects of affixation of verbs by means of the prefixes *be-*, *ver-*, and *ont-*.

1.1. General characterization

This section gives a brief and general characterization of Dutch verbs and verb phrases by means of some of their more conspicuous properties. We do not aim at providing an exhaustive list of properties so the discussion will necessarily be sketchy and incomplete. Nevertheless, the information provided here will help the reader to identify Dutch verbs and to gain some basic insights into their semantic, morphological and syntactic behavior. Subsection I will begin by introducing the distinction between main and non-main verbs and by discussing the semantic contribution each type makes to their clauses. Subsection II will show that verbs are morphologically characterized by their inflection: finite verbs agree with the subjects of their clauses and are marked for [\pm PAST] tense. Subsection III, finally, will show that verbs are also characterized by their position within the clause; non-finite verbs are normally placed in the right periphery of their clause and typically follow their nominal \circ arguments; finite verbs also occupy the right periphery of embedded clauses but are typically placed in the so-called second position of main clauses.

I. Semantic characterization

It is very hard to provide a watertight semantic characterization of the category of verbs due to the fact that verbs fall into two main groups with quite distinctive

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tenses. Here we provide translations that correspond to the (default) progressive reading of the simple present/past forms; we refer the reader to Section 1.5 for a detailed discussion of the actual use of the Dutch tenses.

Table 1: Regular finite inflection

	PRESENT		PAST	
	SINGULAR	PLURAL	SINGULAR	PLURAL
1P	<i>Ik huil-Ø</i> 'I am crying'	<i>Wij huil-en</i> 'We are crying'	<i>Ik huil-de</i> 'I was crying'	<i>Wij huil-de-n</i> 'We were crying'
2P	<i>Jij huil-t</i> 'You are crying'	<i>Jullie huil-en</i> 'You are crying'	<i>Jij huil-de</i> 'You were crying'	<i>Jullie huil-de-n</i> 'You were crying'
3P	<i>Hij huil-t</i> 'He is crying'	<i>Zij huil-en</i> 'They are crying'	<i>Hij huil-de</i> 'He was crying'	<i>Zij huil-de-n</i> 'They were crying'

Table 1 shows that past tense is expressed by means of the affix *-de*, which must be directly adjacent to the verb stem. This marker has the allomorph *-te*, which appears if the verb stem ends in a voiceless consonant: *Ik vis-te* 'I was fishing', *ik pak-te een koekje* 'I took a cookie', etc. Table 1 also shows that there are two agreement markers in Dutch. First, we find the invariant plural marker *-en*, which is phonologically reduced to *-n* after the past suffix *-te/-de*. Second, we find the singular marker *-t* for second and third person subject; there is no morphologically realized affix for first person, singular agreement. Besides the regular pattern in Table 1 there are a number of irregular patterns, which will be discussed in Section 1.3; here we just wanted to highlight the fact that exhibiting finite inflection is sufficient for concluding that we are dealing with a verb.

III. Syntactic characterization

Verbs are also characterized by their position in the clause; main verbs always occur in the right periphery of embedded clauses and typically follow the nominal arguments in the clause. Note, however, that verbs must be followed by clausal °complements and can optionally be followed by, e.g., PP-complements; the claim that verbs are in the right periphery of the clause must therefore not be construed as a claim that verbs are the rightmost elements in the clause. Nevertheless the literature normally refers to the main verbs in (3) as clause-final verbs or verbs in clause-final position.

- (3) a. dat Jan het boek *leest*.
that Jan the book reads
'that Jan is reading the book.'
- b. dat Jan mij *vertelde* [dat hij ziek is].
that Jan me told that he ill is
'that Jan told me that he's ill.'
- c. dat Jan <op Peter> *wacht* <op Peter>.
that Jan for Peter waits
'that Jan is waiting for Peter.'

The examples in (4) show that non-main verbs like auxiliaries and aspectual verbs are also clause-final in embedded clauses.

- (4) a. dat Jan het boek gelezen heeft.
 that Jan the book read has
 'that Jan has read the book.'
 b. dat Jan dat boek gaat lezen.
 that Jan that book goes read
 'that Jan is going to read the book.'

In the Northern varieties of Standard Dutch, clause-final non-main verbs behave like main verbs in that they normally follow the nominal arguments of the clause, but this does not hold for the Southern varieties; in particular, the varieties spoken in Belgium allow nominal arguments to intervene between modal/aspectual verbs and the main verbs. Another complicating factor is that other elements, like certain particles and predicative phrases, also tend to be placed in the right periphery of the clause.

- (5) a. dat Jan <dat boek> wil <*dat boek> lezen. [Northern Standard Dutch]
 that Jan that book want read
 'that Jan wants to read the book.'
 b. dat Jan <dat boek> wil <dat boek> lezen. [Southern Standard Dutch]
 that Jan that book want read
 'that Jan wants to read the book.'

Non-finite verbs also occupy a clause-final position in main clauses. This is illustrated in (6a) for the past participle *gelezen* 'read' and in (6b) for the infinitive *lezen* 'read'.

- (6) a. Jan heeft dat boek gelezen.
 Jan has that book read
 b. Jan wil dat boek lezen.
 Jan wants that book read

Finite verbs, on the other hand, do not. In yes/no-questions, for example, they occupy the first position of the clause. This is illustrated in the examples in (7), which are often referred to as verb-first (V1) sentences.

- (7) a. Geef jij Marie morgen dat boek?
 give you Marie tomorrow that book
 'Will you give Marie the book tomorrow?'
 b. Wil jij Marie morgen dat boek geven?
 want you Marie tomorrow that book give
 'Are you willing to give Marie the book tomorrow?'

In *wh*-questions the finite verb occupies the so-called second position of the clause, that is, the position after the proposed *wh*-phrase. This is illustrated in the examples in (8), which are often referred to as ^overb-second (V2) sentences.

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- (8) a. Welk boek geef je Marie morgen?
 which book give you Marie tomorrow
 ‘Which book will you give to Marie tomorrow?’
 b. Welk boek wil je Marie morgen geven?
 which book want you Marie tomorrow give
 ‘Which book do you want to give to Marie tomorrow?’

In declarative clauses the finite verb likewise occupies the second position, that is, the position immediately after a clause-initial subject or some topicalized phrase. This is illustrated by the V2-sentences in (9); the (a)-examples are subject-initial sentences and the (b)-examples involve topicalization.

- (9) a. Jan geeft Marie morgen het boek.
 Jan gives Marie tomorrow the book
 ‘Jan will give Marie the book tomorrow.’
 a'. Jan wil Marie morgen het boek geven.
 Jan wants Marie tomorrow the book give
 ‘Jan wants to give Marie the book tomorrow.’
 b. Morgen geeft Jan Marie het boek.
 tomorrow gives Jan Marie the book
 ‘Tomorrow, Jan will give Marie the book.’
 b'. Morgen wil Jan Marie het boek geven.
 tomorrow wants Jan Marie the book give
 ‘Tomorrow, Jan wants to give Marie the book.’

Note in passing that the technical notions *verb-first* and *verb-second* are used in strict opposition to the notion *verb-final*. This leads to the somewhat strange conclusion that certain verbs that are in final position of a clause do not count as verb-final but as verb-first or verb-second. For example, main clauses such as (10a) consisting of no more than an intransitive verb and its subject do not count as verb-final clauses in the technical sense given that the verb must appear in second position if more material is added; this is shown in (10b).

- (10) a. Jan wandelt.
 Jan walks
 ‘Jan is walking.’
 b. Jan <*graag> wandelt <graag>.
 Jan gladly walks
 ‘Jan likes to walk.’

If a verb occupies the first or second position in main clauses, this is normally sufficient to conclude that this element is a (finite) verb. The global structure of main clauses is therefore as indicated in (11), in which *XP* refers to the clause-initial constituent that we find in declarative clauses and *wh*-questions; *NP*, *PP*, and *Clause* refer to complements selected by the verb; the dots, finally, stand for an indeterminate number of other constituents. For a more detailed discussion of word order in clauses, we refer the reader to Section 9.1.

- (11) (XP) V_[+finite] (NP/PP) V_[-finite] (PP/Clause)

1.2. Verb classifications

The pairing of the semantic and the syntactic properties of morphologically simple words is to a large extent non-arbitrary (contrary to what is the case for the pairing of their sound and meaning: cf. De Saussure 1916). This holds especially for the selectional properties of verbs; whether a verb is intransitive or transitive, for example, depends on the number of participants that are involved in the state of affairs denoted by the verb. This section highlights a number of approaches to the issue. Section 1.2.1 begins with the basic distinction between main and non-main verbs, and discusses a number of properties of these two main classes, while recognizing that there are verbs that show a somewhat hybrid nature. The remaining sections focus on the classification of main verbs: Section 1.2.2 discusses a number of properties that enter into the syntactic classification of verbs and proposes a partly novel syntactic classification that is based on the number and types of nominal °arguments they take; Section 1.2.3 reviews a number of semantic classifications that build on and revise the four-way classification between events, activities, accomplishments and achievements originally proposed in Vendler (1957); Section 1.2.4, finally, addresses the question of how far it is possible to link the proposed syntactic and semantic classifications. Given that we cannot do justice here to the vast theoretical literature relevant for the syntactic and semantic classification of verbs and the linking between them, we refer the reader to the surveys of these topics in Van Hout (1996:ch.1) and Levin & Rappaport Hovav (2005).

1.2.1. Main and non-main verbs

This section discusses the distinction between main and non-main verbs. Subsections I and II will consider a number of semantic and syntactic criteria that can be used to establish to what class a specific verb belongs. Despite the fact that speakers normally have clear intuitions about the dividing line between the two groups of verbs, Section 4.6 will show that this line is not always as sharp as one may think and that there are many cases in which one cannot immediately tell whether we are dealing with a main or a non-main verb.

I. Main verbs

The set of main verbs can be characterized semantically by the fact that they function as *n*-place predicates that denote certain states of affairs; see Section 1.2.3 for a more detailed discussion of the latter notion, which is a cover term for states and several types of events.

- (12) a. *lachen* ‘to laugh’: LACHEN (x)
 b. *lezen* ‘to read’: LEZEN (x,y)
 c. *vertellen* ‘to tell’: VERTELLEN (x,y,z)

This semantic property is reflected syntactically by the fact that main verbs normally function as argument-taking °heads of clauses. That main verbs function as the head of their clause is clear from the fact that they are normally indispensable; the primeless examples in (13) would normally not be recognizable as clauses without the verb. The arguments of the verbs are of course needed in

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order to express a proposition, but they are not as indispensable as the verb. This will be clear from the fact that the imperatives in the primed examples are completely acceptable despite the fact that the arguments of the verb remain implicit.

- | | | |
|---------|--|---|
| (13) a. | Marie *(lacht).
Marie laughs
'Marie is laughing.' | a'. Lach!
laugh
'Laugh!' |
| b. | Jan *(leest) het boek.
Jan reads the book
'Jan is reading the book.' | b'. Lees nou maar!
read now PRT
'Just read it!' |
| c. | Jan *(vertelde) me het verhaal.
Jan told me the story
'Jan told me the story.' | c'. Vertel op!
tell PRT
'Tell me!' |

That main verbs function as the semantic heads of clauses is also clear from the fact that clauses contain at most a single main verb; sentences that contain more than one main verb are normally construed as involving more than one clause. The examples in (14), for instance, are cases of embedding: the bracketed phrases function as embedded direct object clauses of the °matrix verbs *vermoeden* 'to suspect' and *vertellen* 'to tell'.

- | | |
|---------|--|
| (14) a. | Marie vermoedt [dat Jan het boek leest].
Marie suspects that Jan the book reads
'Marie suspects that Jan is reading the book.' |
| b. | Jan vertelde me [dat Marie morgen komt].
Jan told me that Marie tomorrow comes
'Jan told me that Marie will come tomorrow.' |

Given that copular verbs can occur as the single verb of a clause, they are normally also considered main verbs even though they do not meet the semantic criterion of denoting states of affairs; they are not *n*-place predicates on a par with the predicates in (12) but instead resemble the non-main verbs discussed in the next subsection in that they express specific temporal, aspectual or modal notions. The copular verb *zijn* in (15a), for example, situates the state expressed by the proposition *ILL*(Jan) in a particular position on the time axis by carrying a tense marking [\pm PAST]: the present tense marking on *is* in (15a) expresses that the state of Jan being ill holds at the speech time. The copulas *worden* and *blijven* in (15b) in addition express aspectual information: *worden* 'to become' is mutative in that it indicates that Jan is in the process of obtaining the state of being ill; *blijven* 'to stay' is in a sense the opposite of *worden* in that it expresses that the state of Jan being ill continues to exist. Copular verbs like *lijken* 'to appear' or *blijken* 'to turn out' in (15c) are modal in nature given that these examples specify the attitude of the speaker with respect to the truth value of the proposition.

- (15) • Copular verbs
- a. Jan is ziek. [temporal]
Jan is ill
 - b. Jan wordt/blijft ziek. [temporal/aspectual]
Jan becomes/stays ill
'Jan is getting/continues to be ill.'
 - c. Jan lijkt/blijkt ziek. [temporal/modal]
Jan seems/turns.out ill
'Jan seems/turns out to be ill.'

II. Non-main verbs

Although the distinction between main and non-main verbs seems to be relatively clear-cut, it is not easy to provide an operational definition of the distinction, so it is not surprising that grammars on Dutch may differ in where they draw the dividing line between the two categories. Like many other Dutch grammars, Haeseryn et al. (1997:46) assume that main verbs are predicative, that is, "express the core meaning of the °verbal complex", whereas non-main verbs function as modifiers that provide supplementary information; they give the verb types in (16) as typical examples of non-main verbs. In order to fully appreciate what follows, it is necessary to point out that we used the term verbal complex in the quotation above as a translation of the Dutch notion *werkwoordelijk gezegde* from traditional grammar, which cannot readily be translated in English.

- (16) a. Perfect auxiliaries: *hebben* 'to have', *zijn* 'to be'
 b. Passive auxiliary: *worden* 'to be'
 c. Modal verbs: *kunnen* 'can', *moeten* 'must', *mogen* 'may', *willen* 'want'

Haeseryn et al. (1997:47) try to use the essentially semantic characterization of main and non-main verbs to provide an operational definition in syntactic terms. The crucial criterion they mention is that any verbal complex contains exactly one main verb. When we apply this criterion to a perfect tense or °passive example, this characterization goes in two ways: if we assume that the participles in (17) are main verbs, we should conclude that the temporal/passive auxiliaries are non-main verbs; if we assume that temporal/passive auxiliaries are non-main verbs, we should conclude that the participles are main verbs.

- (17) a. Jan heeft de kat geaaid.
 Jan has the cat petted
 'Jan has petted the cat.'
 b. De kat wordt geaaid.
 the cat is petted

The one-main-verb criterion implies that main verbs crucially differ from non-main verbs in that they may but do not need to combine with other verbs into a verbal complex, whereas non-main verbs must always be combined with some other verb. This seems to work fine in the case of the examples in (17): the verb *aaien* 'to pet' may indeed occur as the verbal head of a clause, whereas the temporal and passive auxiliaries cannot (although one must keep in mind that *hebben* can be used as a

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main verb meaning “to have/possess” and *worden* can also be used as a main verb if it is used as a copular expressing “to become”, hence the number sign).

- (18) a. Jan aait de kat.
Jan pets the cat
‘Jan is petting the cat.’
b. #Jan heeft/wordt de kat.
Jan has/becomes the cat

One may also welcome the one-main-verb criterion since it coincides nicely with our intuition that we are dealing with two predicational relationships in examples such as (19) and, hence, that it consists of two verbal complexes. That the verb *horen* ‘to hear’ functions as a separate predicate can also be made visible by pronominalization of the italicized phrase in (19a); since *horen* is the only verb in (19b), it must be a main verb.

- (19) a. Jan hoorde *Marie haar auto starten*.
Jan heard Marie her car start
‘Jan heard Marie start her car.’
b. Jan hoorde dat.
Jan heard that

However, if we apply the same test to the examples in (20), we have to conclude that modal verbs like *moeten* ‘must’ and *mogen* ‘may’ are main verbs as well. This means that we can only maintain the claim that modal verbs are non-main verbs if we claim that clauses with modal verbs are exceptions the general rule that non-main verbs must be combined with a main verb; see Klooster (2001:55) for discussion.

- (20) a. Jan kan/moet/mag/wil *zijn werk inleveren*.
Jan can/must/may/wants.to his work hand.in
‘Jan can/must/may/wants to hand in his work.’
b. Jan kan/moet/mag/wil dat.
Jan can/must/may/wants that
‘Jan can/must/may/wants to do that.’

There are many difficulties with maintaining that modal verbs are non-main verbs. First, it means we should assume that whereas example (19a) contains two separate verbal complexes, example (20a) consists of just one single verbal complex. Since there is to our knowledge no syntactic evidence to support this, adopting this conclusion voids the notion of verbal complex from any empirical content. For example, the embedded clauses in (21) show that the finite and non-finite verbs in (19a) and (20a) are part of a single verbal complex: the structure exhibits monoclausal behavior in the sense that the arguments of the infinitive must precede the finite verb in clause-final position (in the Northern varieties of Dutch).

- (21) a. dat Jan <Marie haar auto> hoorde <*Marie haar auto> starten.
 that Jan Marie her car heard start
 ‘that Jan heard Marie start her car.’
- b. dat Jan <zijn werk> moet/mag <*zijn werk> inleveren.
 that Jan his work must/may hand.in
 ‘that Jan must/may hand in his work.’

For English it may perhaps be argued that modals like *can* are non-main verbs because they are like perfect auxiliaries in that they can precede negation and may undergo inversion with the subject in, e.g., questions (although this may also be a side effect of the accidental morphological property of modal verbs that they do not have an infinitival form, as is clear from **to can*, as a result of which they are incompatible with *do*-support). See Quirk et al. (1979:120ff) and Huddleston & Pullum (2002:92ff.) for reviews of the criteria that are often used for distinguishing English auxiliaries, and Palmer (2001:100) for a more specific discussion of the English modal verbs.

- (22) a. Jan cannot lift this table.
 b. Can Jan lift this table?

In Dutch, however, there is no such syntactic evidence to indicate that the modal verbs in (16c) differ from that of run-of-the-mill main verbs; the only difference is that modal verbs have a defective present tense paradigm (there is no *-t* ending on the second and third person, singular forms). For this reason, we will not follow the characterization of the distinction of main and non-main verbs in Haeseryn et al. but simply assume that any verb must be considered a main verb that is predicative (has an argument structure) and can thus function as the head of a clause on its own; this reduces the set of non-main verbs by excluding, e.g., modal verbs like *moeten* ‘must’. See Section 4.6 for a more detailed discussion of the distinction between main and non-main verbs.

1.2.2. Syntactic classification of main verbs

The main part of this section consists of developing a partly novel classification of main verbs based on the number and the type of arguments they take. Before we take up this issue in Subsection II, we will briefly introduce a number of basic notions and conventions that will be used in the discussion.

1. Lexical properties of verbs

Like all lexical items, verbs have unpredictable properties (like the Saussurean arbitrary form-meaning pairing) that are listed in the mental lexicon. Among these properties there are also properties relevant to syntax, like the number of arguments selected by the verb and the form these arguments take. Although Section 1.2.4 will show that some of these properties are closely related to the meanings of the verbs in question and that it therefore remains to be seen whether these properties are semantic or syntactic in nature, we will introduce in this subsection a number of notions and conventions that are used in the syntactic literature (including this grammar) to refer to these properties.

A. *Subcategorization*

Main verbs are normally syntactically classified on the basis of the number and the kind of arguments they take. These properties are sometimes formalized by assigning main verbs subcategorization frames, which specify the number of arguments as well as the categories (e.g., NP or PP) and the thematic roles of these arguments: an intransitive verb like *lachen* ‘to laugh’ has one nominal argument with the thematic role of agent; a transitive verb like *lezen* ‘to read’ has two nominal arguments with the thematic roles of, respectively, agent and theme; a ditransitive verb like *geven* ‘to give’ has three nominal arguments with the thematic roles of agent, theme and recipient; we will return to the fact that the recipient of *geven* can also be expressed as a PP in Subsection D below.

- | | | |
|------|--|--|
| (23) | • Predicate | • Example |
| a. | LOPEN _v : NP _{Agent}
walk | a'. Jan loopt.
Jan walks |
| b. | LEZEN _v : NP _{Agent} , NP _{Theme}
read | b'. Marie leest een krant.
Marie reads a newspaper |
| c. | GEVEN _v : NP _{Agent} , NP _{Theme} , PP _{Recipient}
give | c'. Jan geeft een boek aan Marie.
Jan gives a book to Marie |

At least some of the information in these subcategorization frames is systematically related to the meanings of the verbs in question. This is evident from the fact that the arguments mentioned in (23) fill slots in the semantic predicate frames implied by the verbs: *lachen* is a one-place predicate LACHEN (*x*) and the agentive argument fills the single argument slot; *lezen* is a two-place predicate and the agent and the theme argument fill, respectively, the *x* and the *y* slot in the predicate frame LEZEN (*x,y*); *geven* is a three-place predicate and again the three arguments fill the slots in the predicate frame GEVEN (*x,y,z*).

The arguments that fill the slots in the predicate frames of two- and three-place predicates are not all on an equal footing: filling the *y* and *z* slots in a sense creates one-place predicates, which can be predicated of the arguments placed in the *x* slot. If we rephrase this in syntactic terms, we can say that fillers of *y* and/or *z* correspond to the objects of the clause, and that fillers of *x* correspond to subjects. Since addition of the object(s) to the verb creates a predicate in the traditional, Aristotelian sense, the objects are often referred to as the COMPLEMENTS or INTERNAL ARGUMENTS of the verb. Subjects, on the other hand, are the arguments that these one-place predicate are predicated of and they are therefore also referred to as EXTERNAL ARGUMENTS of the verb. In (24), the subcategorization frames in (23) are repeated with the external arguments underlined in order to distinguish them from the internal arguments.

- | | | | |
|------|----|--|--|
| (24) | a. | LOPEN _v : <u>NP_{Agent}</u>
walk | a'. Jan [<u>loopt</u>] _{Pred}
Jan walks |
| | b. | LEZEN _v : <u>NP_{Agent}</u> , NP _{Theme}
read | b'. Marie [<u>leest een krant</u>] _{Pred}
Marie reads a newspaper |
| | c. | GEVEN _v : <u>NP_{Agent}</u> , NP _{Theme} , NP _{recipient}
give | c'. Jan [<u>geeft een boek aan Marie</u>] _{Pred}
Jan gives a book to Marie |

There are several complications that are not discussed here. Subsection II, for example, will show that so-called unaccusative and undative verbs do not have an external argument but are predicated of an internal argument; cf. Table 2 below.

B. Semantic selection

The fact that the three arguments selected by a verb like *geven* ‘to give’ function as, respectively, an agent, a theme and a recipient is often referred to as semantic selection. Semantic selection may, however, be much more specific than that; verbs like *zich verzamelen* ‘to gather’, *zich verspreiden* ‘to spread’ and *omsingelen* ‘to surround’ in (25), for example, normally require their subject to be plural when headed by a count noun unless the noun denotes a collection of entities like *menigte* ‘crowd’.

- (25) a. De studenten verspreiden zich.
the students spread REFL
a'. De menigte/*student verspreidt zich.
the crowd/student spread REFL
b. De studenten omsingelen het gebouw.
the students surround the building
b'. De menigte/*student omsingelt het gebouw.
the crowd/student surrounds the building

There are also verbs like *verzamelen* ‘to collect’ and (*op*)*stapelen* ‘to stack/pile up’ that impose similar selection restrictions on their objects: the object of such verbs can be a plural noun phrase or a singular noun phrase headed by a count noun denoting collections of entities, but not a singular noun phrase headed by a count noun denoting discrete entities.

- (26) a. Jan verzamelt gouden munten.
Jan collects golden coins
‘Jan is collecting golden coins.’
a'. Jan verzamelt porselein/*een gouden munt.
Jan collects china/a golden coin
‘Jan is collecting china.’
b. Jan stapelt de borden op.
Jan piles the plates up
‘Jan is piling up the plates.’
b'. Jan stapelt het servies/*het bord op.
Jan piles the dinnerware/the plate up
‘Jan is piling up the dinnerware.’

The examples in (27) show that the information may be of an even more idiosyncratic nature: verbs of animal sound emissions often select an external argument that refers to a specific or at least very small set of animal species, verbs that take an agentive external argument normally require their subject to be animate, and verbs of consumption normally require their object to be edible, drinkable, etc.

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- (27) a. Honden, vossen en reeën blaffen, ganzen gakkten en paarden hinniken.
 dogs, foxes and roe deer bark, geese honk and horses neigh
 b. Jan/^sde auto eet spaghetti.
 Jan/the car eats spaghetti
 ‘Jan is eating spaghetti.’
 c. Jan eet spaghetti/^sstaal.
 Jan eats spaghetti/steel
 ‘Jan is eating spaghetti/steel.’

Given that restrictions of the sort illustrated in (25) through (27) do not enter into the verb classifications that we will discuss here, we need not delve into the question as to whether such semantic selection restrictions must be encoded in the subcategorization frames of the verbs or whether they follow from our knowledge of the world and/or our understanding of the meaning of the verb in question; see Grimshaw (1979) and Pesetsky (1991) for related discussion.

C. Categorical selection

Subcategorization frames normally provide information about the categories of the arguments, that is, about whether they must be realized as a noun phrase, a prepositional phrase, a clause, etc. That this is needed can be motivated by the fact that languages may have different subcategorization frames for similar verbs; the fact that the Dutch verb *houden* requires a PP-complement whereas the English verb *to like* takes a direct object shows that the category of the internal argument(s) cannot immediately be inferred from the meaning of the verb but may be a language-specific matter.

- (28) a. HOUDEN_V: NP_{Experiencer}, [PP van NP_{Theme}] a'. Jan houdt van spaghetti.
 b. LIKE_V: NP_{Experiencer}, NP_{Theme} b'. John likes spaghetti.

That the category of the internal argument(s) cannot immediately be inferred from the meaning of the verb is also suggested by the fact that verbs like *verafschuwen* ‘to loathe’, *walgen* ‘to loathe’, which express more or less similar meanings, do have different subcategorization frames.

- (29) a. Jan_{Experiencer} verafschuwt spaghetti_{Theme}. [NP-complement]
 Jan loathes spaghetti
 b. Jan_{Experiencer} walgt van spaghetti_{Theme}. [PP-complement]
 Jan loathes spaghetti

Furthermore, subcategorization frames must provide more specific information about, e.g., the prepositions that head PP-complements. This can again be motivated by comparing some Dutch and English examples; although the Dutch translation of the English preposition *for* provided by dictionaries is *voor*, the examples in (30) show that in many (if not most) cases English *for* in PP-complements does not appear as *voor* in the Dutch renderings of these examples, and, vice versa, that Dutch *voor* often has a counterpart different from *for*. This again shows that the choice of preposition is an idiosyncratic property of the verb, which cannot be inferred from the meaning of the clause.

- (30) a. hopen op NP a'. to hope for NP
 b. verlangen naar NP b'. to long for NP
 c. behoeden voor NP c'. to guard from
 d. zwichten voor NP d'. to knuckle under NP

The above, of course, does not imply that the choice between nominal and PP-complements is completely random. There are certainly a number of systematic correlations between the semantics of the verb and the category of its internal arguments; cf. Section 1.2.4. The examples in (31), for instance, show that incremental themes (themes that refer to entities that gradually come into existence as the result of the event denoted by the verb) are typically realized as noun phrases, whereas themes that exist independently of the event denoted by the verb often appear as PP-complements.

- (31) a. Jan schreef gisteren een gedicht.
 Jan wrote yesterday a poem
 'Jan wrote a poem yesterday.'
 b. Jan schreef gisteren over de oorlog.
 Jan wrote yesterday about the war
 'Jan wrote about the war yesterday.'

Similarly, affected themes are normally realized as direct objects, whereas themes that are not (necessarily) affected by the event can often be realized as PP-complements. Example (32a), for example, implies that Jan hit the hare, whereas (32b) does not have such an implication; cf. Section 3.3.2, sub I.

- (32) a. Jan schoot de haas.
 Jan shot/hit the hare
 b. Jan schoot op de haas.
 Jan shot at the hare

The same thing holds for the choice between a nominal and a clausal complement. The examples in (33), for example, show that verbs like *zeggen* 'to say' or *denken* 'to think', which select a proposition as their complement, typically take declarative clauses and not noun phrases as their complement, since the former but not the latter are the canonical expression of propositions.

- (33) a. Jan zei/dacht dat zwanen altijd wit zijn.
 Jan said thought that swans always white are
 'Jan said/thought that swans are always white.'
 b. *Jan zei/dacht het verhaal.
 Jan said/thought the story

The examples in (34) show that something similar holds for verbs like *vragen* or *zich afvragen*, which typically select a question.

- (34) a. Jan vroeg/vroeg zich af of zwanen altijd wit zijn.
 Jan asked/wondered REFL prt. whether swans always white are
 'Jan asked/wondered whether swans are always white.'
 b. *Jan vroeg het probleem/vroeg zich het probleem af.
 Jan asked the problem/wondered REFL the problem prt.

Finally, it can be noted that the choice for a specific preposition as the head of a PP-complement need not be entirely idiosyncratic either; there are several subregularities (Loonen 2003) and in some cases the (original) locational meaning of the preposition used in PP-complements of the verb can still be recognized; see Schermer-Vermeer (2006). Two examples are *volgen uit* ‘to follow from’ and *zondigen tegen* ‘to sin against’.

D. Verb frame alternations

Some verbs can occur in more than one “verb frame”; cf. the examples in (31) and (32). A familiar example of such verb frame alternations is given in (35), which shows that verbs like *schenken* ‘to give/present’ can realize their internal recipient argument either as a noun phrase or as an *aan*-PP.

- (35) a. Peter schenkt het museum_{Rec} zijn verzameling_{Theme}.
 Peter gives the museum his collection
 b. Peter schenkt zijn verzameling_{Theme} aan het museum_{Rec}.
 Peter gives his collection to the museum

In early generative grammar this alternation was accounted for by assuming that the subcategorization frame of the verb *schenken* was as in (36), in which the braces indicate that the NP and PP are alternative realizations of the recipient argument.

- (36) SCHENKEN_v: NP_{Agent}, NP_{Theme}, $\left\{ \begin{array}{l} \text{NP}_{\text{Recipient}} \\ \text{PP}_{\text{Recipient}} \end{array} \right\}$

There are, however, alternative ways of accounting for this alternation. One way is to derive example (35a) from (35b) by means of a transformation normally referred to as dative shift; see Emonds (1972/1976) and many others. Another way is to assume that there is just a single underlying semantic representation but that the syntactic mapping of the arguments may vary. We refer the reader to Levin & Rappaport Hovav (2005:ch.7) for a review of these and other theoretical approaches to verb frame alternations, and to Chapter 3 for an extensive discussion of the verb frame alternations that can be found in Dutch.

II. Basic classification of main verbs

This subsection takes the traditional classification of main verbs as its starting point, which is based on the ADICITY (or VALENCY) of these verbs, that is, the number of nominal arguments they take: intransitive verbs have a subject but do not select any object, transitive verbs select an additional direct object, and ditransitive verbs select a direct and an indirect object. We will show, however, that this classification is inadequate and that a better way of classifying verbs is by also appealing to the semantic roles that they assign to their nominal arguments.

A. Monadic, dyadic and triadic verbs

Traditional grammar normally classifies main verbs on the basis of the \circ adicity of these verbs, that is, the number of nominal arguments they take. For reasons that will become clear in what follows, we will use the notions given in (37) to refer to

the three subclasses traditionally distinguished and reserve the traditional notions of intransitive, transitive and ditransitive verbs to refer to specific subsets of these classes.

- (37) a. Monadic verbs: *lachen* ‘to laugh’, *arriveren* ‘to arrive’
 b. Dyadic verbs: *eten* ‘to eat’, *bevallen* ‘to please’
 c. Triadic verbs: *geven* ‘to give’, *aanbieden* ‘to offer’

The classification of main verbs in (37) is crucially based on the notions of subject and object. This has been criticized by pointing out that in this way verbs are lumped together with quite different properties; see the discussion in Subsection B. This is due to the fact that whether an argument is realized as a subject or an object is determined by the syntactic properties of the construction as a whole and not by the semantic function of the arguments. This can be readily illustrated by means of the active/passive pair in (38): in (38a), the subject *de bij* ‘the bee’ is an external argument, which is clear from the fact that it has the prototypical subject role of agent, whereas in (38b) the subject *de kat* ‘the cat’ is an internal argument, as is clear from the fact that it has the prototypical direct object role of patient.

- (38) a. De bij stak de kat.
 the bee stung the cat
 b. De kat werd (door de bij) gestoken.
 the cat was by the bee stung

In generative grammar, the semantic difference between the subjects of the examples in (38) is often expressed by saying that the subject *de bij* ‘the bee’ in (38a) is a “logical” subject, whereas the subject *de kat* in (38b) is a “derived” subject. We will from now on refer to the derived subjects as DO-subjects, since the discussion of the examples in (40) and (42) in Subsection B will show that such derived subjects originate in the same structural position in the clause as direct objects.

B. Unaccusative verbs

Perlmutter (1978) and Burzio (1986) have shown that the set of monadic verbs in (37a) can be divided into two distinct subclasses. Besides run-of-the-mill intransitive verbs like *lachen* ‘to laugh’, there is a class of so-called UNACCUSATIVE verbs like *arriveren* ‘to arrive’ with a number of distinctive properties (which may differ from language to language). The examples in (39) illustrate some of the differences between the two types of monadic verbs that are normally given as typical for Dutch; cf. Hoekstra (1984a).

- | | | |
|------|---|--|
| (39) | • Intransitive | • Unaccusative |
| a. | Jan heeft/*is gelachen.
Jan has/is laughed | a'. Jan is/*heeft gearriveerd.
Jan is/has arrived |
| b. | *de gelachen jongen
the laughed boy | b'. de gearriveerde jongen
the arrived boy |
| c. | Er werd gelachen.
there was laughed | c'. *Er werd gearriveerd.
there was arrived |

The first property involves auxiliary selection in the perfect tense: the (a)-examples show that intransitive verbs like *lachen* take the perfect auxiliary *hebben* 'to have', whereas unaccusative verbs like *arriveren* take the auxiliary *zijn* 'to be'. The second property involves the attributive use of past/passive participles: the (b)-examples show that past/passive participles of unaccusative verbs can be used attributively to modify a head noun that corresponds to the subject of the verbal construction, whereas past/passive participles of intransitive verbs lack this ability. The third property involves impersonal passivization: the (c)-examples show that this is possible with intransitive but not with unaccusative verbs.

Like monadic verbs, dyadic verbs can be divided into two distinct subclasses. Besides run-of-the-mill transitive verbs like *kussen* 'to kiss' with an accusative object, we find so-called NOM-DAT verbs like *bevallen* 'to please' taking a °dative object; since Dutch has no morphological case, we illustrate the case property of the NOM-DAT verbs by means of the German verb *gefallen* 'to please' in (40a'). Lenerz (1977) and Den Besten (1985) have shown that these NOM-DAT verbs are special in that the subject follows the object in the unmarked case, as in the (b)-examples.

- (40) a. Dutch: dat jouw verhalen mijn broer niet bevallen.
 a'. German: dass deine Geschichten_{nom} meinem Bruder_{dat} nicht gefallen.
 literal: that your stories my brother not please
 'that your stories don't please my brother.'
- b. Dutch: dat mijn broer jouw verhalen niet bevallen.
 b'. German: dass meinem Bruder_{dat} deine Geschichten_{nom} nicht gefallen.
 literal: that my brother your stories not please
 'that your stories don't please my brother.'

This word order property readily distinguishes NOM-DAT verbs from transitive verbs since the latter do not allow the subject after the object; transitive constructions normally have a strict NOM-ACC order (unless the object undergoes *wh*-movement or topicalization).

- (41) a. dat mijn broer_{nom} jouw verhalen_{acc} leest.
 that my brother your stories reads
 'that my brother is reading your stories.'
- b. *dat jouw verhalen_{acc} mijn broer_{nom} leest.

The (b)-examples in (42) show that the same word order variation as with NOM-DAT verbs is found with passivized ditransitive verbs, in which case the DAT-NOM order is again the unmarked one.

- (42) a. Jan_{nom} bood de meisjes_{dat} de krant_{acc} aan.
 Jan offered the girls the newspaper prt.
 'Jan offered the girls the newspaper.'
- b. dat de meisjes_{dat} de krant_{nom} aangeboden werd.
 that the girls the newspaper prt.-offered was
 'that the newspaper was offered to the girls.'
- b'. dat de krant_{nom} de meisjes_{dat} aangeboden werd.
 that the newspaper the girls prt.-offered was
 'that the newspaper was offered to the girls.'

Den Besten (1985) analyzes the word order variation in these examples by assuming that the DO-subject originates in the regular direct object position and optionally moves into subject position; see the representations in (43), in which the em-dash indicates the empty subject position of the clause and the °trace the original position of the °nominative phrase. Broekhuis (1992/2008) has shown that this movement is not really optional but subject to conditions related to the information structure of the clause; the subject remains in its original position if it is part of the °focus (new information) of the clause but moves into the regular subject position if it is part of the presupposition (old information) of the clause.

- (43) a. DAT-NOM order: [dat — IO DO-subject V]
 b. NOM-DAT order: [dat DO-subject IO t_i V]

The word order similarities between (40) and (42) show that NOM-DAT verbs also take DO-subjects; the DAT-NOM orders in the (b)-examples in (40) are the base-generated ones and the NOM-DAT orders in the (a)-examples are derived by movement of the DO-subject into the regular subject position of the clause.

Monadic unaccusative verbs like *arriveren* ‘to arrive’ are like NOM-DAT verbs in that they take a DO-subject. This can be illustrated by means of the examples in (44). The (b)-examples show that the past/passive participle of a transitive verb like *kopen* ‘to buy’ can be used as an attributive modifier of a noun that corresponds to the internal theme argument (here: direct object) of the verb, but not to the external argument (subject) of the verb.

- (44) a. Het meisje kocht het boek.
 the girl bought the book
 b. het gekochte boek
 the bought book
 b'. *het gekochte meisje
 the bought girl

The fact that the past participle of *arriveren* in (39b') can be used as an attributive modifier of a noun that corresponds to the subject of the verb therefore provides strong evidence in favor of the claim that the subject of an unaccusative verb is also an internal theme argument of the verb. That subjects of unaccusative verbs are not assigned the prototypical semantic role of external arguments (= agent) can furthermore be supported by the fact that unaccusative verbs never allow agentive ER-nominalization, that is, they cannot be used as the input of the derivational process that derives person nouns by means of the suffix *-er*; the primed examples in (45) show that whereas many subjects of intransitive and (di-)transitive verbs can undergo this process, unaccusative and NOM-DAT verbs never do. See N1.3.1.5 and N2.2.3.1 for a more detailed discussion of agentive ER-nominalization.

- | | | | | |
|---------|------------------------------|-----|--------------------------------|----------------|
| (45) a. | <i>snurken</i> ‘to snore’ | a'. | <i>snurker</i> ‘snorer’ | [intransitive] |
| b. | <i>arriveren</i> ‘to arrive’ | b'. | * <i>arriveerder</i> ‘arriver’ | [unaccusative] |
| b. | <i>kopen</i> ‘to buy’ | c'. | <i>koper</i> ‘buyer’ | [transitive] |
| d. | <i>bevallen</i> ‘to please’ | d'. | * <i>bevaller</i> ‘pleaser’ | [NOM-DAT] |
| e. | <i>aanbieden</i> ‘to offer’ | e'. | <i>aanbieder</i> ‘provider’ | [ditransitive] |

We will discuss here one final argument for claiming that subjects of unaccusative verbs are internal arguments. This is provided by causative-inchoative pairs such as (46), which show that the subject of the unaccusative construction in (46b) stands in a similar semantic relation with the (inchoative) verb *breken* as the direct object of the corresponding transitive construction with the (causative) verb *breken* in (46a); cf. Mulder (1992), Levin (1993) and Levin & Rappaport Hovav (1995:ch.2).

- (46) a. Jan heeft het raam gebroken.
 Jan has the window broken
 ‘Jan has broken the window.’
 b. Het raam is gebroken.
 the window is broken
 ‘The window has broken.’

C. Interim conclusion

The discussion in the previous subsections has shown that the traditional classification of main verbs on the basis of the *number* of nominal arguments that they take is seriously flawed. The set of monadic verbs lumps together two sets of verbs with very distinct properties, and the same thing holds for the set of dyadic verbs. When we also take into account impersonal verbs like *sneeuwen* ‘to snow’ which are often assumed not to take any argument at all and occur with the non-referential subject *het* ‘it’, we may replace the traditional classification by the more fine-grained one in Table 2, which appeals to the *type* of argument(s) the verb takes, that is, the distinction between internal and external arguments.

Table 2: Classification of verbs according to the type of nominal arguments they take

	NAME	EXTERNAL ARGUMENT	INTERNAL ARGUMENT(S)
NO INTERNAL ARGUMENT	intransitive: <i>snurken</i> ‘to snore’	nominative (agent)	—
	impersonal: <i>sneeuwen</i> ‘to snow’	—	—
ONE INTERNAL ARGUMENT	transitive: <i>kopen</i> ‘to buy’	nominative (agent)	accusative (theme)
	unaccusative: <i>arriveren</i> ‘to arrive’	—	nominative (theme)
TWO INTERNAL ARGUMENTS	ditransitive: <i>aanbieden</i> ‘to offer’	nominative (agent)	dative (goal) accusative (theme)
	NOM-DAT verb: <i>bevallen</i> ‘to please’	—	dative (experiencer) nominative (theme)
	???	—	nominative (goal) accusative (theme)

Figure 2 gives the same classification in the form of a graph. In this figure it can be seen that the unaccusative verbs form the counterpart of the so-called UNERGATIVE VERBS (for which reason the unaccusative verbs are also known as ERGATIVE VERBS in the literature). This graph nicely expresses our claim that the distinction between

unaccusative and unergative verbs is more basic than that based on the adicity of the verb.

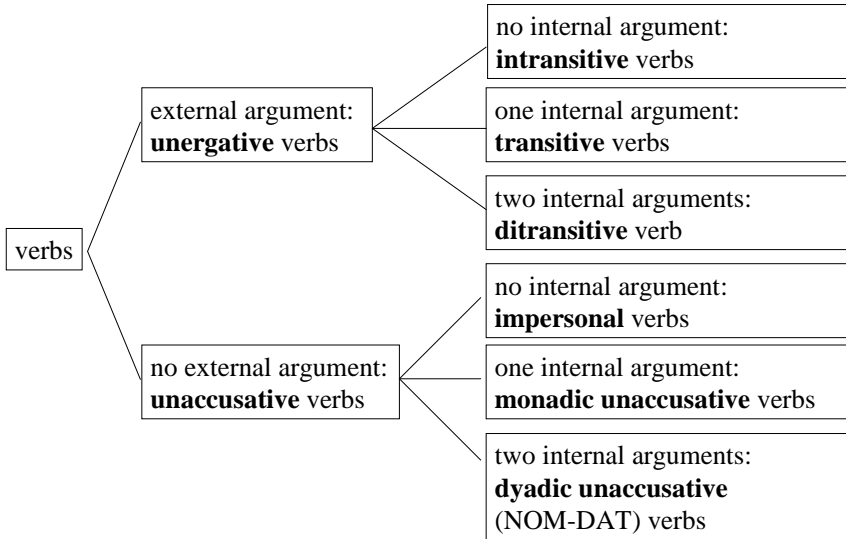


Figure 2: Classification of verbs taking nominal arguments

Observe that we also indicated in Table 2 the *prototypical* semantic roles assigned to the arguments in question without intending to exclude the availability of other semantic roles; external arguments, for example, need not be agents but can also function as external causes, as is clearly the case when the human subject in (46a) is replaced by a non-human one like *de storm* ‘the tempest’: *De storm brak het raam* ‘The storm broke the window’.

D. Undative verbs

The classification in Table 2 contains one logical possibility that we have not yet discussed, in which an internal goal argument (that is, an argument with a semantic role similar to that assigned to the dative argument of a ditransitive verb) functions as the subject of the clause, and which we may therefore call *UNDATIVE* verbs. The current linguistic literature normally does not recognize that verbs of this type may exist, for which reason we marked this option with “????” in the table, but this subsection argues that they do exist and that the prototypical instantiations of this type are the verbs *hebben* ‘to have’, *krijgen* ‘to get’, and *houden* ‘to keep’. This subsection shows this only for the verb *krijgen*; *hebben* and *houden* as well as a number of other potential cases will be discussed in Section 2.1.4.

Consider the examples in (47). It seems that the indirect object in (47a) and the subject in (47b) have a similar semantic role: they both seem to function as the recipient/goal of the theme argument *het boek* ‘the book’. The fact that the subject in (47b) is not assigned the prototypical subject role of agent/cause furthermore suggests that the verb *krijgen* ‘to get’ does not have an external argument (although the agent/cause can be expressed in a *van*-PP). Taken together, these two facts suggest that the noun phrase *Marie* in (47b) is not an underlying but a derived

IO-subject. The remainder of this subsection will show that there are a number of empirical facts supporting this claim.

- (47) a. Jan gaf Marie het boek.
 Jan gave Marie the book
 b. Marie kreeg het boek (van Jan).
 Marie got the book of Jan
 ‘Marie got the book from Jan.’

Example (45) in Subsection B has shown that ER-nominalization is only possible if an external (agentive) argument is present; *snurker* (snore + *-er*) versus **arriveerder* (arrive + *-er*). If the subject in (47b) is indeed an internal goal argument, we expect ER-nominalization of *krijgen* to be impossible as well. Example (48a) shows that this prediction is indeed borne out (*krijger* only occurs with the meaning ‘warrior’; this noun was derived from medieval *crigen*, which was also the input verb for *gecrigen*, which eventually developed into modern *krijgen*; cf. Landsbergen 2009:ch.4). The discussion in Subsection B has further shown that unaccusative verbs cannot be passivized, which strongly suggests that the presence of an external argument is a necessary condition for passivization. If so, we correctly predict passivization of (47b) also to be impossible; cf. example (48b).

- (48) a. *de krijger van dit boek
 the get-er of this book
 b. *Het boek werd/is (door Marie) gekregen.
 the book was/has.been by Marie gotten

Although the facts in (48) are certainly suggestive, they are of course not conclusive for arguing that *krijgen* is an undative verb, since we know that not all verbs with an external argument allow ER-nominalization, and that there are several additional restrictions on passivization. There is, however, more evidence that supports the idea that the subject of *krijgen* is a derived subject. For example, the claim that *krijgen* has an IO-subject may account for the fact that the Standard Dutch example in (49a), which contains the idiomatic double object construction *iemand de koude rillingen bezorgen* ‘to give someone the creeps’, has the counterpart in (49b) with *krijgen*.

- (49) a. De heks bezorgde Jan de koude rillingen.
 the witch gave Jan the cold shivers
 ‘The witch gave him the creeps.’
 b. Jan kreeg de koude rillingen (van de heks).
 Jan got the cold shivers from the witch
 ‘Jan has gotten the creeps from the witch.’

The final and perhaps most convincing argument in favor of the assumption that *krijgen* has a derived subject is that it is possible to have the possessive constructions in (50). If a locative PP is present, the possessor of the complement of the preposition can be realized as a dative noun phrase; the object *Marie* in (50a) must be construed as the possessor of the noun phrase *de vingers*. Generally speaking, it is only the possessive dative that can perform the function of possessor.

The subject of the verb *krijgen*, however, is an exception to this general rule; the subject *Marie* in (50b) is also interpreted as the possessor of the noun phrase *de vingers*. This could be accounted for by assuming that *Marie* is not an external argument in (50b), but an internal argument with the same function as *Marie* in (50a).

- (50) a. Jan gaf Marie een tik op de vingers.
 Jan gave Marie a slap on the fingers
 b. Marie kreeg een tik op de vingers.
 Marie got a slap on the fingers

III. Conclusion

This section has shown that the traditional distinction between monadic, dyadic and triadic verbs lumps together verbs with quite distinct properties: the intransitive and unaccusative verbs, for example, do not have more in common than that they take only one nominal argument.

- (51) a. Verbs with an adicity of zero: impersonal verbs.
 b. Monadic verbs (adicity of one): intransitive *and* unaccusative verbs.
 c. Dyadic verbs (adicity of two): transitive *and* NOM-DAT verbs.
 d. Triadic verbs (adicity of three): ditransitive verbs.

This suggests that the traditional classification must be replaced by a classification that also appeals to the type of argument(s) the verb takes, that is, the distinction between internal and external arguments. This leads to the more fine-grained classification in Table 3. Recall from the discussion of Table 2 that the table also indicates the *prototypical* semantic roles assigned to the arguments in question without intending to exclude the availability of other semantic roles.

Table 3: Classification of verbs according to the type of nominal arguments they take

	NAME USED IN THIS GRAMMAR	EXTERNAL ARGUMENT	INTERNAL ARGUMENT(S)
NO INTERNAL ARGUMENT	intransitive: <i>snurken</i> 'to snore'	nominative (agent)	—
	impersonal: <i>sneeuwen</i> 'to snow'	—	—
ONE INTERNAL ARGUMENT	transitive: <i>kopen</i> 'to buy'	nominative (agent)	accusative (theme)
	unaccusative: <i>arriveren</i> 'to arrive'	—	nominative (theme)
TWO INTERNAL ARGUMENTS	ditransitive: <i>aanbieden</i> 'to offer'	nominative (agent)	dative (goal) accusative (theme)
	NOM-DAT verb: <i>bevallen</i> 'to please'	—	dative (experiencer) nominative (theme)
	undative: <i>krijgen</i> 'to get'; <i>hebben</i> 'to have'; <i>houden</i> 'to keep'	—	nominative (goal) accusative (theme)

1.2.3. *Semantic classification of main verbs*

This section discusses some of the semantic classifications of main verbs proposed over the last fifty years. The discussion starts with Vendler's (1957) distinction between states, activities, achievements and accomplishments, which has been the starting point for most semantic classifications proposed later. A problem with Vendler's classifications is that it became clear very quickly that it is not a classification of main verbs but of events expressed by larger structures headed by these main verbs. For example, one of the features that Vendler uses in his classification (and which is taken over in one form or another in most classifications of later date) is whether the event denoted by the verb has some logically implied endpoint, and the examples in (52) show that this need not be an inherent property of the verb itself but may be (partly) determined by, e.g., the internal argument of the verb: a singular indefinite object headed by a count noun introduces an inherent endpoint of the event denoted by the verb *eten* 'to eat' (the event ends when the roll in question has been fully consumed), whereas a plural indefinite object does not (the endpoint depends on the number of rolls that Jan will consume).

- (52) a. Jan eet een broodje met kaas.
 Jan eats a roll with cheese
 'Jan is eating a roll with cheese.'
- b. Jan eet broodjes met kaas.
 Jan eats rolls with cheese
 'Jan is eating rolls with cheese.'

Another problem with discussing the semantic classifications proposed since Vendler (1957) is that they often involve different dividing lines between the categories so that certain verbs may be categorized differently within the different proposals. Nevertheless, it is useful to discuss some specific proposals, given that the tradition that started with Vendler (1957) is still very much alive and continues to play an important role in present-day linguistics. Furthermore, we will see that a number of more recent proposals are formulated in such terms that make it possible to relate the semantic classification to the syntactic classification proposed in Section 1.2.2.

1. *Aktionsart: Vendler's aspectual event classification*

Verbs are often classified according to the AKTIONSPORT (which is sometimes also called INNER ASPECT) they express. The term Aktionsart refers to the internal temporal organization of the event denoted by the verb and thus involves questions like (i) whether the event is construed as occurring at a single point in time (momentaneous aspect) or as evolving over time (durative aspect); (ii) whether the event is inherently bounded in time, and, if so, whether the event is bounded at the beginning (ingressive/inchoative aspect), at the end (terminative aspect) or both; (iii) whether the verb expresses a single event or a series of iterated events, etc; see Lehmann (1999) for further distinctions and more detailed discussion.

- (53) a. Momentaneous aspect: *exploderen* ‘to explode’, *botsen* ‘to collide’
 b. Durative aspect: *lachen* ‘to laugh’, *wandelen* ‘to walk/hike’, *zitten* ‘to sit’
 c. Inchoative aspect: *ontbranden* ‘to ignite’, *ontkiemen* ‘to germinate’
 d. Terminative aspect: *doven* ‘to extinguish’, *smelten* ‘to melt’, *vullen* ‘to fill’
 e. Iterative aspect: *bibberen* ‘to shiver’, *stuiteren* ‘to bounce repeatedly’

The Aktionsarts in (53) do not, however, necessarily define mutually exclusive verb classes. Bounded events expressed by the inchoative and terminative verbs in (53c&d), for example, also evolve over time and are therefore durative as well. It therefore does not come as a surprise that there have been attempts to develop a more sophisticated semantic classification based on the aspectual properties of verbs.

A. Vendler’s Classification

Probably the best-known and most influential classification of main verbs is the one developed by Vendler (1957), who distinguishes the four aspectual classes in (54).

- (54) a. Activities: *bibberen* ‘to shiver’, *denken (over)* ‘to think (about)’, *dragen* ‘to carry’, *duwen* ‘to push’, *hopen* ‘to hope’, *eten (intr.)* ‘to eat’, *lachen* ‘to laugh’, *lezen (intr.)* ‘to read’, *luisteren* ‘to listen’, *praten* ‘to talk’, *rennen* ‘to run’, *schrijven (intr.)* ‘to write’, *sterven* ‘to die’, *wachten (op)* ‘to wait (for)’, *wandelen* ‘to walk’, *zitten* ‘to zit’
 b. Accomplishments: *bouwen* ‘to build’, *eten (tr.)* ‘to eat’, *koken (tr.)* ‘to cook’, *lezen (tr.)* ‘to read’, *opeten* ‘to eat up’, *schrijven (tr.)* ‘to write’, *oversteken* ‘to cross’, *verbergen* ‘to hide’, *verorberen* ‘to consume’, *zingen (tr.)* ‘to sing’
 c. States: *begrijpen* ‘to understand’, *bezitten* ‘to own’, *haten* ‘to hate’, *hebben* ‘to have’, *horen* ‘to hear’, *geloven* ‘to believe’, *houden van* ‘to love’, *kennen* ‘to know’, *leven* ‘to live’, *verlangen* ‘to desire’, *weten* ‘to know’
 d. Achievements: *aankomen* ‘to arrive’, *beginnen* ‘to start’, *bereiken* ‘to reach’, *botsen* ‘to collide’, *herkennen* ‘to recognize’, *ontploffen* ‘to explode’, *ontvangen* ‘to receive’, *overlijden* ‘to die’, *zich realiseren* ‘to realize’, *stoppen* ‘to stop’, *opgroeien* ‘to grow up’, *vinden* ‘to find’, *winnen* ‘to win’, *zeggen* ‘to say’

Vendler argues that activities and accomplishments can be grouped together as processes and that states and achievements can be grouped together as non-processes, as depicted in Figure 3.

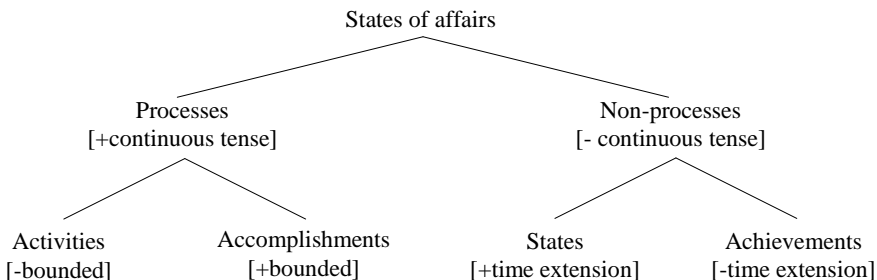


Figure 3: Vendler’s classification

The distinctions shown in Figure 3 are based on a number of semantic properties, which will be discussed in the following subsections.

1. Processes versus non-processes [\pm CONTINUOUS TENSE]

Vendler claims that verbs fall into two supercategories, which he calls processes and non-processes. Process verbs denote events which involve a specific internal dynamism over time and are characterized by the fact that they can be used to provide an answer to interrogative, progressive *aan het* + infinitive constructions like *Wat is Marie aan het doen?* ‘What is Marie doing?’; see constructions like *Wat is Marie aan het doen?* ‘What is Mary doing?’; see also Booij (2010:ch.6).

- (55) a. Marie is naar Peter aan het luisteren. [activity]
 Marie is to Peter AAN HET listen
 ‘Marie is listening to Peter.’
- b. Marie is haar boterham aan het opeten. [accomplishment]
 Marie is her sandwich AAN HET prt.-eat
 ‘Marie is eating her sandwich.’
- c. *Marie is van spinazie aan het houden. [state]
 Marie is of spinach AAN HET like
 Compare: ‘*Marie is liking spinach.’
- d. *Marie is aan het aankomen. [achievement]
 Marie is AAN HET prt.-arrive
 ‘Marie is arriving.’

2. Activities versus accomplishments [\pm BOUNDED]

Vendler divides the processes in activities and accomplishments on the basis of whether or not the event has a logically implied endpoint. Activities like *luisteren* ‘to listen’ are open-ended; the event referred to in (55a) has no natural termination point and can, at least in principle, last for an infinitely long period of time. Accomplishments like *opeten* ‘to eat up’, on the other hand, involve some inherent endpoint; the event referred to in (55b) is completed when the sandwich referred to by the object has been fully consumed.

This difference can be made more conspicuous by means of considering the validity of the entailments in (56). When we observe at a specific point in time that (56a) is true, we may conclude that (56a’) is also true, but the same thing does not hold for the (b)-examples. This shows that in the case of an accomplishment like *opeten* ‘to eat up’ it is not sufficient for the subject of the clause to be involved in a specific activity, but that reaching the logically implied endpoint is a crucial aspect of the meaning.

- (56) a. Marie is naar Peter aan het luisteren. \Rightarrow [activity]
 Marie is to Peter AAN HET listen
 ‘Marie is listening to Peter.’
- a’. Marie heeft naar Peter geluisterd.
 Marie has to Peter listened
 ‘Marie has listened to Peter.’

- b. Marie is haar boterham aan het opeten. ⇒ [accomplishment]
 Marie is her sandwich AAN HET prt.-eat
 ‘Marie is finishing her sandwich.’
- b'. Marie heeft haar boterham opgegeten.
 Marie has her sandwich prt.-eaten
 ‘Marie has finished her sandwich.’

The same point can be illustrated by question-answer pairs like those in (57), which show that accomplishments can be used in interrogatives of the form *Hoe lang kostte het ...te V_{infinitive}?* ‘How long did it take to V ...?’, which question the span of time that was needed to reach the logically implied endpoint, whereas activities cannot. The primed examples provide the corresponding answers to the questions.

- (57) a. *Hoe lang kostte het naar je leraar te luisteren? [activity]
 how long took it to your teacher to listen
 Compare: ‘*How long did it take to listen to your teacher?’
- a'. *Het kostte een uur naar mijn leraar te luisteren.
 it cost an hour to my teacher to listen
 Compare: ‘*It took an hour to listen to my teacher.’
- b. Hoe lang kostte het je maaltijd op te eten? [accomplishment]
 how long took it your meal prt. to eat
 ‘How long did it take to finish your meal?’
- b'. Het kostte 10 minuten mijn maaltijd op te eten.
 it cost 10 minutes my meal prt. to eat
 ‘It took 10 minutes to finish my meal.’

The question-answer pairs in (58) show that the opposite holds for interrogatives of the type *Hoe lang aux_{finite} ...V?* ‘For how long did ... V ...?’, which simply question the span of time during which the activity took place; such pairs can be used with verbs denoting activities but not with verbs denoting accomplishments.

- (58) a. Hoe lang heb je naar je leraar geluisterd? [activity]
 how long have you to your teacher listened
 ‘For how long did you listen to your teacher?’
- a'. Ik heb een uur (lang) naar mijn leraar geluisterd.
 I have an hour long to my teacher listened
 ‘I’ve listened to my teacher for an hour.’
- b. *Hoe lang heb je je maaltijd opgegeten? [accomplishment]
 how long have you your meal prt.-eaten
- b'. *Ik heb een uur (lang) mijn maaltijd opgegeten.
 I have an hour long my meal prt.-eaten

Another, but essentially identical, test that is often used to distinguish activities and accomplishments is the addition of specific types of temporal adverbial phrases: adverbial phrases like *gedurende een uur* ‘during an hour’ or *een uur lang* ‘for an hour’, which refer to the span of time during which the event denoted by the verb takes place, are typically used with activities; adverbial phrases like *binnen een uur* ‘within an hour’, which measure the span of time that is needed to reach a logically implied endpoint, are typically used with accomplishments.

- (59) a. Jan luisterde gedurende/*binnen een uur naar zijn leraar. [activity]
 Jan listened during/within an hour to his teacher
 'Jan listened to his teacher for an hour.'
- b. Jan at zijn maaltijd binnen/*gedurende vijf minuten op. [accomplishment]
 Jan ate his meal within/during five minutes prt.
 'Jan finished his meal in an hour.'

The (in)validity of the inferences in (56) and the selection restrictions on adverbial phrases in (59) are related to the fact that activities can normally be divided into shorter subevents that can again be characterized as activities: if I have been listening to Peter for an hour, I also have been listening to Peter during the first five minutes of that hour, the second five minutes of that hour, etc. This does not hold for accomplishments due to the fact that they crucially refer to the implied endpoint of the event: if I have finished my meal within five minutes, I did not necessarily finish my meal within the first, second, third or fourth minute of that time interval; cf. Dowty (1979:ch.3).

3. *States versus achievements* [\pm TIME EXTENSION]

Vendler claims that states differ from achievements in that the former have a temporal extension, whereas the latter do not. This can be made clear by using the questions *Hoe lang V_{finite} Subject ... al ...?* 'For how long has Subject already Vpart ...?'. The examples in (60) show that states are easily possible in such question-answer pairs, whereas achievements are not.

- (60) a. Hoe lang weet Jan al wie de dader is? [state]
 how long knows Jan already who the perpetrator is
 'For how long has Jan known who the perpetrator is?'
- a'. Jan weet al een paar weken wie de dader is.
 Jan know already a couple of weeks who the perpetrator is
 'Jan has known for a couple of weeks who the perpetrator is.'
- b. ^{??}Hoe lang herkent Peter de dader al? [achievement]
 how long recognizes Peter the perpetrator already
- b'. ^{??}Jan herkent de dader al een paar weken.
 Jan recognizes the perpetrator already a couple of weeks

Achievements occur instead in question-answer pairs that involve the actual moment at which the event took place, which is clear from the fact that they can readily be used in questions like *Hoe laat V_{finite} Subject ...?* 'At what time did Subject V ...?'.
 ...?

- (61) a. Hoe laat herkende Peter de dader? [achievement]
 how late recognized Peter the perpetrator
 'At what time did Peter recognize the perpetrator?'
- a'. Peter herkende de dader om drie uur.
 Peter recognized the perpetrator at three o'clock
- b. Hoe laat ontplofte de bom? [achievement]
 how late exploded the bomb
 'At what time did the bomb explode?'
- b'. De bom ontplofte om middernacht.
 the bomb exploded at midnight

States, on the other hand, normally do not readily enter questions of this type, and, if they do, the answer to the question refers to some moment at which something has happened that resulted in the obtainment of the state denoted by the verb.

- (62) a. *?Hoe laat houd je van Jan? [state]
 how late love you of Jan
 ‘At what time do you love Jan?’
 b. Hoe laat weet je of je geslaagd bent? [state]
 how late know you whether you passed are
 ‘At what time will you know whether you passed the exams, that is, at what time will you get the results of the exams?’

B. What did Vendler classify?

Note that we have labeled the top node in Figure 3, repeated below for convenience, not as *verbs*, but as states of affairs. The reason for this is that, although Vendler seems to have set out to develop a classification of verbs, he actually came up with a classification of different types of states of affairs; see, e.g., Verkuyl (1972) and Dowty (1979).

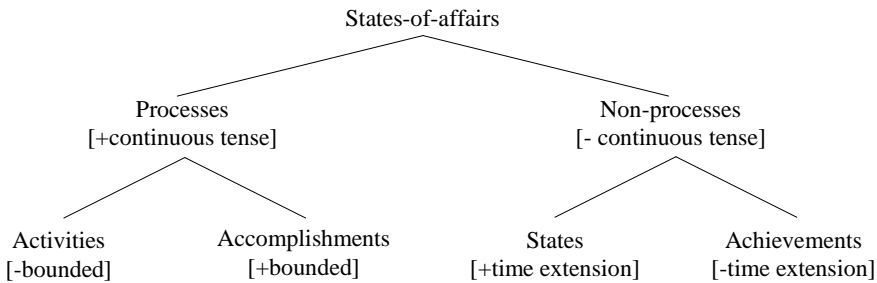


Figure 3: Vendler’s classification

For example, it seems impossible to classify the verb *schrijven* ‘to write’ without additional information about its syntactic environment. The judgments on the use of the adverbial phrases of time in example (63) show that *schrijven* functions as an activity if it is used as an intransitive verb, but as an accomplishment if it is used as a transitive verb.

- (63) a. Jan schreef gedurende/*binnen een uur. [activity]
 Jan wrote during/within an hour
 ‘Jan was writing for an hour.’
 b. Jan schreef het artikel binnen/*gedurende een uur. [accomplishment]
 Jan wrote the article within/during an hour
 ‘Jan wrote the article within an hour.’

It is not, however, simply a matter of the ° adacity of the verb. First, the examples in (64) show that properties of the object may also play a role: the interpretation depends on whether the object refers to an unspecified or a specified quantity of books; cf. Verkuyl (1972/1993), Dowty (1979) and Dik (1997). In the (a)-examples this is illustrated by means of the contrast evoked by a bare plural noun phrase and

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a plural noun phrase preceded by a cardinal numeral, and in the (b)-examples by means of the contrast evoked by noun phrases headed by, respectively, a non-count and a singular count noun.

- (64) a. Jan schreef gedurende/*binnen twee jaar boeken. [activity]
 Jan wrote during/within two year books
 a'. Jan schreef binnen/*gedurende twee jaar drie boeken. [accomplishment]
 Jan wrote within/during two year three books
 b. Jan at spaghetti. [activity]
 Jan ate spaghetti
 b'. Jan at een bord spaghetti. [accomplishment]
 Jan ate a plate [of] spaghetti

A similar effect may arise in the case of verbs like *ontploffen* 'to explode'. If the subject is a singular noun phrase, we are dealing with a momentaneous event, that is, with an achievement. If the subject is a definite plural, however, the adverbial test suggests that we can also be dealing with an activity, and if the subject is an indefinite plural the adverbial test suggests that we can only be dealing with an activity.

- (65) a. De bom ontplofte om drie uur/*de hele dag. [achievement]
 the bomb exploded at three o'clock/the whole day
 b. De bommen ontploften om drie uur/de hele dag. [achievement or activity]
 the bombs exploded at three o'clock/the whole day
 c. Er ontploften de hele dag^{??}om drie uur bommen. [activity]
 there exploded the whole day/at three o'clock bombs
 'There were bombs exploding the whole day.'

Second, the addition of elements other than objects may also have an effect on the interpretation; the examples in (66) show, for instance, that adding a °complementive like *naar huis* 'to home' or a verbal particle like *terug* 'back' turns an activity into an accomplishment.

- (66) a. Jan wandelde twee uur lang/*binnen twee uur. [activity]
 Jan walked two hours long/within two hours
 'Jan walked for two hours.'
 b. Jan wandelde binnen twee uur/*twee uur lang naar huis. [accomplishment]
 Jan walked within two hours/two hours long to home
 'Jan walked home within two hours.'
 b'. Jan wandelde in twee uur/*twee uur lang terug. [accomplishment]
 Jan walked in two hours/ two hours long back
 'Jan walked back within two hours.'

Third, the examples in (67) illustrate that the categorial status of the complement of the verb may also affect the aspectual nature of the event: whereas the nominal complement in (67b) triggers an accomplishment reading, the PP-complement triggers an activity reading.

- (67) a. Jan dronk de wijn. [accomplishment]
 Jan drank the wine
 b. Jan dronk van de wijn. [activity]
 Jan drank of the wine

The examples in (68) show a somewhat similar alternation between states and activities. The (a)-examples show that if the verb *denken* ‘to think’ takes a propositional complement like a clause, it cannot occur in the progressive *aan het* + infinitive + *zijn* construction, and we may therefore conclude that we are dealing with a state. The (b)-examples show that if the verb *denken* selects a PP-complement, it can occur in the progressive construction, and that we are thus dealing with an activity. The (c)-examples show that we get a similar meaning shift if we supplement the verb with the verbal particle *na*.

- (68) a. Marie denkt dat Jan een deugniet is. [state]
 Marie thinks that Jan a rascal is
 ‘Marie thinks that Jan is a rascal.’
 a’. *Marie is aan het denken dat Jan een deugniet is.
 Marie is AAN HET think that Jan a rascal is
 b. Marie denkt over het probleem. [activity]
 Marie thinks about the problem
 ‘Marie is thinking about the problem.’
 b’. Marie is over het probleem aan het denken.
 Marie is about the problem AAN HET think
 c. Marie denkt na. [activity]
 Marie thinks prt.
 ‘Marie is pondering.’
 c’. Marie is aan het nadenken.
 Marie is AAN HET prt.-think

C. Alternative approaches to Vendler’s classification

The previous subsections have briefly discussed some distinctive semantic properties of verbs and events that Vendler (1957) used to motivate his classification in Figure 3. This discussion leads to the following characterizations of the four subclasses.

- (69) a. Activities [+CONTINUOUS TENSE, -BOUNDED]: events that go on for some time in a homogeneous way in the sense that they do not proceed toward a logically necessary endpoint.
 b. Accomplishments [+CONTINUOUS TENSE, +BOUNDED]: events that go on for some time in a non-homogeneous way in the sense that they proceed toward a logically necessary endpoint.
 c. States [-CONTINUOUS TENSE, +TIME EXTENSION]: stable situations that last for some period of time.
 d. Achievements [-CONTINUOUS TENSE, -TIME EXTENSION]: events that are perceived as occurring momentarily.

One problem with this classification is that the features used are in fact more widely applicable than simply for making the distinctions given in (69). The feature [\pm BOUNDED], for example, may be just as relevant for states and achievements as for activities and accomplishments. In fact, this feature may group states and activities as unbounded, and accomplishments and achievements as bounded states of affairs. The examples in (70) show that states behave like activities in that they can be used in perfective questions of the form *Hoe lang* aux_{finite} ... V? ‘For how long did ... V ...?’, whereas accomplishments and achievements cannot.

- (70) a. *Hoe lang heeft hij naar zijn leraar geluisterd?* [activity]
 how long has he to his teacher listened
 ‘For how long did he listen to his teacher?’
 b. **Hoe lang heeft hij zijn maaltijd opgegeten?* [accomplishment]
 how long has he his meal prt.-eaten
 c. *Hoe lang heeft hij van spinazie gehouden?* [state]
 how long has he of spinach liked
 ‘For how long did he like spinach?’
 d. **Hoe lang is de bom ontploft?* [achievement]
 how long has the bomb exploded

If an interrogative phrase refers to a specific time, on the other hand, the acceptability judgments are reversed. This is shown in (71) by means of the adverbial phrase *hoe laat* ‘at what time’.

- (71) a. **Hoe laat heeft hij naar zijn leraar geluisterd?* [activity]
 how late has he to his teacher listened
 b. *Hoe laat heeft hij zijn maaltijd opgegeten?* [accomplishment]
 how late has he his meal prt.-eaten
 ‘At what time did he eat his meal?’
 c. **Hoe laat heeft hij van spinazie gehouden?* [state]
 how late has he of spinach liked
 d. *Hoe laat is de bom ontploft?* [achievement]
 how late has the bomb exploded
 ‘At what time did the bomb explode?’

Distribution patterns like these suggest that the four verb classes can be defined by means of a binary feature system of the form in Table 4, in which the features [\pm BOUNDED] and [\pm CONTINUOUS TENSE] can be construed as given in Figure 3; cf. Verkuyl (1993).

Table 4: Binary feature system for defining Vendler’s verb classes I

	–BOUNDED	+BOUNDED
–CONTINUOUS TENSE	states	achievements
+CONTINUOUS TENSE	activities	accomplishments

Note that the feature [\pm BOUNDED] correlates with other semantic properties of the events. Accomplishments like *opeten* ‘to eat up’ and achievements like *ontploffen* ‘to explode’ in (72) both indicate that some participant in the event (here,

respectively, the object and the subject) undergoes a change of state and that obtaining the new state marks the end of the event; the only difference is that the transformation requires some time in the former but is perceived as taking place instantaneously in the latter case.

- (72) a. Jan at de boterham op. [accomplishment]
 Jan ate the sandwich prt.
 ‘Jan ate the sandwich.’
 b. De bom ontploft. [achievement]
 the bomb explodes

Activities and states, on the other hand, typically do not involve a change of stage and refer to more or less homogenous states of affairs with the result that the end of these states of affairs is more or less arbitrarily determined. This shows that it is not *a priori* clear whether the feature [±BOUNDED] is the correct feature; it might just as well have been [±CHANGE OF STATE], as shown in Table 5. It therefore does not come as a surprise that there are a variety of binary feature systems available; see Rosen (2003: Section 1.3) for a brief discussion of some other proposals.

Table 5: Binary feature system for defining Vendler’s verb classes II

	–CHANGE OF STATE	+CHANGE OF STATE
–CONTINUOUS TENSE	states	achievements
+CONTINUOUS TENSE	activities	accomplishments

Other alternatives to Vendler’s classification readily come to mind. Figure 4, which is based on Smith (1991) and Dik (1997), takes the basic division to be that between states and events: states lack internal dynamism in that they do not require any input of energy as nothing changes while they hold (Lehmann 1999:44), while events do have some form of internal dynamism. Events can be divided further on the basis of their boundedness: activities are not inherently bounded, whereas accomplishments and achievements are. The latter two differ in that only the former evolve over time. This gives rise to the hierarchical or at least more layered classification in Figure 4.

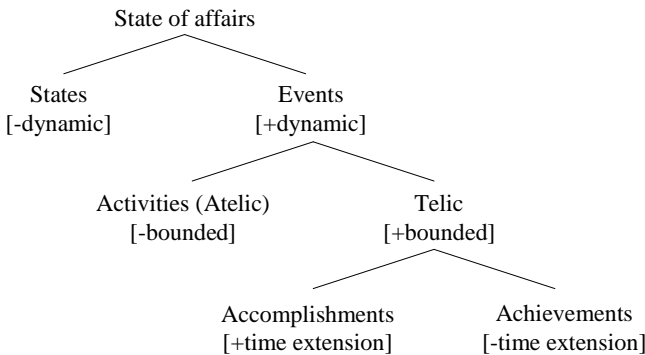


Figure 4: Hierarchical feature system for defining Vendler’s verb classes

As this is not the place to discuss the pros and cons of the available feature systems, we will confine ourselves to summarizing some of the conspicuous properties of the verb classes as distinguished by Vendler (1957) by means of the table in (73); we refer the reader to Miller (1999) and Rosen (2003) for more discussion.

(73) Properties of Vendler's event classes.

	state	activity	accomplishment	achievement
dynamic	—	+	+	+
bounded/change-of-state	—	—	+	+
punctual	—	—	—	+
continuous tense	—	+	+	—

II. Participant roles in events

This subsection discusses alternative approaches to Vendler's classification that do not primarily appeal to the internal temporal organization of the events, but instead to specific properties of the participants in the event. One example of this was already discussed in Subsection I, where it was observed that the aspectual feature [\pm BOUNDED] can readily be replaced by the feature [\pm CHANGE OF STATE], which involves a property of one of the participants in the event. This shift in perspective may have been (unintentionally) initiated by Dowty (1979), who suggested (in line with the basic principle of Generative Semantics) that verbs can be semantically decomposed by means of a number of atomic semantic elements like DO, BECOME and CAUSE, which combine with a stative n -place predicate π_n in (74a) to form the more complex events in (74b-d), and, in fact, a number of more complex subclasses of these event types such as inchoative achievements like *ontbranden* 'to ignite', which would be assigned the structure BECOME [DO (α_1 , [$\pi_n(\alpha_1, \dots, \alpha_n)$])].

- (74) a. State: $\pi_n(\alpha_1, \dots, \alpha_n)$
 b. Activity: DO (α_1 , [$\pi_n(\alpha_1, \dots, \alpha_n)$])
 c. Achievement: BECOME [$\pi_n(\alpha_1, \dots, \alpha_n)$]
 d. Accomplishment: Φ CAUSE (BECOME [$\pi_n(\alpha_1, \dots, \alpha_n)$])

The status of the three semantic atoms is quite complex. The element DO seems to function as a simple two-place predicate taking an argument of the stative predicate π_n as well as the stative predicate itself as arguments. The element BECOME, on the other hand, functions as an $^{\circ}$ operator expressing that the truth value of the stative predicate $\pi_n(\alpha_1, \dots, \alpha_n)$ changes from false to true. The element CAUSE, finally, is a connective that expresses that event Φ is a causal factor for the event expressed by the formula following it (here: the achievement BECOME [$\pi_n(\alpha_1, \dots, \alpha_n)$]); there is some event that causes some other event to come into existence.

The semantic structure attributed to accomplishments in (74d) correctly accounts for our intuition about example (75a) that the referent of the noun phrase *het documenten* 'the documents' undergoes a change of state as the result of some unspecified action performed by the referent of the subject of the sentence, which

may be further clarified by adding an instrumental *met*-PP like *met een papierversnipperaar* ‘with a paper shredder’; Jan has destroyed the documents by putting them in a shredder. It should be noted, however, that it is not immediately clear whether the inference that Jan is involved in some action is *part of the meaning of the verb* or the result of some *conversational implicature* in the sense of Grice (1975). The answer to this question depends on whether an example such as (75b) likewise expresses that there is some event that involves the referent of the noun phrase *de orkaan* ‘the hurricane’ that causes a change of state in the referent of the noun phrase *de stad* ‘the city’.

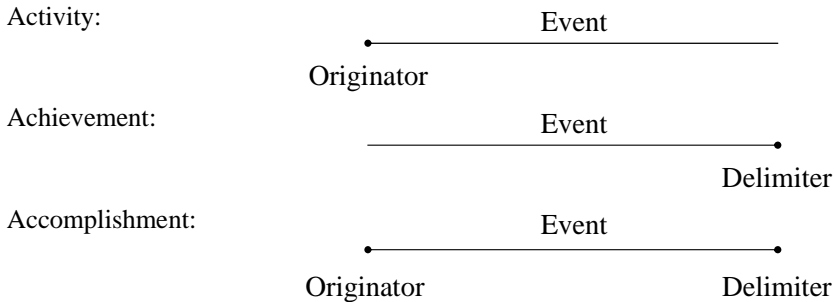
- (75) a. Jan vernietigde de documenten (met een papierversnipperaar).
 Jan destroyed the documents with a paper shredder
 b. De orkaan vernietigde de stad (*met).
 the hurricane destroyed the city with

The fact that it is not possible to add an instrumental *met*-PP to example (75b) suggests that the causal relation is more direct in this case and, consequently, that the inference we can draw from (75a) that it is some action of Jan that triggers the change of state is nothing more than a conversational implicature. Given this conclusion, it is tempting to simplify Dowty’s semantic structures in (74) by construing *all* semantic atoms as *n*-place predicates, as in (76).

- (76) a. State: $\pi_n(\alpha_1, \dots, \alpha_n)$
 b. Activity: $DO(\alpha_1, [\pi_n(\alpha_1, \dots, \alpha_n)])$
 c. Achievement: $BECOME(\beta, [\pi_n(\alpha_1, \dots, \alpha_n)])$, where $\beta \in \{\alpha_1, \dots, \alpha_n\}$
 d. Accomplishment: $CAUSE(\gamma, (BECOME(\beta, [\pi_n(\alpha_1, \dots, \alpha_n)]))$, in which $\beta \in \{\alpha_1, \dots, \alpha_n\}$ and $\gamma \notin \{\alpha_1, \dots, \alpha_n\}$

The interpretations of states and activities remain the same, but those of achievements and accomplishments change: an achievement is now interpreted as a change of state, such that β becomes an argument of π_n , and an accomplishment is now interpreted as a change of state, such that β becomes an argument of π_n as the result of some external cause γ . This reinterpretation of Dowty’s system in fact seems to come very close to the proposals of the sort proposed in Van Voorst (1988) and Tenny (1994), who claim that Vendler’s classes can be defined as in (77) by assuming that the nominal arguments in the clause may function as originator (typically the external argument) or delimiter (typically an internal argument of the verb) of the event; note that states do not fall in this classification since they are characterized by the absence of event structure; see also Levin & Rappaport Hovav (1995), Van Hout (1996), Van der Putten (1997) and many others for proposals in a similar spirit, and Levin & Rappaport Hovav (2005) for a recent review of research in this line of investigation.

(77) Aspectual classification of event structure based on participant roles



An advantage of taking participant roles as the basis of the aspectual classification of events is that this immediately accounts for the fact that the intransitive and transitive uses of verbs like *schrijven* ‘to write’ and *eten* ‘to eat’ differ in interpretation in the way they do: only the transitive primed examples have an internal argument that may function as delimiter.

- (78) a. Jan schreef twee uur lang/*binnen twee uur. [activity]
 Jan wrote for two hours/within two hours
 a'. Jan schreef de brief binnen twee uur/*twee uur lang. [accomplishment]
 Jan wrote the letter within two hours/for two hours
 b. Jan at vijf minuten lang/*binnen vijf minuten. [activity]
 Jan ate for five minutes/within five minutes
 b'. Jan at zijn lunch binnen vijf minuten/*vijf minuten lang. [accomplishment]
 Jan ate his lunch within five minutes/for five minutes

Furthermore, this approach may provide a better understanding of the fact established earlier that properties of the nominal arguments of the verb may effect the aspectual interpretation by postulating additional conditions that the nominal arguments must meet in order to be able to function as delimiters; cf. the discussion of the examples in (64), repeated here as (79), which show that verbs like *schrijven* ‘to write’ or *eten* ‘to eat’ are only interpreted as accomplishments if the objects refer to specified quantities. This suggests that bare plurals and noun phrases headed by a mass noun cannot function as delimiters.

- (79) a. Jan schreef gedurende/*binnen twee jaar boeken. [activity]
 Jan wrote during/within two year books
 a'. Jan schreef binnen/*gedurende twee jaar drie boeken. [accomplishment]
 Jan wrote within/during two year three books
 b. Jan at spaghetti. [activity]
 Jan ate spaghetti
 b'. Jan at een bord spaghetti. [accomplishment]
 Jan ate a plate [of] spaghetti

In fact, we can now also account for the fact illustrated in (65), repeated here as (80), that the subject may affect that the aspectual interpretation of the sentence by placing a similar restriction on the originator.

- (80) a. De bom ontplofte om drie uur/*de hele dag. [achievement]
the bomb exploded at three o'clock/the whole day
b. De bommen ontploften om drie uur/de hele dag. [achievement or activity]
the bombs exploded at three o'clock/the whole day
c. Er ontploften de hele dag/?om drie uur bommen. [activity]
there exploded the whole day/at three o'clock bombs
'There were bombs exploding the whole day.'

This is formalized by Verkuyl (1972/2005) in his claim that the aspectual interpretation is compositional in the sense that it depends both on a feature of the verb and a feature of its nominal arguments (subject and object). According to Verkuyl the relevant feature of the verb is [\pm DYNAMIC], which distinguishes between states and events, and the relevant feature of the nominal arguments is [\pm SQA], which distinguishes between noun phrases that refer to a specified quantity or a non-specified quantity; as soon as the subject or the object is assigned the feature [-SQA] the event becomes unbounded.

[\pm SQA]	[-SQA]	[+SQA]
State	Activity	Accomplishment Achievement
[-dynamic]	[+dynamic]	

Figure 5: Compositional aspect (after Verkuyl 2005)

Another advantage of taking participant roles as the basis of the aspectual event classification is that we can also readily account for the fact that the so-called causative alternation in (81) has the effect of changing an achievement into an accomplishment: the causative construction in (81b) has an additional external argument that may act as originator.

- (81) a. Het raam breekt. [achievement]
the window breaks
b. Jan breekt het raam. [accomplishment]
Jan breaks the window

We can now also account for the earlier observation that the addition of complementives or verbal particles may affect the aspectual interpretation, by assuming that these add a meaning aspect to the construction which enables the object to function as a delimiter. Tenny (1994), for example, claims that such elements add a terminus (point of termination), as a result of which the object of an activity may become a delimiter; see the examples in (82).

- (82) a. Jan_{originator} hielp de dame. [activity]
Jan helped the lady
a'. Jan_{originator} hielp de dame_{delimiter} uit de auto_{terminus}. [accomplishment]
Jan helped the dame out.of the car
b. Jan_{originator} duwde de kar. [activity]
Jan pushed the cart
b'. Jan_{originator} duwde de kar_{delimiter} weg_{terminus}. [accomplishment]
Jan pushed the cart away

Something similar is shown by the slightly more complex cases in (66), repeated here as (83), in which the addition of a complementive/verbal particle adds a terminus and thus turns an intransitive activity into an (unaccusative) achievement.

- (83) a. Jan wandelde twee uur lang/*binnen twee uur. [activity]
 Jan walked two hours long/within two hours
 ‘Jan walked for two hours.’
- b. Jan wandelde binnen twee uur/*twee uur lang naar huis. [achievement]
 Jan walked within two hours/two hours long to home
 ‘Jan walked home within two hours.’
- b’. Jan wandelde in twee uur/*twee uur lang terug. [achievement]
 Jan walked in two hours/ two hours long back
 ‘Jan walked back within two hours.’

Note in passing that the (b)-examples were considered accomplishments under Vendler’s approach because they are temporally bounded, but as achievements under the classification in (77) because *Jan* does not function as an originator but as a delimiter. This shows that the redefinition of Vendler’s original categories in terms of participant roles is not innocuous, but may give rise to different dividing lines between event types.

III. Extensions of Vendler’s four-way distinction

The participant perspective on the aspectual classification of events discussed in Subsection II implies that temporal notions no longer enter this classification. Subsection A will argue that this is a desirable result by showing that the feature [\pm TIME EXTENSION] applies across all event types, and can thus be used to extend the classification. Subsection B will discuss yet another feature, [\pm CONTROL], which has been argued to apply across all types of states of affairs and can likewise be used to extend the classification.

A. [\pm TIME EXTENSION]

Subsection II has shown that Vendler’s classification can be expressed by appealing to the roles that the nominal arguments play in the event and discussed a number of advantages of this shift of perspective. Another potential advantage is that activities, achievements and accomplishments are no longer defined by the temporal feature [\pm TIME EXTENSION]. This enables us to solve the problem for Vendler’s original proposal that there is a class of achievements that have temporal extension: verbs like *afkoelen* ‘cool’, *smelten* ‘to melt’ and *zinken* ‘to sink’ are not momentaneous but involve a gradual change of state; cf. Dowty (1979: Section 2.3.5). Furthermore, we can now also define so-called semelfactive verbs like *kloppen* ‘to knock’, *krabben* ‘to scratch’ and *kuchen* ‘to cough’ as instantaneous activities. Finally, we can also understand that accomplishments like *een boek schrijven* ‘to write a book’ and *een raam breken* ‘to break a window’ differ in their temporal extension. In short, the aspectual feature [\pm TIME EXTENSION] can be used to divide all three main event types into two subclasses.

(84) Extended event classification I

	[-TIME EXTENSION]	[+TIME EXTENSION]
activities	<i>kloppen</i> 'to knock' <i>kuchen</i> 'to cough' <i>knipogen</i> 'to wink' <i>rukken</i> 'to jerk'	<i>dragen</i> 'to carry' <i>lachen</i> 'to laugh' <i>luisteren</i> 'to listen' <i>wachten (op)</i> 'to wait (for)'
achievements	<i>aankomen</i> 'to arrive' <i>herkennen</i> 'to recognize' <i>ontplofften</i> 'to explode' <i>overlijden</i> 'to die'	<i>afkoelen</i> 'to cool' <i>smelten</i> 'to melt' <i>verdorren</i> 'to wither' <i>zinken</i> 'to sink'
accomplishments	<i>doorslikken</i> 'to swallow' <i>omstoten</i> 'to knock over' <i>verraden</i> 'to betray' <i>wegslaan</i> 'to hit away'	<i>bouwen</i> 'to build' <i>opeten</i> 'to eat up' <i>oversteken</i> 'to cross' <i>verbergen</i> 'to hide'

Note that our discussion above has abstracted away from the fact that properties of the nominal arguments of the verb may affect the temporal interpretation: crossing a square, for example, will have a temporal extension while crossing a line is instead instantaneous. The three classes of non-momentaneous verbs in Table (84) can easily be recognized, as they can always be the complement of the inchoative verb *beginnen* 'to begin'.

- (85) a. Jan begon te lachen. [activity]
 Jan started to laugh
 b. Het ijs begon te smelten. [achievement]
 the ice started to melt
 c. Jan begon het huis te bouwen. [accomplishment]
 Jan started the house to build
 'Jan started to build the house.'

The momentaneous verbs, on the other hand, normally do not allow this, except when they can be repeated and thus receive an iterative reading when combined with a durative adverbial phrase; cf. the examples in (86).

- (86) a. Jan kuchte drie keer. a'. Jan kuchte vijf minuten lang.
 Jan coughed three times Jan coughed for five minutes
 b. Jan sloeg de hond drie keer. b'. Jan sloeg de hond vijf minuten lang.
 Jan hit the dog three times Jan hit the dog for five minutes

Since momentaneous activities differ from momentaneous achievements and accomplishments in that they can typically be repeated, it is the former but not the latter that are typically used as the complement of *beginnen*.

- (87) a. Jan begon te kuchen.
 Jan started to cough
 b. *Jan begon aan te komen.
 Jan started prt. to arrive
 c. *Jan begon de lamp om te stoten.
 Jan started the lamp prt. to knock.over

B. [\pm CONTROL]

Another way of extending Vendler's classification is by adding Dik's (1997) feature [\pm CONTROL]. This feature denotes a property of the subject of the clause and expresses whether the referent of the subject is able to bring about or to terminate the event. The examples in (88) show that this feature can be superimposed on all four subclasses; the states of affairs in the primeless examples are all controlled, whereas those in the primed examples are not.

- (88) a. Jan gelooft het. a'. Jan weet het. [state]
 Jan believes it Jan knows it
 b. Jan wandelt in het park. b'. Jan rilt van de kou. [activity]
 Jan walks in the park the shivers from the cold
 c. Jan vertrok op tijd. c'. Jan overleed. [achievement]
 Jan left in time Jan died
 d. Jan vernielde de auto. d'. Jan verzwikte zijn enkel. [accomplishment]
 Jan vandalized the car Jan twisted his ankle

Dik provides a number of tests that can be used to determine whether the subject is able to control the event. The first involves the use of the imperative: whereas controlled events allow the imperative, non-controlled events do not.

- (89) a. Geloof het maar! a'. *Weet het maar! [state]
 believe it PRT. Jan knows it
 b. Wandel in het park! b'. *Ril van de kou! [activity]
 Jan walks in the park Shiver from the cold
 c. Vertrek op tijd! c'. *overlijd! [achievement]
 leave in time die
 d. Verniel de auto! d'. *Verzwik je enkel! [accomplishment]
 vandalize the car twist you ankle

This finding is interesting because Vendler (1957) and Dowty (1979) have claimed that states cannot occur in the imperative form on their prototypical use: an example such as *Ken uw rechten!* 'Know your rights!' was explained by claiming that this example did not involve an order/advice to know something, but to do something that would lead to the state of knowing something. Similarly, a command like *Zit!* 'Sit!' would be interpreted as an instruction to perform some activity that would lead to assuming the desired posture. However, if *geloven* 'to believe' indeed denotes a state, this cannot be maintained. Other typical states that can occur in the imperative are copular constructions, provided that the predicative element is a $^{\circ}$ stage-level predicate, that is, a predicate that denotes a transitory property; individual-level predicates, that is, predicates that denote more permanent properties, normally give an infelicitous result in the imperative construction.

- (90) a. Wees verstandig/geduldig! [stage-level predicate]
 be sensible/patient
 b. *Wees intelligent/klein! [individual-level predicate]
 be intelligent/little

Another context in which the difference between controlled and non-controlled events comes out clearly is in infinitival constructions such as (91), in which the implied subject °PRO of the infinitival clause is interpreted as coreferential with the subject of the main verb *beloven* ‘to promise’.

- (91) a. Jan belooft [PRO het te geloven/*weten].
 Jan promises it to believe/know
 ‘Jan promises to believe it.’
- b. Jan belooft [PRO te wandelen in het park/*te rillen van de kou].
 Jan promises to walk in the park/to shiver from the cold
 ‘Jan promises to walk in the park.’
- c. Jan belooft [PRO op tijd te vertrekken/*te overlijden].
 Jan promises in time to leave/to die
 ‘Jan promises to leave in time.’
- d. Jan beloofde [PRO de auto te vernielen/*zijn enkel te verzwikken].
 Jan promised the car to vandalize/ his ankle to twist
 ‘Jan promised to vandalize the car.’

Note that this again goes against earlier claims (e.g. Dowty 1979) that states cannot occur in this environment. The examples in (92) show that the difference between stage- and individual-level predicates that we observed in the copular constructions in (90) is also relevant in this context.

- (92) a. Jan beloofde [PRO verstandig/geduldig te zijn]! [stage-level predicate]
 Jan promised sensible/patient/nice to be
- b. *Jan beloofde [PRO intelligent/klein te zijn]. [individual-level predicate]
 Jan promised intelligent/little to be

Although some verbs may require a [+CONTROL] or [-CONTROL] subject, other verbs may be more permissive in this respect; a verb like *rollen* ‘to roll’ in (93), for example, is compatible both with a [+CONTROL] and a [-CONTROL] subject. That the referent of *Jan* in (93a) but the referent of *de steen* ‘the stone’ in (93b) does not, is clear from the fact that the adverbial phrases *opzettelijk/vrijwillig* ‘on purpose/voluntarily’ can be used with the former only. The examples also show that [+CONTROL] subjects are typically animate (with the possible exception of certain machines).

- (93) a. Jan rolde opzettelijk/vrijwillig van de heuvel.
 Jan rolled on purpose/voluntarily from the hill
- b. De steen rolde (*opzettelijk/*vrijwillig) van de heuvel.
 the stone rolled on purpose/voluntarily from the hill

Note in passing that notions like controllability or volitionality are often seen as defining properties of the °thematic role of agent; cf. the discussion in Levin & Rappaport Hovav (2005: Section 2.3.1). The fact that the subjects of states and achievements, which are normally not assigned the role of agent, can also have this property and the fact that the interpretation of the event may depend on the animacy of the subject casts some doubt on proposals of this sort.

IV. Other semantic classifications

The previous subsections reviewed one line of research concerned with verb/event classification that started with Vendler (1957), but there are other classifications based on specific inherent conceptual properties of verbs. Verbs have been classified as, for instance, verbs of putting, removing, sending and carrying, change of possession, concealment, creation and transformation, perception, social interaction, communication, sound and light emission, bodily functions, grooming and bodily care, and so on; see Levin (1993: Part II) for a long list of such classes. Although lists like these may seem somewhat arbitrary, making such distinctions can be useful, as these classes may exhibit several defining semantic and syntactic properties; Levin's classification, for instance, is based on the ways in which the participants involved in the state of affairs can be syntactically expressed in English. Although we will refer to at least some of these classes in our discussion of verb frame alternations in Chapter 3, we do not think it would be very helpful or insightful to list them here: we will introduce the relevant classes where needed and refer the reader to Levin's reference book for details.

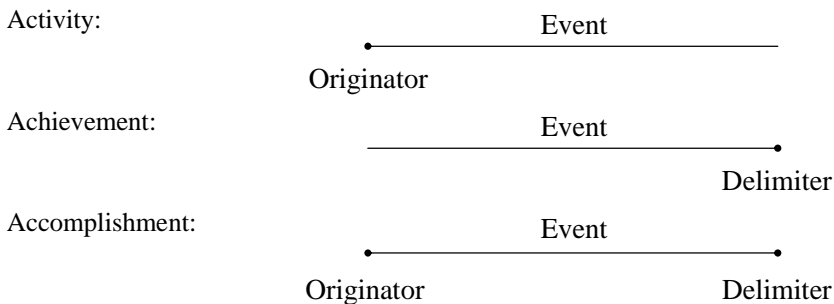
1.2.4. Linking the syntactic and semantic classifications

The mental lexicon must encode in some way the form and meaning of the lexical items as well as certain syntactic information. We have seen, however, that there seem to be specific systematic relations between the relevant semantic and syntactic information; agents, for example, are normally external arguments and therefore typically appear as the subject of an active clause. Given that we do not want to include predictable information like this in the lexicon, it is an important question as to whether more of such correlations can be established. This section therefore aims at linking the syntactic classification in Section 1.2.2, sub II, to the aspectual event classifications based on participant roles in Section 1.2.3, sub II.

I. Valuing classifications

An advantage of aspectual event classifications based on participant roles, such as the one in (77), repeated here as (94), is that they are explicitly linked to syntactic verb classifications of the sort sketched in Section 1.2.2. Van Voorst (1988), for instance, claims that originators and delimiters typically correspond to, respectively, external agent/cause and internal theme arguments. Such linking is *a priori* desirable because form and meaning can normally be considered two sides of the same coin.

(94) Aspectual classification of event structure based on participant roles



The requirement that the syntactic and semantic classifications should be linkable may also prevent these classifications from diverging too much, and can thus be used to evaluate individual proposals. The examples in (95), for instance, suggest that the traditional distinction between °monadic (intransitive) and °dyadic (transitive) verbs is incompatible with the aspectual event classification in (94) because it does not succeed in providing a natural account for the fact that while *lachen* ‘to laugh’ denotes an activity, *overlijden* ‘to die’ denotes an achievement.

- (95) a. Jan lacht. [activity]
 Jan laughs
 ‘Jan is laughing.’
 b. Jan verongelukte. [achievement]
 Jan was.killed.in.an.accident

The alternative syntactic classification developed in Section 1.2.2, sub II, fares better in this respect, as it distinguishes two types of monadic verbs: the contrast between the two examples in (95) follows from Van Voorst’s (1988) claim that external arguments of intransitive verbs like *lachen* ‘to laugh’ typically function as originators, while internal theme arguments of unaccusative verbs like *overlijden* ‘to die’ typically function as delimiters. This clearly favors the alternative classification in Table 3 of Section 1.2.2, sub III, which is repeated here as Table 6, over the traditional one.

Table 6: Classification of verbs according to the type of nominal arguments they take

	NAME	EXTERNAL ARGUMENT	INTERNAL ARGUMENT(S)
NO INTERNAL ARGUMENT	intransitive	nominative (agent)	—
	impersonal	—	—
ONE INTERNAL ARGUMENT	transitive	nominative (agent)	accusative (theme)
	unaccusative	—	nominative (theme)
TWO INTERNAL ARGUMENTS	ditransitive	nominative (agent)	dative (goal) accusative (theme)
	NOM-DAT verb	—	dative (experiencer) nominative (theme)
	undative verb	—	nominative (goal) accusative (theme)

Dyadic verbs can likewise denote states, activities, achievements or accomplishments. The traditional classification with an undifferentiated set of dyadic verbs provides no means to describe these differences, whereas according to the alternative classification in Table 6 at least the verb *hebben* differs from all other verbs in (96) in that it is an undative verb and thus does not have an agentive argument. If it turns out that undative verbs typically denote states, this can again be seen as an argument in favor of the alternative classification.

- (96) a. De jongen heeft een kat. [state]
 the boy has a cat
 b. De jongen droeg een kat. [activity]
 the boy carried a cat
 c. De jongen ontdekte een kat. [achievement]
 the boy descried a cat
 d. De jongen verborg een kat. [accomplishment]
 the boy hid a cat

Of course, it may be the case that the semantic and the syntactic classification do not reflect each other in all respects. The semantic distinctions between the examples in (96b-d), for example, are reflected neither by the traditional nor by the alternative syntactic classification and may thus be due to additional restrictions imposed by the verb on their arguments in the way indicated in table (97): although originators and delimiters may typically correspond to, respectively, external agentive and internal theme arguments, it may be the case that external and internal arguments do not necessarily function as originators and delimiters; see also the linking rules in Levin and Rappaport Hovav (1995: Section 4.1).

(97) lexical properties of transitive verbs

	EXTERNAL ARGUMENT = ORIGINATOR	INTERNAL ARGUMENT = DELIMITER
<i>dragen</i> 'to carry'	+	—
<i>ontdekken</i> 'to discover'	—	+
<i>verbergen</i> 'to hide'	+	+

The discussion of the examples in (96) therefore suggests that the distinction between (96a) and (96b-d) is syntactic, whereas the distinctions between the examples in (96b-d) may be of a purely semantic nature. This may also account for the sharp contrast between the attributive (a)-examples in (98), on the one hand, and the remaining ones, on the other.

- (98) a. *[?]de een kat hebbende jongen a'. *de gehadde kat
 the a cat having boy the had cat
 b. de een kat dragende jongen b'. de gedragen kat
 the a cat carrying boy the carried cat
 c. de een kat ontdekkende jongen c'. de ontdekte kat
 the a cat descriing boy the descried cat
 d. de een kat verbergende jongen d'. de verborgen kat
 the a cat hiding boy the hidden cat

II. Some correspondences

Subsection I has shown that the traditional syntactic classification based on the °adicity of the verb cannot straightforwardly be linked to the aspectual event classifications of the sort in (94) and that the alternative proposal in Table 6 based on both the number of arguments and the distinction between internal and external arguments fares much better in this respect. This subsection will show that, on the

assumption that (depending on the semantic properties of the verb) external arguments are optionally interpreted as originators and internal theme arguments are optionally interpreted as delimiters, it is indeed possible to relate the syntactic classification in Table 6 to the aspectual event classification in (94). Given that goal, but not experiencer, arguments may function as the “new location” of a theme, we will also briefly consider whether the second internal argument can be interpreted as a terminus (a point of termination) in the sense of Tenny (1994); see the discussion of example (82) in Section 1.2.3, sub II, for this notion.

In order to maximize contrasts and to highlight a number of potential problems, we will group the verbs on the basis of their adicity. We will not discuss impersonal verbs like *regenen* ‘to rain’ and *vriezen* ‘to freeze’, because we have little to say about them in this context. Note further that the discussion below is occasionally somewhat tentative in nature and presents a research program in progress rather than a set of well established facts/insights; the discussion below will therefore point out that there are still a number of questions that require further investigation.

A. Verbs with one argument

At first sight the case of monadic verbs seems rather simple: as predicted, verbs with the behavior of prototypical intransitive verbs like *lachen* ‘to laugh’ denote activities, whereas verbs with the behavior of prototypical unaccusative verbs like *arriveren* ‘to arrive’ denote achievements.

- | | | |
|------|---|--|
| (99) | • Intransitive | • Unaccusative |
| a. | Jan heeft/*is gelachen.
Jan has/is laughed | a'. Jan is/*heeft gearriveerd.
Jan is/has arrived |
| b. | *de gelachen jongen
the laughed boy | b'. de gearriveerde jongen
the arrived boy |
| c. | Er werd gelachen.
there was laughed | c'. *Er werd gearriveerd.
here was arrived |

There are, however, a number of monadic verbs exhibiting mixed behavior and seem to refer to states: this is illustrated for the verbs *drijven* ‘to float’ and *bloeden* ‘to bleed’ in (100). The selection of the auxiliary *hebben* as well as the impossibility of using the past participle attributively suggest that we are dealing with intransitive verbs, whereas the impossibility of impersonal passivization suggests that we are dealing with unaccusative verbs.

- | | | |
|----------|---|---|
| (100) a. | Jan heeft/*is gebloed.
Jan has/is bled | a'. Jan heeft/*is op het water gedreven.
Jan has/is on the water floated |
| b. | *de gebloede jongen
the bled boy | b'. *de gedreven jongen
the floated boy |
| c. | *Er werd gebloed.
there was bled | c'. *Er werd gedreven.
there was floated |

That we are not dealing with an activity is clear from the fact that the subject can be inanimate, whereas the subjects of verbs denoting an activity normally take animate

subjects or a small set of inanimate subjects like *computer* that can be construed as performing the action. That we are not dealing with an achievement is clear from the fact that there is no logically implied endpoint.

- (101) a. Jan/de wond bloedt heftig.
 Jan/the wound bleeds fiercely
 b. Jan/de band drijft op het water.
 Jan/the tire floats on the water

Given that we have adopted as our working hypothesis that internal and external arguments only optionally function as, respectively, originators and delimiters, there is no a priori reason for assuming intransitive or unaccusative status for these verbs. If we assume that *drijven* and *bloeden* are unaccusative, we have to conclude that selection of the auxiliary *zijn* ‘to be’ and attributive use of the past participle are sufficient but not necessary conditions for assuming unaccusativity; Subsection B2 will show that there is indeed reason for assuming that auxiliary selection and attributive use of the past participle not only depend on unaccusativity of the verb but are subject to additional aspectual conditions; see Mulder (1992) and Levin & Rappaport Hovav (1995) for similar conclusions.

B. Verbs with two arguments

Table 6 distinguishes three types of dyadic verbs: transitive, NOM-DAT and undative verbs. The following subsections will subsequently discuss these three groups.

1. Transitive verbs

The examples in (97b-d), repeated here as (102), have already illustrated that prototypical transitive verbs can denote activities, achievements and accomplishments. In fact, this was the original motivation for our claim that internal and external arguments only optionally assume the roles of originator and delimiter; see Table (97) in Subsection I.

- (102) a. De jongen droeg een kat. [activity]
 the boy carried a cat
 b. De jongen ontdekte een kat. [achievement]
 the boy descried a cat
 c. De jongen verborg een kat. [accomplishment]
 the boy hid a cat

2. NOM-DAT verbs

NOM-DAT verbs are characterized by the fact that the subject can follow the object, which appears as a dative noun phrase in German in the unmarked case. Given that this also holds for passivized ditransitive verbs, Den Besten (1985) concluded that the subjects of NOM-DAT verbs are internal theme arguments.

- (103) a. dat die meisjes_{nom} Peter/hem_{dat} direct opvielen.
 that those girls Peter/him immediately prt.-struck
 ‘that Peter/he noticed those girls immediately.’
 b. dat Peter/hem_{dat} die meisjes_{nom} direct opvielen.
 that Peter/him those girls immediately prt.-struck

This analysis immediately accounts for the fact that examples such as (103) are interpreted as achievements: NOM-DAT verbs are like monadic unaccusative verbs in that they lack external arguments that could function as originators and that their internal arguments may function as delimiters. The NOM-DAT verbs we have discussed so far furthermore exhibit all the typical properties of monadic unaccusative verbs: they select the auxiliary *zijn*, their past participles can be used attributively to modify a °head noun that corresponds to the subject of the clause, and they resist passivization.

- (104) a. dat die meisjes Peter/hem direct zijn/*hebben opgevallen.
 that those girls Peter/him immediately are/have prt.-struck
 b. de hem direct opgevallen meisjes
 the him immediately prt.-struck girls
 c. *Er werd Peter/hem direct opgevallen.
 there was Peter/him immediately prt.-struck

The claim that internal arguments only optionally function as delimiters predicts, however, that there are also NOM-DAT verbs that do not involve some implied endpoint and thus denote simple states. And, in fact, Den Besten (1985) does list a number of NOM-DAT verbs with this property. One example is the verb *smaken* ‘to taste’ in (105).

- (105) a. dat de broodjes Peter/hem smaakten.
 that the buns Peter/him tasted
 ‘that Peter/he enjoyed his buns.’
 b. dat Peter/hem de broodjes smaakten.
 that Peter/him the buns tasted

Although the relative order of the object and the subject in (105b) unambiguously shows that the subject *de broodjes* is an internal argument, it should be noted that verbs like *smaken* do not exhibit all of the properties that we find in (104). Like all unaccusative verbs, they do not allow impersonal passivization, but they select the auxiliary *hebben* instead of *zijn*, and their past participles cannot be used attributively to modify a head noun that corresponds to the subject of the clause.

- (106) a. dat Peter/hem de broodjes hebben/*zijn gesmaakt.
 that Peter/him the buns have/are tasted
 b. de Peter/hem gesmaakte broodjes
 the Peter/him tasted buns
 c. *Er werd Peter/hem gesmaakt.
 there was Peter/him tasted

It is interesting to note that the pattern in (106) is like the pattern established for the stative verbs *drijven* ‘to float’ and *bloeden* ‘to bleed’ in (100). This supports the suggestion in Subsection A that the verbs *drijven* and *bloeden* are also unaccusative verbs and that their mixed behavior with respect to the unaccusativity tests should be accounted for by assuming that auxiliary selection and attributive use of past participles are subject to both syntactic and aspectual conditions.

3. Undative verbs

Undative verbs do not have an external argument and we would therefore expect that there is no originator; undative verbs therefore denote either states or achievements depending on whether their internal theme argument functions as a delimiter or not. The examples in (107) show that this prediction is indeed borne out: depending on the verb in question, we are dealing with a state, an achievement, or a special type of state that we may call an anti-achievement.

- (107) a. Jan heeft het boek. [state]
 Jan has the book
 b. Jan krijgt het boek. [achievement]
 Jan gets the book
 c. Jan houdt het boek. [anti-achievement]
 Jan keeps the book

The achievement reading in (107b) may be due to the fact that the IO-subject *Jan* functions as a goal, which, in turn, triggers a delimiter interpretation of the internal theme argument; if so, this would support our suggestion in the introduction to this section that goals function as a terminus (point of termination) in the event.

This claim that goals function as a terminus may also account for the fact that the IO-subjects of cognition verbs like *weten/kennen* ‘to know’ in (108a), which we will show in Section 2.1.4 to be part of a second set of undative verbs, must be interpreted as experiencers; the fact that these verbs normally denote states would then be incompatible with a goal/terminus interpretation of the dative phrase. The dyadic verb *leren* ‘to learn’ in (108b) stands in an anti-causative relationship to the °triadic accomplishment verb *leren* ‘to teach’; cf. *Marie leert Jan de fijne kneepjes van het vak* ‘Marie is teaching Jan the tricks of the trade’. The indirect object of the triadic and the subject of the dyadic verb both act as a goal, which introduces a point of termination in the event; this leads to the achievement reading of (108b).

- (108) a. Jan kent de fijne kneepjes van het vak. [state]
 Jan knows the detailed tricks of the trade
 ‘Jan knows the tricks of the trade.’
 b. Jan leert de fijne kneepjes van het vak. [achievement]
 Jan learns the detailed tricks of the trade

Given the discussion of the examples in (108), it may be tempting to analyze other ditransitive verbs with experiencer subjects, like the perception verbs *horen* ‘to hear’ and *zien* ‘to see’, likewise as undative verbs; we will leave it to future research to investigate whether this might be on the right track.

C. Verbs with three arguments

Indirect objects of ditransitive verbs normally function as goals. If goal arguments introduce a terminus, we would expect that (definite) theme arguments would normally function as a delimiter. If so, we would also expect that, depending on whether the subject functions as an originator or not, ditransitive verbs would normally denote achievements or accomplishments. The examples in (109) show that this expectation is indeed borne out.

- (109) a. Zijn succes gaf Peter een prettig gevoel. [achievement]
 his success gave Peter a nice feeling
 b. Jan stuurde Peter een mooi boek. [accomplishment]
 Jan sent Peter a nice book

D. Conclusion

It seems that the semantic classification in (94) and the syntactic classification in Table 6 can to a certain extent be linked. At present, we are able to show this only for the more prototypical cases; future research will have to show whether this is also possible with less prototypical cases. We expect such research to reveal certain potential problems for some of the claims adopted in the discussion above. For example, the unaccusative verbs *overlijden* ‘to die’, *arriveren* ‘to arrive’ and *vertrekken* ‘to leave’ in (110) seem to differ in the extent to which the subject is able to control the event. Whereas the subject of *overlijden* has no control at all, the subject of *vertrekken* does have control over the event; the subject of *arriveren* seems to take some intermediate position in this respect.

- (110) a. Jan overlijdt morgen.
 Jan dies tomorrow
 b. Jan vertrekt/arriveert morgen.
 Jan leaves/arrives tomorrow

The contrast might be accounted for either by assuming that the internal argument of an unaccusative verb is not only able to function as a delimiter but also as an originator, or by assuming that assignment of the property of control is not linguistic in nature but reflects our knowledge of the world. Given that the former would open many new classification options, we can only determine whether such an approach would be feasible by investigating whether the newly predicted verb classes do indeed exist.

1.2.5. Conclusion

This section has reviewed a number of classifications of main verbs: Section 1.2.2 mainly focused on the syntactic tradition and provided a classification on the basis of the number and the types of nominal arguments that verbs take; Section 1.2.3 focused on the semantic (or, rather, the philosophical) tradition and provided a classification of main verbs/events on the basis of their aspectual properties. Given that language involves pairing of form and meaning, it seems to be preferred that

the classifications that arose from these traditions be linked. For this reason, we took two specific proposals that we found promising and showed that, to a certain extent, linking is indeed possible. Given the current state of the art, we were only able to illustrate this on the basis of a number of prototypical representatives of the respective verb classes, and future research is needed to determine whether this is more generally possible. For a more exhaustive discussion of the syntactic classification of main verbs, which will also include an extensive discussion of non-nominal arguments, we refer the reader to Chapter 2.

1.3. Inflection

Verbs can often be recognized by their inflection. This certainly holds for the finite forms and to a certain extent also for the non-finite forms. In the latter case, however, various complications may arise: infinitives, for example, can also be used as nouns, and participles can also be used as adjectives. This section provides an overview of the various forms of inflection and will briefly discuss the syntactic uses of these forms. The discussion in Subsections II and III will mainly focus on the regular paradigms of inflection; the irregular paradigms will be discussed separately in Subsection IV. However, before we can start discussing inflection, we first have to introduce the more abstract notion of VERBAL STEM.

1. Verbal stem

The term verbal stem is a theoretical construct that refers to the underlying phonological form of the verb, as listed in the mental lexicon. For example, the stems of the verbs *schoppen* ‘to kick’ and *schrobben* ‘to scrub’ have the phonemic representations /sxɔp/ and /sxrɔb/, with respectively a voiceless and a voiced final plosive, despite the fact that, when no morphological material is attached to the stem, these strings would both be phonetically realized with a voiceless plosive as result of the Dutch rule that word-final consonants be devoiced; see Booij (1995) for details. Table (111) shows this for all Dutch obstruents, which, with the exception of the velar plosive /k/, all form systematic phonemic oppositions with respect to voice. The table also provides the orthographic representations that can be found; we will return to these in what follows.

(111) Verbal stems ending in an obstruent

VERBAL STEM	PHONEMIC REPRESENTATION	PHONETIC REALIZATION	ORTHOGRAPHIC REPRESENTATION
<i>schop-</i> ‘kick’	/sxɔp/	[sxɔp]	schop-
<i>schrob-</i> ‘scrub’	/sxrɔb/	[sxrɔp]	schrob-
<i>groet-</i> ‘greet’	/ɣrut/	[ɣrut]	groet-
<i>baad-</i> ‘bathe’	/bad/	[bat]	baad-
<i>lok-</i> ‘entice’	/lɔk/	[lɔk]	lok-
no stem ending in /g/	—	—	—

The discussion above has shown that, apart from the small set of contraction verbs, simple verbs never end in a short or long vowel. There are however, many cases in which the stem ends in a diphthong; some examples are given in (117). That diphthongs are easily possible need not surprise us because (115c) has shown that stems may also end in a glide.

- (117) a. /ei/: *vlei-* ‘flatter’ (/vlei/); *vrij-* ‘snog’ (/vrei/)
 b. /œy/: *krui-* ‘push’ (/krœy/); *spui-* ‘spout’ (/spœy/)
 c. /ɔʊ/: *rouw-* ‘mourn’ (/rɔʊ/), *kauw-* ‘chew’ (/kɔʊ/)

II. Inflection of finite verbs

Finite verbs are characterized by the fact that they agree in person and number with the subject of their clause and can be marked for past tense. Table 7 provides the finite inflection of the so-called regular (or weak) verbs. The final column shows that the past tense morpheme precedes the plural marker.

Table 7: Regular finite inflection

	PRESENT		PAST	
	SINGULAR	PLURAL	SINGULAR	PLURAL
1 ST PERSON	<i>Ik huil-Ø</i> ‘I am crying’	<i>Wij huil-en</i> ‘We are crying’	<i>Ik huil-de</i> ‘I was crying’	<i>Wij huil-de-n</i> ‘We were crying’
2 ND PERSON	<i>Jij huil-t</i> ‘You are crying’	<i>Jullie huil-en</i> ‘You are crying’	<i>Jij huil-de</i> ‘You were crying’	<i>Jullie huil-de-n</i> ‘You were crying’
3 RD PERSON	<i>Hij huil-t</i> ‘He is crying’	<i>Zij huil-en</i> ‘They are crying’	<i>Hij huil-de</i> ‘He was crying’	<i>Zij huil-de-n</i> ‘They were crying’

The second person honorific pronoun *u* is special in that it has the *-t* ending both in the singular and the plural: *U huilt_{sg/pl}* ‘you are crying’. Note that non-pronominal noun phrases are always third person, even if they refer to the speaker or the addressee; Haeseryn et al. (1997:62).

- (118) a. Ondergetekende verklaart dat ... [formulaic language]
 undersigned declares that
 ‘The undersigned declares that ...’
 b. Mijnheer heeft zich zeker weer verslapen? [ironic address]
 mister has refl. there again overslept
 ‘Did you oversleep again, mister?’

The subsections below will discuss the present and past-tense forms in more detail while focusing on the regular paradigm; the irregular paradigms will be discussed separately in Subsection IV. Although the imperative and subjunctive forms of the verbs can also be considered finite forms, we will postpone discussion of these forms to Section 1.4.

A. Present tense

The paradigm for the present tense involves two morphologically realized affixes: the invariant plural affix *-en* (which is pronounced as schwa), and the affix *-t*, which

is used to mark the second and third person singular; the first person singular is not morphologically marked, which is indicated in Table 7 by means of the zero marking $-\emptyset$. Dutch does not exhibit gender agreement. The relevant examples are repeated here in a slightly different form as (119).

- | | | | |
|----------|----------------------|-----|----------------|
| (119) a. | Ik huil- \emptyset | a'. | Wij huil-en |
| | I cry-1sg | | we cry-pl |
| b. | Jij huil-t | b'. | Jullie huil-en |
| | you cry-2sg | | you cry-pl |
| c. | Hij huil-t | c'. | Zij huil-en |
| | he cry-3sg | | they cry-pl |

Compared to languages like Italian, the present tense inflection in (119) is relatively poor. This fact is often taken to be related to the fact that, whereas in Italian the subject can be dropped if it refers to shared information of the speaker and the addressee, this is normally not possible in Dutch; °argument drop only arises with first person subject pronouns in so-called diary contexts such as (120a), and with third person pronouns if they refer to the discourse topic in contexts such as (120b).

- | | |
|----------|---|
| (120) a. | Lief dagboek, (ik) ben weer erg dom geweest. |
| | dear diary I am again very stupid been |
| | ‘Dear diary, I’ve been very stupid again.’ |
| b. | Q: Is Peter hier? A: Nee, (hem) heb ik nog niet gezien. |
| | Is Peter here no him have I yet not seen |
| | ‘Is Peter around? No, I haven’t seen him yet.’ |

The (a)-examples in (121) show that the agreement marker $-t$ in (119b) can only be used to express second person, singular agreement if the colloquial subject pronoun *je/jij* precedes the verb; if it follows the verb the agreement marker must be dropped. The (b)-examples show that this does not hold for the politeness (honorific) form *u* ‘you’. The difference between the regular and politeness form may be due to the fact that, synchronically, the politeness form behaves as a third person pronoun, given that it can be the antecedent of the reflexive pronoun *zich(zelf)* which normally takes a third person antecedent; see Section N.5.2.1.5 for examples.

- | | | | |
|----------|------------------------|-----|-------------------|
| (121) a. | Straks huil/*huilt je. | a'. | Huil/*Huilt je? |
| | later cry you | | cry you |
| | ‘You’ll cry later.’ | | ‘Are you crying?’ |
| b. | Straks huilt/*huil u. | b'. | Huilt/*Huil u? |
| | later cry you | | cry you |
| | ‘You’ll cry later.’ | | ‘Are you crying?’ |

Note in passing that more elaborate double agreement systems comparable to the Standard Dutch one for the pronoun *je/jij* can be found in various West-Germanic languages including some Dutch dialects; See Zwart (1997:136ff.), Postma (2011) and Barbiers (2013) for relevant discussion and references.

The examples in (122) show the spelling of plosives in the coda of the stem. We see here again that the spelling is fully determined by the underlying form: /p/,

/t/, and /k/ are represented by “p”, “t”, and “k”, respectively; similarly, /b/ and /d/ are always represented by “b” and “d”, even if they occur word-finally and are thus devoiced.

- | | | |
|----------|----------------------------|-------------------------|
| (122) a. | schop, schopt, schoppen | [stem: schop- /sxɔp/] |
| b. | schrob, schrobt, schrobben | [stem: schrob- /sxoɔb/] |
| c. | groet, groet, groeten | [stem: groet- /yɾut/] |
| d. | baad, baadt, baden | [stem: baad- /bad/] |
| e. | lok, lokt, lokken | [stem: lok- /lɔk/] |

Observe also that the *-t* ending is not expressed in the spelling if the stem ends in a *-t*; this is not due to the fact that the phoneme sequence /t/ will be reduced to [t] in speech, since the same thing holds for the phoneme sequence /dt/; it is simply that Dutch orthography does not allow two identical letters adjacent at the end of a word. For completeness' sake, note that the use of a single letter “a” in *baden* is due to the general orthographic rule that long vowels are represented by a single letter in open syllables: *pra-ten* versus *praat*; *ba-den* versus *baad*.

The examples in (123) show the spelling of fricatives in the coda of the stem. In this case, the spelling is not fully determined by the underlying form. Although voiceless /f/, /s/, and /x/ and voiced /v/ are always represented by, respectively, “f”, “s”, “ch” and “g”, the realization of the phonemes /v/ and /z/ depends on the morphological context; they are represented by “v” and “z” in the plural present-tense form marked by *-en*, where they are also pronounced with voice, but by “f” and “s” in the singular forms, where they are devoiced. Note that the use of a single “o” and “a” in *lozen* and *zagen* is again due to the general orthographic rule that long vowels are represented by a single letter in open syllables.

- | | | |
|----------|--------------------------|------------------------|
| (123) a. | straf, straft, straffen | [stem: straf- /straf/] |
| b. | klief, klieft, klieven | [stem: kliev- /kliv/] |
| c. | kus, kust, kussen | [stem: kus- /kœs/] |
| d. | loos, loost, lozen | [stem: looz- /loz/] |
| e. | juichen, juicht, juichen | [stem: juich- /jœyx/] |
| f. | zaag, zaagt, zagen | [stem: zaag- /zay/] |

For completeness' sake, it can be noted that the stems of verbs like *rijden* ‘to drive’ and *houden* ‘to keep’, in which the diphthongs /ei/ and /ɔv/ are followed by an underlying /d/, are often pronounced without the [d] if they surface with the first person singular zero marking \emptyset or the plural marker *-en*. First and second person singular forms without “d” are also frequently found in written language; the spelling with and without “d” in the primeless and singly-primed examples in (124) seem to alternate freely. Spellings of the plural forms without “d”, on the other hand, are far less common: the spellings *rijen* and *houen* in the doubly-primed examples do occur, but are not accepted in formal writing. If the stem is followed by the person marker *-t*, the stem is always written with “d”: the spellings *Hij rijt* and *Hij hout* are normally not accepted.

- (124) a. Ik rij(d) straks.
I drive later
'I'll drive later.'
- a'. Straks rij(d) jij.
later drive you
'You'll drive later.'
- a''. Straks rij(d)en wij.
later drive we
'We'll drive later.'
- b. Ik hou(d) het boek.
I keep the book
'I'll keep the book.'
- b'. Hou(d) je het boek?
Keep you the book
'Will you keep the book?'
- b''. We hou(d)en het boek.
we keep the book
'Well keep the book.'

B. Past tense

Past tense is normally expressed by means of the affix *-de*, which must be directly adjacent to the verbal stem. This marker has the allomorph *-te*, which appears if the verb stem ends in a voiceless consonant. It is interesting to note that the final consonant of the stems *kliev-* and *looz-* are written with, respectively, an "f" and an "s", despite the fact that they are not word-final and thus pronounced as [v] and [z].

(125) Past tense

STEM	PAST		STEM	PAST	
	SINGULAR	PLURAL		SINGULAR	PLURAL
schop-	schopte	schopten	straf-	strafte	strafden
schrob-	schrobde	schrobden	kliev-	kliofde	kliofden
groet-	groette	groetten	kus-	kuste	kusten
baad-	baadde	baadden	looz-	loosde	loosden
lok-	lokte	lokten	juich-	juichte	juichten
no stem ending in /g/			zaag-	zaagde	zaagden

Table (125) shows that subject-verb agreement is even more limited in the past than in the present tense, given that there is no person agreement at all; there is just number agreement marked by the plural marker *-en*. In fact, this plural marker is observable in the spelling only, since the plural marker *-en* is pronounced as schwa, and therefore elided under identity with the schwa in the past suffix. Consequently, the forms *schopte* and *schopten*, *strafte* and *strafden*, etc. are phonetically indistinguishable; the first two are both pronounced as [sxɔptə] and the latter as [straftə]. That past forms are marked for number can therefore only be established by appealing to irregular verbs like *lopen* 'to walk', which do not express past tense by means of the suffix *-te*, but by means of vowel change; *Ik loop* 'I walk' versus *Ik liep* 'I walked'. An example such as *Wij liepen* 'We walked', which is pronounced with a schwa ending, thus shows that past-tense forms are indeed marked for plural.

III. Inflection of non-finite verbs

Dutch has three non-finite forms, illustrated in (126): infinitives, past/passive participles and present participles. These will be discussed in the given order in the following subsections. We will focus on the regular paradigms; the irregular paradigms will be discussed separately in Subsection IV.

- (126) a. Peter wil Jan *kussen*. [infinitive]
 Peter wants.to Jan kiss
 ‘Peter wants to kiss Jan.’
- b. Peter heeft Jan *gekust*. [past participle]
 Peter has Jan kissed
 ‘Peter has kissed Jan.’
- b'. Jan werd door Peter *gekust*. [passive participle]
 Jan was by Peter kissed
 ‘Jan was kissed by Peter.’
- c. Peter en Jan liepen *kussend* over straat. [present participle]
 Peter and Jan walked kissing in.the.streets
 ‘Peter and Jan walked in the streets kissing.’

A. Infinitives

Table (127) show that infinitives are derived from the verbal stem by addition of the suffix *-en* (which is pronounced as schwa). The left-hand side of the table also shows that, as in the case of the plural marker *-en*, the spelling of obstruents in the coda of the stem is fully determined by the underlying form, and thus corresponds with the actual pronunciation of the infinitive.

(127) Infinitives

STEM	INFINITIVE	PRONUNCIATION	STEM	INFINITIVE	PRONUNCIATION
schop-	schoppen	[sxɔpə]	straf-	straffen	[strafə]
schrob-	schrobben	[sxrɔbə]	klied-	klieden	[klivə]
groet-	groeten	[γrutə]	kus-	kussen	[kœsə]
baad-	baden	[badə]	looz-	lozen	[lozə]
lok-	lokken	[lɔkə]	juich-	juichen	[jœyxə]
no stem ending in /g/			zaag-	zagen	[zayə]

Infinitives, which are also used as the citation form in linguistic texts and dictionaries, have various syntactic uses, which will be briefly discussed in the following subsections.

1. Verbal Infinitives

Infinitives can be used as the °complement of, e.g., modal and aspectual verbs. The examples in (128) show that infinitives can be either “bare” or preceded by the element *te*.

- (128) a. Jan wil dat boek lezen. c. Jan schijnt dat boek te lezen. [modal]
 Jan wants that book read Jan seems that book to read
 ‘Jan wants to read that book.’ ‘Jan seems to read that book.’
- b. Jan gaat dat boek lezen. d. Jan zit dat boek te lezen. [aspectual]
 Jan goes that book read Jan sits that book to read
 ‘Jan is going to read that book.’ ‘Jan is reading that book.’

The element *te* is always adjacent to the infinitive. This may lead to the conclusion that, despite the fact that it is written as a separate word, it is actually a prefix attached to the verb; see IJbema (2002:ch.3) for a review of several approaches to *te*. arguments. Evidence given in favor of this claim bears on the position of verbal particles and past participles, which, as shown by the examples in (129), can normally be placed fairly freely in clause-final °verb clusters.

- (129) a. dat Jan Marie graag <af> wil <af> halen.
 that Jan Marie gladly prt. want pick.up
 ‘that Jan would be happy to pick up Marie.’
- b. dat iedereen dat boek <gelezen> moet <gelezen> hebben <gelezen>.
 that everyone that book read must have
 ‘that everyone must have read that book.’

Since the element *te* is part of the verb cluster, we would expect it to exhibit behavior similar to that of the modal verbs in (129), and that it could therefore be separated from the infinitive it is construed with by verbal particles or past participles. However, the examples in (130) show that this expectation is not borne out.

- (130) a. Jan schijnt Marie graag <af> te <*af> halen.
 Jan seems Marie gladly prt. to pick.up
 ‘Jan seems to be happy to pick up Marie.’
- b. Jan schijnt dat boek <gelezen> te <*gelezen> hebben <gelezen>.
 Jan seems that book read to have
 ‘Jan seems to have read that book.’

The element *te* behaves in this respect like the prefix *ge-* that we find in participles, albeit that we can illustrate this for verbal particles only: clauses with two past participles are rare in Dutch and pose additional problems that we do not want to discuss here. The correspondence between the examples in (130a) and (131) does, nevertheless, provide evidence in favor of the claim that *te* also functions as a prefix.

- (131) Jan heeft Marie afgehaald/*geafhaald.
 Jan has Marie prt.-picked.up
 ‘Jan has picked up Marie.’

There are also problems for the claim that *te* is a prefix to the verb. First, it seems that some speakers allow one occurrence of *te* to be associated with more than one verb in coordinate structures like those in (132): cf. Zwart (1993:104-5). This requires, however, that the second infinitive is entirely bare, as in the primeless examples—as soon as the second conjunct contains additional material, *te* must be overtly realized on the second conjunct. The important observation is that leaving out the *ge-* prefix on part participles always leads to a severely degraded result: *Jan heeft gezongen en *(ge-)danst* ‘Jan has sung and danced’.

- (132) a. Jan hoopt om in L.A. te leven en [°](te) sterven.
 Jan hopes COMP in L.A. to live and to die
 ‘Jan hopes to live and die in L.A.’
- a'. Jan hoopt in L.A. te leven en in Amsterdam *(te) sterven.
 Jan hopes in L.A. to live and in Amsterdam to die
 ‘Jan hopes to live in L.A. and to die in Amsterdam.’
- b. Els gaat naar Deventer om boeken te kopen en [°](te) verkopen.
 Els goes to Deventer COMP books to buy and to sell
 ‘Els goes to Deventer to buy and sell books.’
- b'. Els gaat naar D. om boeken te kopen en CDs *(te) verkopen.
 Els goes to D. COMP books to buy and CDs to sell
 ‘Jan goes to Deventer to buy books and to sell CDs.’

Furthermore, it has been reported for a number of varieties of Dutch spoken in the Northern part of the Netherlands (especially Friesland, Groningen and Drenthe) that *te* can be separated from the verb by certain bare nominals; cf. Schuurman (1987) and Barbiers et al. (2008: Section 2.3.5). Example (133) gives the test sentences from the latter study, which are completely unacceptable in Standard Dutch.

- (133) a. [°]Marie zit te stoofperen schillen.
 Marie sits to cooking.pears peel
 ‘Marie is peeling cooking pears.’
- b. [°]Marie zit te piano spelen.
 Marie sits to piano play
 ‘Marie is playing the piano.’

Since speakers of Standard Dutch reject examples such as (133) and also tend to object to the primeless examples in (132), as is clear from, e.g., Hoeksema (1995), we leave it to future research to determine the precise status of Standard Dutch *te*, that is, whether it is a bound morpheme or an independent functional element in the clause; see IJbema (2002:ch.3) for more discussion and an excellent starting point for such an investigation. We want to conclude by noting that assuming affixal status is clearly not a viable option for English *to* because this element can sometimes be separated from the verb, as is illustrated in (134a) taken from Huddleston & Pullum (2002:581-2), and can in fact occur without any verbal element at all in elliptical contexts, as in (134b) adapted from Quirk et al. (1985:908-9).

- (134) a. I want to really humiliate him.
 b. You can borrow my pen if you want to ~~borrow my pen~~.

For reasons like these, English *to* is normally taken to function as an independent functional [°]head, viz., the one that heads the tense projection TP; cf. Section 9.1.

2. Imperatives

Although Dutch has a special imperative form, the infinitive can also be used with imperative force. The imperative and infinitival forms differ in their placement in the clause: the former is always sentence-initial, whereas the latter is normally

clause-final. Some typical examples are given in (135). A more extensive discussion of the two imperative forms can be found in Section 1.4.2, sub II.

- (135) a. Eet_{imp} je bord leeg! a'. Je bord leeg eten_{infinitive}!
 eat your plate empty your plate empty eat
 'Empty your plate!' 'Empty your plate!'
- b. Vertrek_{imp} vroeg!
 leave early
 'Leave early!'
- b'. Vroeg vertrekken_{infinitive}!
 Early leave
 'Leave early!'

3. *Progressive aan het + infinitive + zijn constructions*

Infinitives of verbs are also used in the progressive *aan het + infinitive + zijn* constructions in (136). Since this construction refers to an ongoing event, stative verbs like *weten* 'to know' cannot occur within it. The same thing holds for non-main verbs like modal *willen* 'to want' and aspectual *gaan* 'to go'.

- (136) a. Jan is de polka aan het dansen.
 Jan is the polka AAN HET dance
 'Jan is dancing the polka.'
- b. *Jan is het antwoord aan het weten.
 Jan is the answer AAN HET know
- c. *Marie is het boek aan het willen/gaan lezen.
 Marie is the book AAN HET want/go read

4. *Infinitival nominalizations*

The infinitives discussed in Subsection 1 function as verbs, which is clear from the fact that they surface as finite verbs if the modal/aspectual verbs are dropped. We illustrate this here for (128a&b), repeated as (137a&b).

- (137) a. Jan wil dat boek lezen. a'. Jan leest dat boek.
 Jan wants that book read Jan reads that book
 'Jan wants to read that book.' 'Jan is reading that book.'
- b. Jan gaat dat boek lezen. b'. Jan leest dat boek.
 Jan goes that book read Jan reads that book
 'Jan is going to read that book.' 'Jan is reading that book.'

There are, however, cases in which the verbal status of infinitives is less obvious. Consider the examples in (138), in which the infinitive *lezen* heads a constituent that functions as the subject of the clause.

- (138) a. [Boeken lezen] is leuk.
 books read is nice
 'Reading books is nice.'
- b. [Het lezen van boeken] is leuk.
 the read of books is nice
 'The reading of books is nice.'

Given that subjects are mostly noun phrases, it seems plausible that we are dealing with nominalizations. Nevertheless, the infinitive does seem to maintain a number

position with the attributive -e ending; the “t” and “d” are then indeed pronounced as [t] and [d]. In (141) we give concrete examples for the plosives in table (140): the primeless and primed examples give, respectively, the voiceless and voiced cases. In (142), we find similar examples for the fricatives.

- | | | | | | |
|----------|-------------------------|----------|-----|---------------------------|-------|
| (141) a. | de geschopte [ɣəsxɔptə] | hond | a'. | de geschrobde [ɣəsxrɔbdə] | vloer |
| | the kicked | dog | | the scrubbed | floor |
| b. | de gegroete [ɣəɣrutə] | man | b'. | de gebade [ɣəbadə] | baby |
| | the greeted | man | | the bathed | baby |
| c. | de gelokte [ɣəlɔktə] | klant | c'. | no stem ending in /g/ | |
| | the attracted | costumer | | | |
-
- | | | | | | |
|----------|----------------------------|--------|-----|--------------------------|---------|
| (142) a. | de gestrafte [ɣəstraftə] | jongen | a'. | de gekliefdde [ɣəklivdə] | schedel |
| | the punished | boy | | the cleaved | skull |
| b. | de gekuste [ɣəkæstə] | hond | b'. | de geloosde [ɣəlɔzdə] | olie |
| | the kissed | dog | | the dumped | oil |
| c. | de toegejuichte [ɣəjœyxtə] | zanger | c'. | de omgezaagde [ɣəzɑɣdə] | boom |
| | the applauded | singer | | the sawn.down | tree |

A systematic exception to the inflection pattern in Table (140) arises with complex verbs derived by means of prefixation: verbs prefixed by unstressed affixes like *ont-*, *be-*, *ver-*, and *her-*, for example, are never preceded the *ge-* part of the circumfix; this part is simply not realized. Some examples illustrating this are given in (143). Note that many of these complex verb forms are not the result of a currently productive morphological process: their specialized meanings suggest that verbs like *verdienen* ‘to deserve/earn’ and *herhalen* ‘to repeat’ must be listed as such in the lexicon.

- | | | | | | |
|----------|-----------------|--------------------|-----|----------------|-------------------|
| (143) a. | <i>ontdek-</i> | ‘discover/descrip’ | a'. | (*ge-)ontdekt | ‘discovered’ |
| b. | <i>bedek-</i> | ‘cover’ | b'. | (*ge-)bedekt | ‘covered’ |
| c. | <i>verdien-</i> | ‘deserve/earn’ | c'. | (*ge-)verdiend | ‘deserved/earned’ |
| d. | <i>herhaal-</i> | ‘repeat’ | d'. | (*ge-)herhaald | ‘repeated’ |

The same thing holds for compound verbs in which word accent is not assigned to the first member, as would normally be the case. The examples in (144a&b) thus contrast with verbs like *raadplegen* ‘to consult’ in (144c), in which the *ge-* part precedes the whole compound. Small caps are used to indicate the stressed syllable.

- | | | | | | |
|----------|-------------------|-----------|-----|------------------|-------------|
| (144) a. | <i>weerleg-</i> | ‘refute’ | a'. | (*ge-)weerlegd | ‘refuted’ |
| b. | <i>misbruik-</i> | ‘abuse’ | b'. | (*ge-)misbruikt | ‘abused’ |
| c. | <i>raadpleeg-</i> | ‘consult’ | c'. | *(ge-)raadpleegd | ‘consulted’ |

Given that the stress pattern in (144c) is the regular one, we find many cases of this type. A complication, however, is that besides unsuspected compounds like *raadplegen* there are also semantic N + V collocations that do not behave like compounds. In fact, the position of the *ge-* part of the participle is a reliable test for distinguishing the two cases. The (a)-examples in (145) show that with *beeldhouwen* ‘to sculpture’ the *ge-* part precedes the nominal part, which suggests

that we are dealing with a true compound. The (b)-examples show that with *auto rijden* 'to drive a car' the *ge-* part follows the nominal part, which suggests that we are dealing with a more or less fixed collocation. The (c)-examples show that with *stofzuigen* 'to vacuum' the *ge-* part may either precede or follow the nominal part, which suggests that we are dealing with an ambiguous structure. Note in passing that the N + V compound in (145c) differs from the N + V collocation in (145c') in that it has the regular participle form instead of a strong form; cf. De Haas & Trommelen (1993:442).

- | | | | | |
|----------|----------------|-----|----------------|-----------------------|
| (145) a. | gebeeldhouwd | a'. | *beeld gehouwd | [true N + V compound] |
| | b. *geautorijd | b'. | auto gereden | [N + V collocation] |
| | c. gestofzuigd | c'. | stof gezogen | [ambiguous] |

The claim that participles differ in the way indicated is confirmed by the behavior of verbs under °verb-second. True N+V compounds cannot strand the nominal part, whereas fixed N + V collocations cannot pied-pipe the nominal part. Ambiguous cases like *stofzuigen* seem to allow both options.

- (146) a. Jan <beeld>houwt de hele dag <*beeld>.
 Jan sculpts the whole day
 'Jan is sculpting all day.'
- b. Jan <*auto> rijdt de hele dag <auto>.
 Jan car drives the whole day
 'Jan is driving a car all day.'
- c. Jan <stof>zuigt de hele dag <?stof>.
 Jan vacuums the whole day
 'Jan is vacuuming all day.'

The fact that verbal particles like *over* in *overschilderen* 'to think' or *opbellen* 'to ring up' precede the *ge-* part of the participle shows in a similar way that particles do not form a morphological unit with the verb, despite the fact that particle-verb combinations are normally written as a single word and can also be the input to word formation; cf. *overschilderbaar* 'overpaintable'. That such combinations do not form a morphological unit is also clear from the fact that verbal particles are stranded in verb-second constructions such as (147).

- | | | | |
|----------|--|------------------------------------|--------------------------------------|
| (147) a. | <i>over</i> + <i>schilder-</i> 'repaint' | b. | <i>op</i> + <i>bel-</i> 'to call up' |
| | a'. overgeschilderd | | b'. opgebeld |
| | a''. Jan schilderde het hekje over. | b''). Jan belde Marie gisteren op. | |
| | Jan painted the gate over | Jan phoned Marie yesterday prt. | |
| | 'Jan repainted the gate.' | 'Jan called Marie yesterday.' | |

Past/passive participles can be used both verbally and adjectivally. The former is the case in perfect-tense and passive constructions, as is clear from the fact that these constructions stand in systematic opposition to, respectively, simple present/past tense and active constructions. It is important to note at this point that the past/passive participle can either precede or follow the perfect/passive auxiliary, since this will become important later in the discussion; cf. (150).

- (148) a. dat Jan het boek verkocht. [active, simple tense]
 that Jan the book sold
 ‘that Jan sold the book.’
- b. dat Jan het boek <verkocht> heeft <verkocht>. [active, perfect tense]
 that Jan the book sold has
 ‘that Jan has sold the book.’
- c. dat het boek <verkocht> werd <verkocht>. [passive]
 that the book sold was
 ‘that the book was sold.’

Past/passive participles of a more adjectival nature can be found in (149); example (149a) shows that past/passive participles can be used in prenominal attributive position, which is normally occupied by adjectives, and (149b) shows that they can also be used in the predicative position of a copular construction. That we are (or at least can be) dealing with adjectives is clear from the fact that the participle *gekookt* can be prefixed with the negative morpheme *on-* ‘un-’, which is a hallmark of adjectives; verbs are typically prefixed by the negative morpheme *ont-* (see Booij 2002, Section 3.3).

- (149) a. het gekookte/ongekookte ei
 the cooked/uncooked egg
- b. Het ei is gekookt/ongekookt.
 the egg is cooked/uncooked

A typical semantic difference between verbal and adjectival participles is that the former refer to a dynamic state of affairs and the latter to a stative property. In some cases, constructions are ambiguous in this respect. An example such as *Jan en Marie zijn getrouwd* can express that Jan and Marie have been engaged in a marrying event (“Jan and Marie have married”) or that Jan and Marie are a married couple (“Jan and Marie are married”). This difference is brought out in (150) by means of the adverbial phrases *gisteren* ‘yesterday’, which refers to the moment that the event of marrying took place, and *al jarenlang* ‘for years’, which refers to the time interval during which the property of being married applies to *Jan*. These examples also show that the placements of the verbal and adjectival participle differ: the former is able to precede or follow the auxiliary verb, whereas the latter must precede the copular (like other °complementives).

- (150) a. dat Jan gisteren <getrouwd> is <getrouwd>. [perfect tense]
 that Jan yesterday married is
 ‘that Jan married someone yesterday.’
- b. dat Jan al jaren <getrouwd> is <*getrouwd>. [copular construction]
 that Jan already years married has.been
 ‘that Jan has been married for years.’

This brief discussion of verbal and adjectival past/passive participles suffices for our present purposes. A more detailed discussion of their adjectival use can be found in Section A9.

C. Present participles

Present participles are derived from the stem by addition of the suffix *-end*. Given that the end consonant of the stem is now in intervocalic position, devoicing will not take place. This is illustrated in Table (151).

(151) Past/passive participles

STEM	PARTICIPLE	PRONUNCIATION	STEM	PARTICIPLE	PRONUNCIATION
schop-	schoppend	[sxɔpənt]	straf-	straffend	[strafənt]
schrob-	schrobbend	[sxrɔbənt]	kliev-	klievend	[klivənt]
groet-	groetend	[ɣrutənt]	kus-	kussend	[kæsənt]
baad-	badend	[badənt]	looz-	lozend	[lozənt]
lok-	lokkend	[lɔkənt]	juich-	juichend	[jœyxənt]
—	—		zaag-	zagend	[zayənt]

Although present participles are traditionally treated as a case of verbal inflection, it is not evident that we are dealing with verbs. The present-day distribution of these participles is that of an adjective rather than that of a verb. First, in contrast to their English counterparts ending in *-ing*, they are never used as the semantic head of a clause. For example, Dutch has no verbal construction with a present participle that corresponds to the English progressive; the progressive *aan het* + infinitive construction is used instead.

- (152) a. Jan is reading the book.
 b. *Jan is het boek lezend.
 Jan is the book reading
 c. Jan is het boek aan het lezen.
 Jan is the book AAN HET read

Second, present participles are found in functions that are normally performed by adjectives: example (153a) shows that a present participle may occur in prenominal attributive position and (153b) shows that it can be used as a secondary predicate, that is, as a °supplementive. Nevertheless, the fact that it can be modified by means of an adverbial phrase in a function different from that of °intensifier shows that the present participles has retained specific verbal features.

- (153) a. de beleefd groetende man
 the politely greeting man
 ‘the man who was greeting politely’
 b. De man kwam beleefd groetend binnen.
 the man came politely greeting inside
 ‘The man entered, while greeting politely.’

Given their adjectival nature, present participles will not be discussed in the present study; the reader is referred to Section A9 for further discussion of this category.

IV. *Regular versus irregular verbs*

In the previous subsections we have restricted our attention to the inflectional paradigms of so-called regular verbs. There are, however, verbs showing various types of irregularities. The person and number agreement that we find in the present and past tense is mostly regularly formed by means of the ending *-t* and *-en*; cf. Table 7. The only exceptional patterns are found with the main verb *komen* ‘to come’, which will be discussed at the end of this subsection, the auxiliaries *hebben* and *zijn*, the copular verb *zijn*, and a number of modal verbs. We will not discuss this in depth here but simply give the present tense paradigms for the verbs *hebben* and *zijn* for illustration.

(154) Present tense inflection of the auxiliary *hebben* and *zijn*

	HEBBERN		ZIJN	
	SINGULAR	SINGULAR	SINGULAR	PLURAL
1 ST PERSON	<i>Ik heb</i> ‘I have’	<i>Wij hebben</i> ‘We have’	<i>Ik ben</i> ‘I am’	<i>Wij zijn</i> ‘We are’
2 ND PERSON	<i>Jij hebt/heb jij</i> ‘You have’	<i>Jullie hebben</i> ‘You have’	<i>Jij bent/ben jij</i> ‘You are’	<i>Jullie zijn</i> ‘You are’
3 RD PERSON	<i>Hij heeft</i> ‘He has’	<i>Zij hebben</i> ‘They had’	<i>Hij is</i> ‘He is’	<i>Zij zijn</i> ‘They are’

The most common irregularity involves stem alternation for the present and the past tense, e.g., *loop - liep* ‘walk - walked’. The past/passive participles of verbs exhibiting this type of alternation are normally not formed by means of the circumfix *ge-...-d/t* but by *ge-...-en*, e.g., *gelopen* ‘walked’. The example *lopen* ‘to walk’ shows that the stem from which the participle is derived may be the stem that is used for the formation of the present tense. It may, however, also be the stem used for the formation of the past tense. In a smaller number of cases, it may even be of some entirely different form. We can therefore distinguish three vowel alternation patterns in the sequence present-past-participle: ABA, ABB and ABC. Two examples of each type are given in (155). Recall that long vowels are represented by a single letter if they are in an open and by two letters if they are in a closed syllable; cf. *loop* versus *lo-pen*.

- (155) a. ABA: *lopen* ‘to walk’: *loop - liep - gelopen*
dragen ‘to carry’: *draag - droeg - gedragen*
 b. ABB: *wegen* ‘to weigh’: *weeg - woog - gewogen*
buigen ‘to bend’: *buig - boog - gebogen*
 c. ABC: *helpen* ‘to help’: *help - hielp - geholpen*
zweren ‘to vow’: *zweer - zwoer - gezworen*

The examples in (156a) give cases of semi-regular verbs in which the simple past tense, but not the past participle, is formed in accordance with the regular pattern. The examples in (156b) show that there are also cases with the inverse pattern, that is, in which the past participle, but not the simple past tense, is formed in accordance with the regular pattern.

- (156) a. Semi-regular verbs with irregularly formed past participles:
lachen ‘to laugh’: *lach* - *lachte* - *gelachen*
wreken ‘to revenge’: *wreek* - *wreekte* - *gewroken*
- b. Semi-regular verbs with irregularly formed past-tense forms:
vragen ‘to ask’: *vraag* - *vroeg* - *gevraagd*
zeggen ‘to say’: *zeg* - *zei* - *gezegd*

In some cases, the stem alternation involves a change not only in the vowel but also in the consonants. The examples in (157) show such changes in, respectively, the coda and the onset of the stem.

- (157) a. *brengen* ‘to bring’: *breng* - *bracht* - *gebracht*
 b. *komen* ‘to come’: *kom* - *kwam* - *gekomen*

The verb *komen* ‘to come’ is also special in that it has a stem with a short vowel in the singular but with a long vowel in all other cases. This is illustrated in (158) for the singular and plural simple tenses. The participle *gekomen* in (157b) is also pronounced with a long vowel.

(158) Present/past forms of the verb *komen* ‘to come’

	HEBBEN		ZIJN	
	SINGULAR /kɔm/	PLURAL /komə/	SINGULAR /kvam/	PLURAL /kvamə/
1 ST PERSON	<i>Ik kom</i> ‘I come’	<i>Wij komen</i> ‘We come’	<i>Ik kwam</i> ‘I came’	<i>Wij kwamen</i> ‘We came’
2 ND PERSON	<i>Jij komt</i> ‘You come’	<i>Jullie komen</i> ‘You come’	<i>Jij kwam</i> ‘You came’	<i>Jullie kwamen</i> ‘You came’
3 RD PERSON	<i>Hij komt</i> ‘He comes’	<i>Zij komen</i> ‘They come’	<i>Hij kwam</i> ‘He came’	<i>Zij kwamen</i> ‘They came’

Lengthening of the vowel also occurs in cases in which the irregular past stem contains an /a/ followed by a single consonant: *lag* ‘lay’ [lax] - *lagen* ‘lay’ [layə]; *zag* ‘saw’ [zax] - *zagen* ‘saw’ [zayə]; etc.

Since irregular verbs are less interesting from a syntactic point of view, we refer the reader to Booij (2002: Section 2.4), Haeseryn et al. (1997: Section 2.3.4-6) and Klooster (2001) for exhaustive lists of irregular and semi-regular verbs as well as more discussion.

1.4. Mood

The term MOOD will be used here to refer to morphological categories of the verb that are used in specific semantic sentence types (declarative, interrogative, command, wish etc.). In Dutch, a distinction can be made between the indicative, the imperative, and (in more or less formulaic expressions) the subjunctive mood. We will discuss these cases in the order given here.

- (159) a. Jan *leest* een boek. [indicative]
 Jan reads a book
 ‘Jan is reading a book.’
- b. *Lees* dat boek! [imperative]
 read that book
 ‘Read that book!’
- c. Lang *leve* de koningin! [subjunctive]
 long live the Queen
 ‘Long live the Queen!’

1.4.1. *Indicative*

The indicative is the “unmarked” mood in the sense that it refers to the verb forms that are typically used in the formation of declarative clauses and questions. The indicative marks that the clause refers to a state of affairs that is claimed to be actual within the domain of discourse (domain D). When the speaker utters an example such as (160a), he is stating that the proposition STROKE (Jan, the cat) is true in domain D. Similarly, by uttering the question in (160b), the speaker expresses his belief that there is an ongoing cat-stroking event, but that he wants to know who the agent of the event is: ?x STROKE (x, the cat). By uttering the question in (160c), the speaker is soliciting information about the truth of the proposition STROKE (Jan, the cat) in domain D.

- (160) a. Jan *aait* de kat.
 Jan strokes the cat
 ‘Jan is stroking the cat.’
- b. *Wie* *aait* de kat?
 who strokes the cat
 ‘who is stroking the cat?’
- c. *Aait* Jan de kat?
 strokes Jan the cat
 ‘Is Jan stroking the cat?’

Since indicative forms have already been discussed in Section 1.3, we will not digress on them any further, but immediately commence with a discussion of the more marked moods.

1.4.2. *Imperative*

Prototypical imperative constructions exhibit the following properties: (i) meaning: imperatives are directive in the sense that they are used to persuade the addressee to bring about a specific state of affairs; (ii) morphology: imperative verbs are derived from the stem by means of the zero marking $-\emptyset$; (iii) syntax: imperative verbs are finite and occupy the first position of the sentence; subjects are not overtly expressed; (iv) phonetics: the sentence-initial verb is stressed. All these properties can be found in the examples in (161).

Coppen finally suggests that the action involved is habitual in nature; one could not say *spring ze!* ‘jump well’ to someone who is planning to jump from a table he is incidentally standing on, but it is perfectly acceptable to say it to someone who is planning to do some springboard diving. The habituality of the action denoted by the verb does not seem to be absolutely necessary, however, since one could readily say *Kook ze!* ‘Cook well!’ to someone who has never cooked before but who is planning to give it a try. The restriction might therefore be more aspectual in nature in the sense that the action must be durative or iterative; we leave this open for future research.

Corver (1995) and Coppen (1998) show that success imperatives are subject to several syntactic constraints. First, the verb must be (pseudo-)intransitive in order to occur in the success imperative: the primeless examples in (168) are intransitive and must be interpreted as success imperatives; the verbs in the singly-primed examples can be either transitive or pseudo-intransitive and can be interpreted either as a directive or success imperatives; the doubly-primed examples are necessarily transitive and can only be interpreted as directive imperatives.

- | | | | | | |
|----------|--|-----|---|------|--|
| (168) a. | Slaap ze!
sleep ZE/*them
‘Sleep well!’ | a’. | Eet ze!
eat ZE/them
‘Eat well!’/‘Eat them!’ | a’’. | #Verorber ze!
consume them/*ZE
‘Consume them!’ |
| b. | Werk ze!
work ZE/*them
‘Work well!’ | b’. | Lees ze!
read ZE/them
‘Read well!’/‘Read them!’ | b’’. | #Pak ze!
take them/*ZE
‘Take them!’ |

It is important to note that the element *ze* can never be used if the direct object is overtly expressed: *Eet (*ze) je brood!* ‘Eat your sandwiches!’. This suggests that the non-referential element *ze* in the success imperative may still act as a pronominal object, as is in fact suggested both by Corver and by Coppen.; the verb is unable to case mark *ze* because it already assigns °accusative case to the direct object.

Second, the examples in (169) show that although unaccusative verbs can be used in regular imperatives, they cannot enter success imperatives. This again suggests that the non-referential element *ze* acts as a pronominal object; since unaccusative verbs cannot assign accusative case, the element *ze* remains case-less and is therefore excluded.

- | | | |
|-------|-----------------------------------|------------------------------------|
| (169) | • Regular imperative | • Success imperative |
| a. | Kom/Blijf hier!
come/stay here | a’. *Kom/Blijf ze!
come/stay ZE |
| b. | Vertrek nu!
leave now | b’. *Vertrek ze!
leave ZE |
| c. | Sterf!
die | c’. *Sterf ze!
die ZE |

Finally, the examples in (170) show that although they can be used in regular imperatives, verbs taking a complementive or a verbal particle are not possible in success imperatives.

- | | | |
|-------|--|--|
| (170) | <ul style="list-style-type: none"> • Regular imperative | <ul style="list-style-type: none"> • Success imperative |
| a. | Eet ze op!
eat them up | a'. *Eet ze op!
eat ZE up |
| b. | Lees ze voor!
read them aloud | b'. *Lees ze voor!
leave ZE aloud |
| c. | Verf ze groen!
paint them green | c'. *Verf ze groen!
paint ZE green |

The analyses proposed by Corver and Coppens are similar in that they assume that the element *ze* is pronominal in nature; as was already mentioned above this may account for the restrictions illustrated in (168) and (169). Corver accounts for the unacceptability of the primed examples in (170) by assuming that *ze* must be incorporated into the verb in order to license the success reading; this is possible if the object pronoun is an internal °argument of the verb, but blocked if it functions as the °logical SUBJECT of a complementive/particle. Coppens derives the unacceptability of the primed examples in (170) by assuming that success imperatives contain an empty complementive, which blocks the addition of another complementive/particle. This also accounts for the fact that the verb can be intransitive; the addition of a complementive may have a transitivizing effect and thus licenses the presence of the pronoun *ze* (see Section 2.2.3, sub I). Coppens further suggests that the postulation of an empty complementive may account for the non-referential status of the pronoun *ze*; the idiomatic examples in (171) show that *ze* is more often used non-referentially in such contexts.

- (171) a. Hij heeft [ze achter de ellebogen].
he has them behind the elbows
'He's a sneak.'
- b. Hij bakt [ze bruin].
he bakes them brown
'He's laying it on thick.'

C. Use in generic statements

All cases discussed so far can readily be seen as directive in an extended meaning of the word. Proeme (1984) has shown, however, that there are also non-directive uses of the imperative. Consider the constructions in (172). These examples are still directive in nature, but the more conspicuous meaning aspect of these constructions is conditional: if the addressee performs the action denoted by the imperative verb, the event mentioned in the second conjunct will take place.

- (172) a. Kom hier en ik geef je een snoepje.
come here and I give you a candy
'If you come here, I'll give you a candy.'
- b. Kom hier en ik geef je een pak slaag.
come here and I give you a beating
'If you come here, I'll give you a beating.'

In (173), structurally similar examples are shown in which the directive interpretation has completely disappeared. In fact, these constructions are special in

that the implied subject no longer refers to the addressee, but is interpreted generically; we are dealing with more widely applicable generalizations.

- (173) a. Spreek hem tegen en je hebt meteen ruzie met hem.
 contradict him prt. and you have instantly quarrel with hem
 ‘If someone contradicts him, he’ll instantly have an argument with him.’
 b. Hang de was buiten en het gaat regenen.
 hang the laundry outside and it goes rain
 ‘Whenever one hangs the laundry outside, it’ll rain.’

In fact, it is even possible to use imperatives in conditional constructions that are unacceptable in isolation: although the clause in (174a) is infelicitous on an imperative reading—given that, under normal circumstances, the subject is not able to control the property denoted by the °individual-level predicate *blond haar hebben* ‘to have blond hair’—it can be used as the antecedent (“if-part”) of the conditional construction in (174b); cf. Boogaart (2004) and Boogaart & Trnavac (2004).

- (174) a. °Heb blond haar!
 have blond hair
 b. Heb blond haar en ze denken dat je dom bent.
 have blond hair and they think that you stupid are
 ‘If you’re blond, people automatically think you’re stupid.’

Non-directive imperatives can also be used to invite the addressee to empathize in the event, as in (175). Such examples may also be conditional in nature: the addressee is supposed to construe the imperative as the antecedent of an implicit °material implication and to figure out the consequence (“then-part”) for himself.

- (175) a. Word maar eens ontslagen als je 51 bent.
 be PRT PRT fired when you 51 are
 ‘Imagine that you’re fired when you’re 51 years old.’
 b. Werk maar eens van ochtend tot avond.
 work PRT PRT from dawn till dusk
 ‘Imagine that you have to work from dawn till dusk.’

In the conditional constructions discussed so far the imperative functions as the antecedent of the implied material implication, but it can also function as the consequence, as is shown in (176).

- (176) a. Als hij een slecht humeur heeft, berg je dan maar.
 if he a bad temper has hide REFL then PRT
 ‘If he has a bad temper, then you’d better hide.’
 b. Als hij je niet mag, pak dan je boeltje maar.
 if he you not likes, fetch then your things PRT
 ‘If he doesn’t like you, then you’d better pack your things.’

These constructions, which are typically used in narrative speech, exhibit the interesting property that the imperative in the consequence can occur in the *past tense* when the finite verb in the antecedent is also past.

- (177) a. Als hij een slecht humeur had, borg je dan maar.
 if he a bad temper had hid REFL then PRT
 'If he had a bad temper, then you'd better hide.'
- b. Als hij je niet mocht, pakte dan je boeltje maar.
 if he you not liked fetched then your things PRT
 'If he didn't like you, then you'd better pack your things.'

The same thing holds for constructions in which the imperative is part of the antecedent of the material implication. In a story about his time of military service, the speaker can readily use an example such as (178); see also Proeme (1984) and Wolf (2003).

- (178) Kwam maar eens te laat of had je schoenen niet gepoetst,
 came PRT some.time too late or had your shoes not polished
 dan kreeg je gelijk straf.
 then got you immediately punishment
 'If one came too late or didn't polish his shoes, he'd be punished immediately.'

Observe that example (178) contains not only an imperative verb in the past tense but also an imperative past perfect construction. The latter construction is more often used with a special meaning aspect. Consider the examples in (179a&b). Examples like these are counterfactual in nature; the event denoted by the main verb did not take place, and at the time of utterance this has some unwanted result. Examples like these are therefore mainly used as a means of reprimand or as an expression of regret, and are therefore more or less equivalent to *if only*-constructions, which are given here as translations.

- (179) a. Had dan ook iets gegeten!
 had then PRT something eaten
 'If only you'd eaten something!'
- b. Was dan ook wat langer gebleven!
 was then PRT a.bit longer stayed
 'If only you had stayed a bit longer!'

The situation is reversed when the imperative clause contains the negative adverb *niet* 'not', as in (180): the event denoted by the verb did take place, and it would have been better if it had not.

- (180) Had je dan ook niet zo aangesteld!
 had REFL then PRT not that.much prt.-pose
 'If only you hadn't put on those airs!'

Past perfect constructions like (179) and (180) share the property of more regular imperatives that they require that the addressee has the potential to control the state of affairs denoted by the verb; examples such as (181) are semantically anomalous and can at best be used as a pun of some sort.

- (181) a. *Had het antwoord dan ook geweten!
 had the answer then PRT known
 b. #Was dan ook iets intelligenter geweest!
 was then PRT a.bit more.intelligent been
 'If only you had been a bit more intelligent!'

Constructions like (179) and (180) seem closely related to past perfect constructions with a counterfactual interpretation, which are discussed in Section 1.5.4.2, sub VII.

Proeme (1984) claims that this kind of counterfactual imperative also occurs with a slightly more aggressive touch in the simple past tense, as in the primeless examples in (182), but at least some people consider examples of this type degraded and much prefer their past perfect counterparts in the primed examples. The cause of this contrast may be that the perfect (but not the past) tense implies current relevance; see Section 1.5.3 for discussion.

- (182) a. %Stopte dan ook! Nu heb je een ongeluk veroorzaakt.
 stopped then PRT Now have you an accident caused
 a'. Was dan ook gestopt! Nu heb je een ongeluk veroorzaakt.
 was then PRT stopped Now have you an accident caused
 'If only you'd stopped! Now you've caused an accident.'
 b. %Dronk dan ook niet zo veel! Nu heb je een kater.
 drank then PRT not that much now have you a hangover
 b'. Had dan ook niet zo veel gedronken! Nu heb je een kater.
 had then PRT not that much drunk now have you a hangover
 'If only you hadn't drunk that much! Now you've got a hangover.'

Simple past tense can be readily used, however, to express an °irrealis meaning. The examples in (183) both function as advice, but the past tense variant in (183b) expresses in addition doubt on part of the speaker about whether the advice will be followed. For a more general discussion of the relation between past tense and irrealis, see Section 1.5.4.1, sub VII.

- (183) a. Rook eens wat minder, dan is die benauwdheid snel over!
 smoke PRT a.bit less then is that breathlessness quickly cured
 'If you smoke a bit less, that breathlessness will soon be cured.'
 b. Rookte eens wat minder, dan is die benauwdheid snel over!
 smoked PRT a.bit less then is that breathlessness quickly cured
 'If you smoked a bit less, that breathlessness would soon be cured.'

II. Formal properties of the imperative

This subsection discusses a number of constructions with imperative or imperative-like meanings. We will begin the discussion with the prototypical imperative, that is, with constructions without a phonetically realized subject in which the imperative form consists of the stem of the verb. After that, we will discuss a number of other verb forms that can potentially be used to express the imperative mood. The discussion will focus on these verb forms and a small number of conspicuous syntactic properties of the structures they are used in.

A. Finite subjectless imperatives: stem + -Ø/-t

Finite subjectless imperatives are typically formed by means of the stem with the zero marking -Ø. In the formal register it is also possible to mark the imperative as plural by adding a -t ending, but in colloquial speech this has only survived in fixed expressions like the one given in (184b).

- (184) a. Kom_{sg/pl} hier! [colloquial]
 come here
 b. Kom_{t/pl} allen! [formal/formulaic]
 come all

The reason that we refer to these imperative forms as finite is that they appear clause-initially; while non-finite main verbs always follow verbal particles and °complementives, the examples in (185) show that the imperative forms under discussion must precede them—in fact they typically occur in sentence-initial position.

- (185) a. Leg dat boek neer! a'. *Dat boek neer leg!
 put that book down that book down put
 b. Sla die mug dood! b'. *Die mug dood sla!
 hit that mosquito dead that mosquito dead hit

In occupying the first position in their sentence, finite imperatives differ markedly from indicative verbs in declarative clauses, which normally are preceded by some constituent; cf. the contrast between the two examples in (186); we refer the reader to Section 11.2.3 for a more extensive discussion of this.

- (186) a. Dat boek geef ik morgen terug.
 that book give I tomorrow back
 ‘That book I’ll return tomorrow.’
 b. *Dat boek geef direct terug!
 that book give immediately back

The examples in (187) show that imperative verbs can be preceded by left-dislocated elements, which are separated from the clause by means of an intonation break and which function as the antecedent of some pronoun in the sentence. Note that the resumptive pronoun can at least marginally be omitted in imperatives (but not in declaratives).

- (187) a. Dat boek, ik geef *(het) direct terug.
 that book I give it immediately back
 ‘That book, I’ll return it immediately.’
 b. Dat boek, geef [?](het) direct terug!
 that book give it immediately back
 ‘That book, return it immediately.’

Imperative clauses are always main clauses, and can only be embedded as direct speech; see the contrast between the two examples in (188).

- (188) a. *Jan riep dat dat boek neer leg!
 Jan called that that book down put
 b. Jan riep: "Leg dat boek neer!"
 Jan called put that book down

The examples in (189) show that Dutch freely allows negative imperatives with all event types; °telic cases like (189c&d) can sometimes be construed as warnings, but more directive interpretation are possible as well: *Lees dat boek maar niet!* 'Don't read that book!'. In this respect Dutch sharply differs from languages like Italian, which do not allow finite imperatives with negation; see Postma & Wurff (2007) for discussion.

- (189) a. Vrees niet! c. Val niet!
 fear not fall not
 'Don't be afraid!' 'Don't fall!'
 b. Zeur Niet! d. Breek die vaas niet!
 nag not break that vase not
 'Don't nag!' 'Don't break that vase!'

Since the verb is in initial position, the subject is expected to follow it. The examples above have already shown, however, that this expectation is not borne out and that the subject is normally suppressed. This does not imply, however, that it is also syntactically absent. That subjects are syntactically present is strongly suggested by the fact that it is possible to use anaphors like *je(zelf)/u(zelf)* 'yourself' and *elkaar* 'each other', which normally must be bound by an antecedent in the same clause. The form of the anaphors also shows that we are dealing with an empty subject that is marked for second person but underspecified for number and the politeness feature; cf. Bennis (2006/2007). See Section N5.2.1.5 for a more detailed discussion of the °binding of anaphors.

- (190) a. Beheers je! a'. Beheers jullie! a''. Beheers u!
 control REFL_{sg} control REFL_{pl} control REFL_{polite}
 'Control yourself!' 'Control yourself!' 'Control yourself!'
 b. Kijk naar jezelf! b'. Kijk naar jezelf! b''. Kijk naar uzelf!
 look at yourself_{sg} look at yourself_{pl} look at yourself_{polite}
 c. Help elkaar!
 help each.other

The examples in (191) show that the pronouns *jij*, *jullie* and *u* can sometimes be used in combination with finite imperatives. They do not have the function of subjects, though, but function as vocatives (which are assigned default, °nominative case). This is clear from the fact that at least the primeless examples are unacceptable without an intonation break (due to the lack of subject-verb agreement), that the pronouns can occur in the right periphery of the clause, and that the pronouns can all readily be replaced by a proper noun or an epithet; e.g., *Kom eens hier, Jan/sukkel(s)!* 'Come here, Jan/idiot(s)!'.
 Kom eens hier, Jan/sukkel(s)!

- | | | | | |
|----------|----------------------------------|----------------------------------|-----|--|
| (191) a. | Jij (daar),
you over.there | kom eens hier!
come PRT. here | a'. | Kom eens hier, jij (daar)!
come prt. here you over.there |
| b. | Jullie (daar),
you over.there | kom eens hier!
come PRT. here | b'. | Kom eens hier, jullie (daar)!
come prt. here you over.there |
| c. | U (daar),
you over.there | kom eens hier!
come prt. here | c'. | ?Kom eens hier, u (daar)!
come prt. here you over.there |

Subjectless finite imperatives can also be used to express general rules. This means that the implied subject can also be interpreted like the non-referential second person pronoun in statements such as (192a). Under this interpretation the use of a vocative of course leads to a degraded result.

- (192) a. Je moet elke dag minstens een half uur bewegen.
you must each day at.least a half hour move
'One has to have physical exercise for at least half an hour each day.'
- b. Beweeg elke dag minstens een half uur (*jij daar).
move each day at.least a half hour you over.there

B. Infinitival subjectless imperative: stem + -Ø/-t/-en

Besides the finite subjectless imperatives discussed in Subsection A, Dutch has infinitival subjectless imperatives. This is illustrated in (193), which also shows that there is no aspectual restriction on the verbs that can be used as such. The only requirement is that the addressee is able to control the event; compare the discussion in Subsection IA.

- | | | | |
|----------|------------------|----|-------------------------|
| (193) a. | Zitten!
sit | c. | Vertrekken!
leave |
| b. | Wachten!
wait | d. | Neerleggen!
down-put |

According to Haeseryn et al. (1997), infinitival imperatives are especially used to express instructions that are not directed towards a specific person, e.g., in directions for use or prohibitions, and indeed it seems that the primeless examples in (194) are more common in such cases than those in the primed examples. Perhaps this is related to the fact that infinitival imperatives are often experienced as more polite than finite imperatives.

- | | | | |
|----------|--|-----|--|
| (194) a. | Schudden voor gebruik.
shake before use | a'. | Schud voor gebruik!
shake before use |
| b. | Niet roken, a.u.b.
not smoke please
'Don't smoke.' | b'. | Rook niet, a.u.b.!
smoke not please
'Don't smoke, please!' |
| c. | Duwen/Trekken.
push/pull | c'. | Duw!/trek!
push/pull |

Since we are dealing with infinitival verbs, we would expect the verb to be in clause-final position. The fact that the verb *leggen* 'put' must follow the verbal particle *neer* 'down' in (193d) shows that this expectation is indeed borne out. This

is also illustrated in the examples in (195), which show that infinitival imperatives can be preceded by more than one constituent.

- (195) a. Even stil zitten! c. Graag op tijd vertrekken!
 for.a.moment quietly sit gladly in time leave
 ‘Sit quietly for a moment!’ ‘Leave in time, please!’
 b. Even op Peter wachten! d. De boeken daar neer leggen!
 for.a.moment for Peter wait the books there down put
 ‘Wait for Peter for a moment!’ ‘Put the books down over there!’

Subsection A has shown that the fact that the subject is not phonetically realized does not imply that the subject is not syntactically present; the examples in (190) strongly suggest that in the case of finite imperatives, there is a phonetically empty subject, which is able to bind anaphors like *je(zelf)/u(zelf)* ‘yourself’. At first sight, this type of evidence is less robust in the case of infinitival infinitives; the (a)-examples in (196) show that inherently reflexive verbs give rise to an unacceptable result, and the (b)- and (c)-examples seem also somewhat marked.

- (196) a. *Je beheersen! a’. *jullie beheersen! a’’. *U beheersen!
 REFL_{sg} control REFL_{pl} control REFL_{polite} control
 b. ^(?)naar jezelf kijken! b’. ^(?)Naar jezelf kijken! b’’. ^(?)Naar uzelf kijken!
 at yourself_{sg} look at yourself_{pl} look at yourself_{polite} look
 ‘Look at yourself!’ ‘Look at yourself!’ ‘Look at yourself!’
 c. ^(?)Elkaar helpen!
 each.other help

However, the examples in (196) much improve, if they are supplemented by the discourse particle *hè*, as is illustrated (197). Examples like these have the feel of advice or an urgent request.

- (197) a. Je/jullie/u beheersen, hè!
 REFL_{2sg/2pl/2polite} control right
 b. Naar jezelf/jezelf/uzelf kijken, hè!
 at yourself_{sg/pl/polite} look right
 c. Elkaar helpen, hè!
 each.other help right

The fact that the subject is not expressed does not imply that the second person pronouns *jij*, *jullie* and *u* can never be used; just as in the case of the finite imperatives, these pronouns can be used as vocatives.

- (198) a. Jij (daar), hier komen! a’. Hier komen, jij (daar)!
 you_{sg} over.there here come here come you_{sg} over.there
 b. Jullie (daar), hier komen! b’. Hier komen, jullie (daar)!
 you_{pl} over.there here come here come you_{pl} over.there
 c. U (daar), hier komen! c’. [?]Hier komen, u (daar)!
 you_{polite} over.there here come here come you_{polite} over.there

Infinitival imperatives are also like finite ones in that they allow their object to remain implicit or be placed in sentence-final position.

- (199) a. (Die boeken) daar neer leggen!
 those books there down put
 ‘Put those books down there!’
 b. Daar neerleggen, die boeken!
 there down-put those books

C. Finite imperatives with overt subjects

Besides finite subjectless imperatives such as *Ga weg!* ‘Go away’, Dutch has finite imperatives like those in (200), which obligatorily contain an overt subject in the regular subject position, that is, immediately after the finite verb (here: the imperative); the primed examples are either ungrammatical or interpreted as subjectless imperatives of the sort discussed in Subsection A (cf. Bennis 2006/2007).

- | | | | |
|----------|-----------------------------------|-----|-----------------------------------|
| (200) a. | Ga jij eens weg! | a’. | [#] Ga eens weg, (jij)! |
| | go you _{sg} PRT away | | go PRT away you _{sg} |
| | ‘Go away!’ | | ‘Go away!’ |
| b. | Gaan jullie eens weg! | b’. | *Gaan eens weg, (jullie)! |
| | go you _{pl} PRT away | | go PRT away you _{pl} |
| c. | Gaat u eens weg! | c’. | [#] Gaat eens weg, (u)! |
| | go you _{polite} PRT away | | go PRT away you _{polite} |

Note that the subject pronoun is special in that it must be the phonetically unreduced form; replacement of the strong form *jij* in (200a) by the weak form *je* leads to a severely degraded result; **Ga je eens weg!*

The fact that the form of the verbs in (200) is the same as that of the indicative verbs in the corresponding declarative constructions may give rise to the idea that we are just dealing with indicative verbs and that the imperative interpretation is due to the fact that the verb occupies the first position of the sentence. There are reasons, however, to assume that we are dealing with special imperative forms. Section 1.3, sub IV, has shown that the indicative present-tense forms of the verb *zijn* ‘to be’ are *ben(t)* and *zijn* and that subject-verb inversion affects the inflection of the verb in the case of the colloquial second person singular pronoun, but not in the other cases. This is illustrated again in (201).

- | | | | |
|----------|--|-----|--|
| (201) a. | Jij bent meestal beleefd. | a’. | Meestal ben je beleefd. |
| | you _{sg} are generally polite | | generally are you _{sg} polite |
| b. | Jullie zijn meestal beleefd. | b’. | Meestal zijn jullie beleefd. |
| | you _{pl} are generally polite | | generally are you _{pl} polite |
| c. | U bent meestal beleefd. | c’. | Meestal bent u beleefd. |
| | you _{polite} are generally polite | | generally are you _{polite} polite |

The finite imperatives with and without an overt subject, on the other hand, are uniformly based on the stem *weez-*, which is also found in the past participle *geweest* ‘been’; cf. the primeless examples in (202). This strongly suggests that the forms found in the finite imperative in (200) cannot be considered regular indicative forms either. The primed examples are added to show that some speakers also allow the indicative forms *ben(t)* and *zijn* in these imperative constructions.

- | | | | |
|----------|-------------------------------------|-----|--|
| (202) a. | Wees beleefd! | a'. | [%] Ben beleefd! |
| | be polite | | be polite |
| b. | Wees jij maar beleefd! | b'. | [%] Ben jij maar beleefd! |
| | be you _{sg} PRT polite | | be you _{sg} PRT polite |
| c. | Wezen jullie maar beleefd! | c'. | [%] Zijn jullie maar beleefd! |
| | be you _{pl} PRT polite | | be you _{pl} PRT polite |
| d. | Weest u maar beleefd! | d'. | [%] Bent u maar beleefd! |
| | be you _{polite} PRT polite | | be you _{polite} PRT polite |

The alternation between the primeless and primed examples in (202) has led Proeme (1986) to argue against the claim that *weez-* is the designated stem for the imperative. His main argument is that the second person form *wees* can sometimes be followed by the reduced subject pronoun *je*, which is normally not possible in imperatives. He concludes from this that examples such as (203a) are questions, just like example (203b).

- | | | | |
|----------|------------------------|----|---------------------|
| (203) a. | Wees je voorzichtig! | b. | Ben je voorzichtig? |
| | be you careful | | Are you careful |
| | 'Will you be careful?' | | 'Are you careful?' |

The translations given in (203) aim at expressing the meaning difference that Proeme attributes to the two examples. He claims that the form *wees* in (203a) differs from the form *ben* in (203b) in that it adds the meaning aspect that the addressee assumes the role of aiming at realizing the state of being careful (“daarbij presenteert [(203a)] dat voorzichtig zijn als iets [...] dat de referent van het subject [...] op zich neemt om te volbrengen” p.34), thereby building part of the imperative interpretation of (203a) into the lexical meaning of the verb form *wezen*. Proeme supports his claim by means of non-imperative constructions with *wezen*, but since these are not accepted by all speakers, it is not easy to draw any firm conclusions from them. For the moment, we simply assume that the fact that the pronouns in the primeless examples in (202) cannot be phonetically reduced suffices to conclude that we are dealing with imperatives, and we will leave open whether there are varieties of Dutch in which *wees-* can (sometimes) be used as a stem for the indicative as well.

Finite imperatives with overt subjects are like the other imperative constructions discussed in the previous subsections in that there are no aspectual restrictions on the verbs that can be used; it is only required that the addressee be able to control the event; compare the discussion in Subsection IA.

- | | | | |
|----------|--------------------------------|----|---|
| (204) a. | Vrezen jullie maar niet! | c. | Vallen jullie maar niet! |
| | fear you _{pl} PRT not | | fall you _{pl} PRT not |
| b. | Zeuren jullie maar niet! | d. | Breken jullie die vaas maar niet! |
| | nag you _{pl} PRT not | | break you _{pl} that vase PRT not |

Finite imperatives with overt subjects differ markedly from the other constructions, however, in that the object can neither be left out nor be placed in the right periphery of the sentence (but see Visser 1996 for a potentially acceptable example).

- (205) a. Leggen jullie *(die bal) maar neer!
 put you_{pl} that ball PRT down
 b. *Leggen jullie maar neer, die bal!
 put you_{pl} PRT down, that ball

Finite imperatives with a subject are generally characterized as containing a particle like *eens* or *maar*; the examples in (200) and in (202)-(204) are all degraded without the particle; cf. Barbiers (2007/2013). Observe that this restriction does not hold for the question-like example in (203a).

D. Participial imperatives

The previous subsections have shown that there are two types of subjectless imperatives: finite ones like *Loop!* ‘Walk!’ and infinitival ones like *Lopen!* ‘Walk!’. A third subjectless construction with imperative meaning, which was first discussed in Duinhoven (1984), involves a past/passive participle. The examples in (206) show that this participial construction is less productive than the finite and infinitival constructions.

- | | | | |
|----------|---------------|----------------|------------------|
| (206) a. | Loop! | a'. Lopen! | a''. *Gelopen! |
| | walk | walk | walked |
| b. | Eet! | b'. Eten! | b''. *Gegeten! |
| | eat | eat | eaten |
| c. | Pas op! | c'. Oppassen | c''. Opgepast! |
| | take.care prt | prt.-take.care | prt.-taken.care |
| | ‘Watch out!’ | ‘Watch out!’ | ‘Watch out!’ |
| d. | Donder op! | d'. Opdonderen | d''. Opedonderd! |
| | go prt | prt.-go | prt.-gone |
| | ‘Go away!’ | ‘Go away!’ | ‘Go away!’ |

In addition to examples like (206c''&d''), the literature also discusses the more productive negative participle construction in (207a) under the general rubric of imperatives. Rooryck & Postma (2007) have argued, however, that examples like these are not imperatives, but involve “discourse ellipses”; (207a) is a short form of the declarative passive construction in (207a'), in which the imperative interpretation is triggered by stressed *niet* ‘not’. Another potential example of “discourse ellipses” without negation is given in the (b)-examples.

- (207) a. Eventjes niet gekletst/gevochten/geluierd nu!
 for.a.moment not talked/fought/been.idle now
 a'. Er wordt nu eventjes NIET gekletst/gevochten/geluierd.
 there is now for.a.moment not talked/fought/been.idle
 ‘We’ll refrain from talking/fighting/being idle for a moment now.’
 b. En nu aangepakt!
 and now ... prt.-taken
 b'. En nu moet er aangepakt worden!
 and now must there prt.-taken be
 ‘And now we have to get to work!’

Finally, the more or less fixed expressions in (208) are sometimes given as imperatives, but it may again be the case that these examples involve ellipsis. More importantly, the fact that these expressions do not have corresponding finite (cf. **Groet!* and **Loop af!*) or infinitival imperatives (cf. **Groeten!* and *Aflopen!*) casts serious doubt on the claim that we are dealing with true imperatives.

- (208) a. (Wees) gegroet!
 be greeted
 b. (Het moet) afgelopen (zijn)!
 it must prt.-finished be

It thus seems that only the constructions in (206c&d) are cases of true imperatives. Examples such as (206c) are used to draw the attention of the addressee, and the set of verbs that can be used in this function is in fact restricted to the following two more or less synonymous forms: *opletten* and *oppassen*. It is interesting to note that the participle must precede its PP-complement: whereas *voor de hond* ‘of the dog’ can precede the finite verb in (209a), it must follow the participle in the imperative construction in (209b). For this reason, Rooryck & Postma (2007) claim that the participial imperative construction involves leftward movement of some \circ projection of the participle into sentence-initial position.

- (209) a. Je moet eventjes <voor de hond> oppassen <voor de hond>.
 you must for.a.moment for the dog prt.-take.care
 ‘You must watch out for the dog.’
 b. Eventjes <*voor de hond> opgepast <voor de hond>!
 for.a.moment for the dog prt.-taken.care

Examples of the sort in (206d) are characterized by the fact that they all urge the addressee to leave. More examples are given in (210), which all seem to be derived from denominal verbs: *donder* ‘thunder’, *duvel* ‘devil’, *flikker* (term of abuse for someone who is gay), *hoepel* ‘hoop’, *kras* ‘scratch’, *lazer* (probably some body part; cf. *iemand op zijn lazer geven* ‘to hit someone’), *mieter* (short form of *sodemieter*), *rot* (military term for *troop*); *sodemieter* ‘Sodomite’, etc. Furthermore, the verb normally contains the verbal particle *op*, although there are a number of incidental cases with similar semantics but other verbal particles, which are mainly found in (semi-)military commands, such as *Ingerukt, mars!* ‘Dismissed!’.

- (210) a. Donder op! a'. Opdonderen! a''. Oppedonderd!
 b. Duvel op! b'. Opduvelen b''. Oppeduveld!
 c. Flikker op! c'. Opflikkeren! c''. Oppedflikkerd!
 d. Hoepel op! d'. Ophoepelen d''. Oppedhoepeld!
 e. Kras op! e'. Opkrassen! e''. Oppedkrast!
 f. Lazer op f'. oplazeren! f''. Oppedlazerd!
 g. Mieter op! g'. Opmieteren! g''. Oppedmieteren!
 h. Rot op! h'. Oprotten! h''. Oppedrot!
 i. Sodemieter op! i'. Opsodemieteren! i''. Oppedsodemieterd!

Coussé & Oosterhof (2012) discuss a somewhat larger collection of forms collected by means of a corpus research which includes a number of pseudo-participles like

the ones given (211); these apparent participles do not have a corresponding verb form and are probably formed by analogy to the true participle forms in (210).

- (211) a. Opgekankerd! [**opkankeren*]
 OPGE-cancer-ED
- b. Opgekut! [**opkuttén*]
 OPGE-cunt-ED
- c. Opgetieft! [**optiefen*]
 OPGE-tyfus?-ED

The examples in (212) show that, just as in (209b), the participles in (210) must be in the left periphery of their clause in the sense that they cannot follow PPs that normally can precede their indicative counterparts.

- (212) a. Je moet snel <met dat gezeur> opsodemieteren <met dat gezeur>.
 you must quickly with that nagging prt.-go.away
 ‘You must go to hell with that nagging now.’
- b. Snel <*met dat gezeur> opgesodemieterd <met dat gezeur>.
 quickly with that nagging prt.-go.away
 ‘Go to hell with that nagging.’

E. Other means of expressing imperative meaning

The previous subsections have shown that there are a number of constructions with special verb forms that can be used to express imperative meaning. This does not mean, of course, that commands, requests and advice cannot be expressed by other means. Example (207), for instance, has already shown that the use of stressed *niet* ‘not’ may result in a directive meaning. The directional constructions of the sort in (213a&b) can also be used with imperative force. One may, of course, assume that these cases involve ellipsis of the imperative construction given in square brackets, but this does not seem to be possible for cases such as (213c).

- (213) a. HIER, jij! [elided form of *Kom hier, jij!*]
 here you
 ‘Come here, you!’
- b. WEG, jij! [elided form of *Ga weg, jij!*]
 away you
 ‘Go away, you!’
- c. Het WATER in met hem!
 the water into with him
 ‘Throw him into the water.’

Sometimes it is even possible to express an imperative meaning by means of constructions that are not exclusively directed toward the addressee. Constructions such as (214), which involve a plural first person subject, are often used with a directive meaning.

- (214) a. Laten we gaan. [colloquial]
 let we go
- b. Laat ons gaan. [formal]
 let us go

1.4.3. Subjunctive

The semantic distinction between indicative and subjunctive mood is often expressed by means of the terms *realis* and *irrealis*; the former expresses actualized whereas the latter expresses non-actualized eventualities. Palmer (2001:121ff.) shows that the distinction is somewhat more complicated since the term subjunctive may also be used to refer to presupposed propositions, and suggests that the distinction can be better described by means the term (non-)assertion: in languages that systematically make the distinction, the speaker uses the indicative to assert some new (non-presupposed) proposition and to indicate that he is committed to the truth of that proposition, whereas the conjunctive is used if the proposition is already presupposed or if the speaker is not necessarily committed to the truth of the proposition. The subjunctive thus can have a wide variety of functions; it is typically used (i) in reported speech, questions, and negative clauses; (ii) to refer to non-actualized (future), hypothetical or counterfactual events; and (iii) to express directives, goals, wishes, fears, etc. §1.4.3 (p.97)”

Palmer (2001:186) also notes that subjunctive markers “are often redundant, in that the notational *irrealis* feature is already marked elsewhere in the sentence”. It is therefore not a real surprise that the subjunctive has virtually disappeared in Dutch: in the earliest written sources the morphological distinction between indicative and subjunctive had already disappeared in many cases, and it seems that from the sixteenth century onwards the subjunctive became more and more a typical property of written texts; cf. Van der Horst (2008). In present-day Dutch, the subjunctive is obsolete both in written language and in speech and seems to have survived only in a small number of fixed expressions.

The linguistic literature on Dutch differs from that on German in that it normally does not distinguish between the present subjunctive (German: Konjunktiv I) and past subjunctive (German: Konjunktiv II). Subsection I will show that the verb forms that are called subjunctive in Dutch normally consist of the stem of the verb plus the suffix *-e* and mostly seem to correspond with the German Konjunktiv I. Subsection II will continue to show that Dutch does not have a morphological past subjunctive, and that many cases of the German Konjunktiv II are simply expressed by means of past-tense forms, which need not surprise us given Palmer’s remark cited above that the subjunctive marking is often redundant; see Section 1.5 for ways to derive the “*irrealis* feature” from the past tense marking of the clause by relying on contextual information.

1. Present subjunctive ending in *-e*

Like the German Konjunktiv I, the morphologically marked subjunctive in Dutch is a relic of older stages of the language. It is mainly found in the formal/archaic register; clear examples can be found in the first five lines of the 1951 translation of *het Onzevader* (the Lord’s Prayer) by the *Nederlands Bijbelgenootschap* in (215a). In colloquial speech, the subjunctive is only found in formulaic expressions such as (215b).

- (215) a. Onze Vader Die in de Hemelen zijt,
 Uw Naam *word-e* geheiligd; [ʋɔrd/ + /ə/]
 Uw Koninkrijk *kom-e*; [kom/ + /ə/]
 Uw wil *geschied-e*, [γəsxid/ + /ə/]
 gelijk in de Hemel alzo ook op de aarde.
 ‘Our Farther which art in heaven, Hallowed be thy name. Thy kingdom
 come. Thy will be done in earth, as it is in heaven.’ (St. Matthew 6:8-9)
- b. Lang *lev-e* de koningin! [/lev/ + /ə/]
 long live the Queen

The examples in (215) show that the subjunctive is normally formed by adding the suffix *-e* to the stem of the verb, but there are also some irregular forms, like the conjunctive forms of the verb *zijn* in (216a). The Dutch subjunctive is normally used in the formation of clauses that are not declarative or interrogative. It may express incitements/wishes, as in the examples in (215), but also acquiescence, as in (216a). Example (216b) shows that the subjunctive normally occupies the first or the second position in the main clause, and must therefore be considered a finite verb form.

- (216) a. Het zij zo.
 it be so
 ‘So be it.’
- b. (Wel) moge het u bekomen.
 well may it you agree.with
 ‘I/We hope you’ll enjoy your meal.’

That the morphologically marked subjunctive is no longer part of colloquial speech is clear from the fact that wishes, incitements, etc. are generally expressed by other means like modal (ad)verbs and periphrases. A clear example of this can be found in the 2004 Bible translation by the *Nederlands Bijbelgenootschap*, in which the subjunctives in *het onzevader* in (215a) are replaced by a construction with the verb *laten* ‘to make’; see Section 5.2.3.4, sub VI, for more discussion of the *laten*-construction in (217).

- (217) Onze Vader in de hemel,
laat uw naam *geheiligd* worden,
laat uw koninkrijk *komen*
 en [*laat*] uw wil *gedaan* worden
 op aarde zoals in de hemel.

For this reason we will not extensively discuss the present subjunctive, but refer the reader to Haeseryn et al. (1997:103ff.) for details concerning the relics of this category in the present-day language, while noting that the present subjunctive can still be recognized in certain lexical items, like the preposition *dankzij* ‘thanks to’ and fixed lexical expressions like *kostē wat het kost* ‘at all costs’ and *godzijdan* ‘thank God’.

II. Past subjunctive

The German past subjunctive (Konjunktiv II) is much more productive than the present subjunctive (Konjunktiv I) and is normally used to refer to non-actualized eventualities or (in literary German) in contexts of reported speech to express lack of commitment to the truth of the proposition by the speaker; see, e.g., Drosdovski (1995:156ff.) and Palmer (2001). Dutch differs from German in that it does not have a special morphological verb form to express the past subjunctive; a case mentioned in Haeseryn et al. (1997) that can occasionally still be found in writing is *ware*, but it seems that most speakers only use this form in the fixed expression *als het ware* ‘so to speak’.

- (218) Ware hij hier, dan ...
 were he here then
 ‘If he were here, then’

It seems that in many cases, German past subjunctive constructions can simply be translated in Dutch by means of a regular past-tense form. In order to give an impression of the semantic difference between the simple past and the past subjunctive in German, consider the examples in (219), taken from Erb (2001:69).

- (219) a. War Peter schon in Rom? [German simple past]
 was_{indicative} Peter already in Rome
 ‘Has Peter already been in Rome?’
 b. Wäre Peter schon in Rom! [German past subjunctive]
 was_{subjunctive} Peter already in Rome
 ‘I wish Peter was already in Rome!’

Placement of the simple past verb in the initial position of the sentence, as in (219a), results in a regular question interpretation, whereas placement of the past subjunctive in first position, as in (219b), triggers an irrealis interpretation: the speaker expresses a wish. The German examples in (219) can readily be translated by means of the examples in (220) with the past-tense form *was* ‘was’.

- (220) a. Was Peter al (eerder) in Rome? [interrogative]
 was Peter already before in Rome
 b. Was Peter maar vast in Rome! [irrealis]
 was Peter PRT already in Rome

The meaning difference between the two Dutch examples is completely parallel to that between the two German examples in (219). This may suggest that Dutch is like German in that it also has a past subjunctive, albeit that the form of the Dutch past subjunctive happens to be identical to that of the simple past. One argument in favor of this suggestion is that the interrogative construction can readily occur in the present, whereas the irrealis construction cannot.

- (221) a. Is Peter al in Rome?
 is Peter already in Rome
 b. *Is Peter maar vast in Rome!
 is Peter PRT already in Rome

The use of the past tense in irrealis contexts is very pervasive in Dutch, and the examples in (222) show that the past tense can be expressed both on main verbs and on non-main verbs.

- (222) a. Las/*Leest Peter dat boek nu maar!
 read/reads Peter that book now PRT
 ‘I wish that Peter would read that book!’
 b. Had/*Heeft Peter dat boek nu maar gelezen!
 had/has Peter that book now PRT read
 ‘I wish that Peter would have read that book!’

It should be noted, however, that the irrealis meaning only arises in examples like (220b) and (222) if a modal particle like *maar* is present; the examples in (223) show that without such a particle the irrealis reading becomes impossible. The unacceptability of these examples therefore suggests that the irrealis reading arises as a result of combining the past tense with modal particles of this type.

- (223) a. *Was Peter (vast) in Rome!
 was Peter already in Rome
 b. *Las Peter dat boek (nu)!
 read Peter that book now
 b'. *Had Peter dat boek (nu) gelezen!
 had Peter that book now read

It is also very common to express irrealis without the use of a modal particle by using a past-tense form of an epistemic modal. Such verbs are used to provide the speaker’s judgment on the likelihood that a specific proposition is true: by using, e.g., the modal verb *zullen* in *Jan zal komen morgen* ‘Jan will come tomorrow’, the speaker indicates that he has sufficient evidence to support his claim that the proposition MORGEN KOMEN (Jan) is/will be true; see Section 1.5.2, sub II, for a more detailed discussion. The irrealis reading arises as a result of contextual information: the counterfactual reading of the first conjunct in (224), for example, arises due to the fact that the second conjunct indicates that the assessment of the speaker-in-the-past has been incorrect; see Section 1.5.4 for a more extensive and careful discussion.

- (224) a. Jan zou morgen komen, maar hij heeft geen tijd.
 Jan would tomorrow come but he has no time
 ‘Jan would come tomorrow, but he has no time.’
 b. Jan zou gisteren komen, maar hij had geen tijd.
 Jan would yesterday come but he had no time
 ‘Jan would have come yesterday, but he had no time.’

The discussion above suggests that the irrealis reading arises as the result of temporal, modal and contextual information. The syntactic construction as a whole may also provide clues that an irrealis reading is intended. Conditional constructions in the past tense like those in (225), for example, are often construed with a counterfactual reading of the embedded conditional clause. Section 1.5.4 will show that this counterfactual reading is again triggered by contextual information.

The primed examples show conditional clauses can also surface with the past-tense form of *zullen* with no conspicuous change in meaning.

- (225) a. Als Els nu in Rome was, dan waren de problemen snel opgelost.
 if Els now in Rome was then were the problems quickly prt.-solved
 ‘If Els were in Rome now, the problems would be solved quickly.’
- a'. Als Els nu in Rome zou zijn, dan waren de problemen opgelost.
 if Els now in Rome would be then were the problems prt.-solved
 ‘If Els were in Rome now, the problems would be solved.’
- b. Als Jan dat boek gelezen had, dan had hij die fout niet gemaakt!
 if Jan that book read had then had he that error not made
 ‘If Jan had read that book, he wouldn’t have made that mistake.’
- b'. Als Jan dat boek gelezen zou hebben, dan had hij die fout niet gemaakt!
 if Jan that book read would have then had he that error not made
 ‘If Jan had read that book, he wouldn’t have made that mistake.’

A special case is the past-tense form of the verb *hebben*. The finite verb *had* in (222b) above can be interpreted as the regular perfect auxiliary *hebben*, but it seems that this is not always the case. Consider the examples in (226a&b) with the deontic modal verb *moeten* ‘to be obliged’; it seems that the perfect-tense counterpart of the simple present example in (226a) is as given in (226b). The crucial example is (226c), in which we find a second instance of *hebben*, which must occur in the past tense and which triggers a counterfactual reading. The fact that there already is a perfect auxiliary in the clause makes it quite implausible that the finite verb *had* also has this function.

- (226) a. Peter moet dat boek morgen lezen.
 Peter is.obliged that book tomorrow read
 ‘Peter must read that book tomorrow.’
- b. Peter moet dat boek morgen hebben gelezen.
 Peter is.obliged that book tomorrow have read
 ‘Peter must have read that book by tomorrow.’
- c. Peter had/*heeft dat boek morgen moeten hebben gelezen.
 Peter had/has that book tomorrow be.obliged have read
 ‘Peter should have read that book by tomorrow.’

It further seems that “non-perfect” *had* is much higher in the structure than the perfect auxiliary *hebben* ‘to have’. This will be clear from the examples in (227): whereas (227a) shows that the modal verb *zullen* is like English *will* in that it cannot normally be embedded as infinitive under some other verb (including the perfect auxiliary) and therefore normally occurs as a finite verb, example (227b) shows that it can readily be embedded as an infinitive under past “subjunctive” *had*.

- (227) a. Jan zal hebben gedanst/*heeft zullen dansen.
 Jan will have danced/has will dance
 ‘Jan will have danced.’
- b. Jan had zullen dansen.
 Jan had will dance
 ‘Jan would have danced.’

The examples in (226) and (227) perhaps suggest that in certain cases the past-tense form *had* should be considered a genuine past subjunctive form. The other examples in this subsection, on the other hand, strongly suggest that with other verbs it is not just the past tense that trigger the irrealis meaning but that certain modal and contextual information is also relevant: Section 1.5.4 will argue that in many cases pragmatic considerations can indeed be used to account for such readings, which suggests that Dutch does not have an abstract past subjunctive that is morphologically identical to the past.

1.5. Tense, epistemic modality and aspect

This section discusses the notions of tense, modality and aspect as encoded in the Dutch verbal system by means of inflection and non-main verbs, and will show how these means may interact and thus give rise to a wide range of interpretational effects. Section 1.5.1 will begin with a discussion of the traditional view on the Dutch tense system, which basically follows a proposal by Te Winkel (1866) that distinguishes eight different tenses on the basis of three binary oppositions: present—past, perfect—imperfect, and future—non-future; see also Haeseryn et al. (1997:111-3).

- (228) a. Present versus past
 b. Future versus non-future
 c. Imperfect versus perfect

By means of the three oppositions in (228) we define the eight tenses given in Table 8. The labels in the cells are the ones that we will use in this study; the abbreviations between parentheses refer to the traditional Dutch terminology and are added for the convenience of the Dutch reader.

Table 8: *The Dutch tense system according to Te Winkel (1866)*

		PRESENT	PAST
NON-FUTURE	IMPERFECT	<i>simple present</i> (o.t.t.)	<i>simple past</i> (o.v.t.)
	PERFECT	<i>present perfect</i> (v.t.t.)	<i>past perfect</i> (v.v.t.)
FUTURE	IMPERFECT	<i>future</i> (o.t.t.t.)	<i>future in the past</i> (o.v.t.t.)
	PERFECT	<i>future perfect</i> (v.t.t.t.)	<i>future perfect in the past</i> (v.v.t.t.)

Section 1.5.2 discusses epistemic modal verbs like *moeten* ‘must’ and *kunnen* ‘may’ and argues that the distinction between the future and non-future tenses in Table 8, which is traditionally attributed to presence or absence of the verb *zullen* ‘will’, is in fact not overtly expressed by the Dutch verbal tense system but arises from pragmatic considerations as a side effect of the system of epistemic modality. From this, we will conclude that the Dutch verbal tense system encodes just two of the three binary oppositions by morphological and syntactic means, namely present—past and perfect—imperfect; the opposition future—non-future is expressed by other means. In short, the Dutch verbal system expresses overtly no more than four of the eight tenses in Table 8. Section 1.5.3 continues with a brief discussion of aspectual verbs like the inchoative verb *beginnen* ‘to begin’. Section 1.5.4 concludes by showing how the future interpretation as well as a wide range of non-

temporal interpretations of the four tenses can be made to follow from the interaction between the temporal and modal information encoded in the sentence and the pragmatic principle known as the °maxim of quantity (cf. the °cooperative principle in Grice 1975), which prohibits the speaker from making his utterances more, or less, informative than is required in the given context.

1.5.1. Tense

This section discusses the binary tense system originally proposed by Te Winkel (1866) and briefly outlined above, which is based on three binary oppositions: present versus past, imperfect versus perfect, and non-future versus future. Te Winkel was not so much concerned with the properties ascribed to time in physics or in philosophy, which heavily influenced the currently dominant view that follows Reichenbach’s (1947) seminal work, which is based on two ternary oppositions: (i) past—present—future and (ii) anterior-simultaneous-posterior. Instead, Te Winkel had a (surprisingly modern) mentalistic view on the study of language, and was mainly interested in the properties of time as encoded in the tense systems found in natural language. Verkuyl (2008:ch.1) compared the two systems and argued that Te Winkel’s system is more successful in describing the universal properties of tense than the Reichenbachian systems for reasons that we will review after we have discussed the details of Te Winkel/Verkuyl’s binary approach.

1. Binary tense theory: time from a linguistic perspective

Verkuyl (2008) refers to Te Winkel’s (1866) proposal as the binary tense system, given that the crucial distinctions proposed by Te Winkel can be expressed by means of the three binary features in (229).

- (229) a. [±PAST]: present versus past
- b. [±POSTERIOR]: future versus non-future
- c. [±PERFECT]: imperfect versus perfect

The three binary features in (229) define eight different tenses, which are illustrated in Table 9 by means of examples in the first person singular form.

Table 9: The Dutch tense system according to Verkuyl (2008)

		PRESENT	PAST
SYNCHRONOUS	IMPERFECT	simple present <i>Ik wandel.</i> I walk.	simple past <i>Ik wandelde.</i> I walked.
	PERFECT	present perfect <i>Ik heb gewandeld.</i> I have walked.	past perfect <i>Ik had gewandeld.</i> I had walked.
POSTERIOR	IMPERFECT	future <i>Ik zal wandelen.</i> I will walk.	future in the past <i>Ik zou wandelen.</i> I would walk.
	PERFECT	future perfect <i>Ik zal hebben gewandeld.</i> I will have walked.	future perfect in the past <i>Ik zou hebben gewandeld.</i> I would have walked.

The features in (229) are in need of some further explication, which will be given in the following subsections. For clarity of presentation, we will focus on the temporal interpretations cross-linguistically attributed to the tenses in Table 9 and postpone discussion of the more special temporal and the non-temporal aspects of their interpretations in Dutch to, respectively, Section 1.5.2 and Section 1.5.4.

A. *The present tense interval*

Binary Tense theory crucially differs from the Reichenbachian approaches in that it does not identify the notion of present with the notion of speech time. Keeping the notions of speech time and present strictly apart turns out to offer important advantages. For example, it allows us to treat tense as part of a developing discourse: shifting of the speech time does not necessarily lead to shifting of the present. In a binary system, the present tense can be seen as not referring to the speech time n but to some larger temporal domain i that *includes* n . The basic idea is that the use of the present-tense form signals that the speaker is speaking about eventualities as occurring in his or her present even though these eventualities need not occur at the point of speech itself. This can be illustrated by the fact that a speaker could utter an example such as (230a) on Tuesday to express that he is dedicating the whole week (that is, the stretch of time from Monday till Sunday) to writing the section on the tense system mentioned in (230a). It is also evident from the fact that this example can be followed in discourse by the utterances in (230b-d), which subdivide the present tense interval evoked by the adverbial phrase *deze week* ‘this week’ in (230a) into smaller subparts.

- (230) a. Ik werk deze week aan de paragraaf over het tempussysteem. [present]
 I work this week on the section about the tense system
 ‘This week, I’m working on the section on the tense system.’
- b. Gisteren heb ik de algemene opbouw vastgesteld. [present perfect]
 yesterday have I the overall organization prt.-determined
 ‘Yesterday, I determined the overall organization.’
- c. Vandaag schrijf ik de inleiding. [simple present]
 today write I the introduction
 ‘Today, I’m writing the introduction.’
- d. Daarna zal ik de acht temporele vormen beschrijven. [future]
 after.that will I the eight tense forms describe
 ‘After that, I will describe the eight tense forms.’
- e. Ik zal het zaterdag wel voltooid hebben. [future perfect]
 I will it Saturday prt. completed have
 ‘I probably will have finished it on Saturday.’

The sequence of utterances in (230) thus shows that what counts as the present for the speaker/hearer constitutes a temporal domain that consists of several subdomains, each of them denoted by a temporal adverbial phrase that locates the four eventualities expressed by (230b-e) more precisely within the interval denoted by *deze week* ‘this week’ in (230a). Following Verkuyl (2008) the global structure of a present domain is depicted in Figure 6, in which the dotted line represents the time line, n stands for the SPEECH TIME, and i for the time interval that is construed

as the PRESENT FOR THE SPEAKER/HEARER. The role of the rightward shifting speech time n is to split the present i into an actualized part i_a (the present preceding n) and a non-actualized part i_\diamond (the present following n).

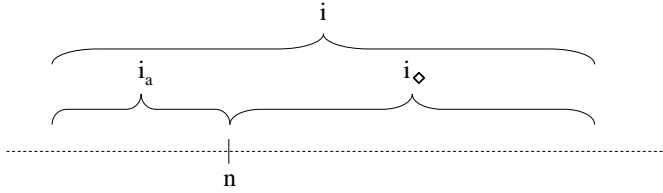


Figure 6: The present tense interval i

It is important to realize that present tense interval i is contextually determined. In the discourse chunk in (230), it may seem as if the present i is defined by the adverbial phrase *deze week* ‘this week’, but (231) shows that the present tense interval can readily be stretched by embedding (230a) in a larger story in the present tense.

- (231) We werken nu al jaren aan een grammatica van het Nederlands.
 we work now already for.years on a grammar of the Dutch
 De eerste delen zijn al afgerond en we beginnen nu
 the first parts are already prt.-finished and we start now
 aan het deel over het werkwoord. Deze week werk ik aan de paragraaf
 with the part on the verb this week work I on the section
 over het temporele systeem. [continue as in (230b-d)]
 about the temporal system
 ‘We have been working for years on a grammar of Dutch. The first volumes
 are already finished and we are beginning now with the part on verbs. This
 week I’m working on the section on the tense system. [...]’

Example (232) in fact shows that we can stretch the present tense interval i indefinitely, given that this sentence involves an eternal or perhaps even everlasting present.

- (232) Sinds de oerknal breidt het heelal zich in alle richtingen uit en
 since the Big Bang expands the universe REFL in all directions prt. and
 waarschijnlijk zal dat voortduren tot het einde der tijden.
 probably will that continue until the end the_{gen} times
 ‘Since the Big Bang the universe is expanding in all directions and probably
 that will continue until the end of time.’

Ultimately, it is the shared extra-linguistic knowledge of the speaker and the hearer that determines what counts as the present tense interval, and, consequently, which eventualities can be discussed by using present-tense forms. This was already pointed out by Janssen (1983) by means of examples such as (233); the extent of the presumed present tense interval is determined (i) by the difference between the lifespan of, respectively, planets and human individuals, and (ii) by the fact that “being a stutterer” and “being ill” are normally construed as, respectively, an °individual-level and a stage-level predicate.

- (233) a. De aarde is rond.
the earth is round
- b. Jan is een stotteraar.
Jan is a stutterer
- c. Jan is ziek.
Jan is ill

Following Verkuyl (2008), we can define Te Winkel’s binary oppositions by means of the indices i and n , which were introduced previously, and the indices j and k , which pertain to the temporal location of the °eventuality (state of affairs) denoted by the main verb, or, rather, the lexical °projection of this verb. We have already mentioned that the defining property of the present domain is that it includes speech time n , which is expressed in (234a) by means of the connector “ \circ ”. Verkuyl assumes that the present differs from the past in that past tense interval i precedes speech time n , as indicated in (234b); we will see in Subsection C, however, that there are reasons not to follow this assumption.

- (234) • The feature [\pm PAST] (to be revised)
 - a. Present: $i \circ n$ [i includes speech time n]
 - b. Past: $i < n$ [i precedes speech time n]

The index j will be taken as the temporal domain in which eventuality k is located. In other words, every eventuality k has not only its running time, but it has also its own present j , which may vary depending on the way we talk about it. In the examples in (230), for example, the location of the present j of k is indicated by means of adverbial phrases; in example (230d), for example, the adverbial phrase *daarna* restricts j to the time interval following Tuesday, and the semantic representation of (230d) is therefore as schematically indicated in Figure 7, in which the line below k indicates the actual running time of the eventuality.

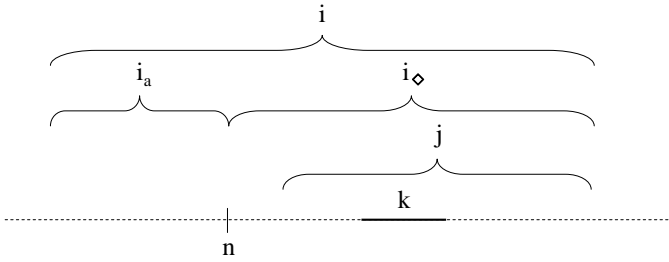


Figure 7: Eventuality k and its present j

It is important to note that, due to the use of the present-tense form in (230d), the notion of future is to be reduced to the relation of posteriority *within the present domain*. The difference between non-future and future is that in the former case the present j of eventuality k can synchronize with any subpart of i , whereas in the latter case it cannot synchronize with any subpart of the actualized part of the present, that is, it must be situated in the non-actualized part $i_◊$ of what counts as the present for the speaker/hearer. This is expressed in (235) by means of the connectors “ \approx ” and “ $<$ ”.

- (235) • The feature [\pm POSTERIOR]
- a. Non-future: $i \approx j$ [i and j synchronize]
 - b. Future: $i_a < j$ [i_a precedes j]

The difference between imperfect and perfect tense pertains to the relation between eventuality k and its present j . In the latter case k is presented as completed within j , whereas in the former case it is left indeterminate whether or not k is completed within j . Or, to say it somewhat differently, the perfect presents k as a discrete, bounded unit, whereas the imperfect does not. This is expressed in (236) by means of the connectors “ \preceq ” and “ \prec ”.

- (236) • The feature [\pm PERFECT]
- a. imperfect: $k \preceq j$ [k need not be completed within j]
 - b. Perfect: $k \prec j$ [k is completed within j]

B. The four present tenses defined by Binary Tense Theory

The following subsections will show that the four present tenses in Table 9 in the introduction to this subsection differ with respect to (i) the location of eventuality k denoted by the lexical projection of the main verb within present-tense interval i , and (ii) whether or not it is presented as completed within its own present-tense interval j . Recall that we will focus on the temporal interpretations cross-linguistically attributed to the tenses in Table 9 and postpone the discussion of the more special temporal and the non-temporal aspects of their interpretations in Dutch to Section 1.5.4.

1. Simple present

The simple present expresses that eventuality k takes place during present-tense interval i . This can be represented by means of Figure 8, in which index j is taken to be synchronous to the present i of the speaker/hearer ($j = i$) by default. The continuous part of the line below k indicates that the preferred reading of an example such as *Ik wandel* ‘I am walking’ is that eventuality k overlaps with the moment of speech n .

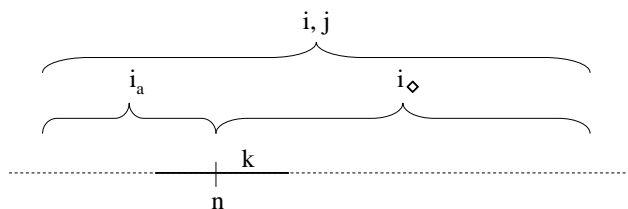


Figure 8: Simple present (*Ik wandel* ‘I am walking’)

In many languages, including Dutch, the implication that k holds at the moment of speech n can readily be canceled by means of, e.g., adverbial modification: the simple present example (237) with the adverbial phrase *morgen* ‘tomorrow’ can be used to refer to some future eventuality k .

- (237) Ik wandel morgen.
 I walk tomorrow
 ‘I’ll walk tomorrow.’

This is, of course, to be expected on the basis of the definition of present in (234a), which states that the present-tense interval i must include speech time n , but does not impose any restrictions on j or k . Although we will briefly return to this issue in Subsection 5, we will postpone a more thorough discussion of this to Section 1.5.4, where we will show that this use of the simple present is a characteristic property of languages that do not express the future within the verbal tense system but by other means, such as adverbials.

2. *Present perfect*

The default reading of the present perfect is that eventuality k takes place before speech time n , that is, eventuality k is located in the actualized part of the present tense interval i_a ($j = i_a$). In addition, the present perfect presents eventuality k as a discrete, bounded unit that is completed within time interval j that therefore cannot be continued after n ; this is represented in Figure 9 by means of the short vertical line after the continuous line below k .

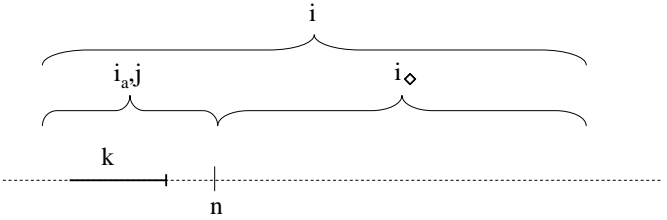


Figure 9: *Present perfect* (Ik heb gewandeld ‘I have walked’)

A sentence like *Ik heb gisteren gewandeld* ‘I walked yesterday’ can now be fully understood: since neither the definition of present in (234a) nor the definition of perfect in (236b) imposes any restriction on the location of j (or k) with respect to n , the adverb *gisteren* ‘yesterday’ may be analyzed as an identifier of j on the assumption that yesterday is part of a larger present-tense interval i that includes speech time n . This explains the possibility of using the present-tense form *heeft* ‘has’ together with an adverbial phrase referring to a time interval preceding n .

In many languages, including Dutch, the implication that k takes place before speech time n can readily be canceled by means of, e.g., adverbial modification: the present perfect example (238) with the adverb *morgen* ‘tomorrow’ can be used to refer to some future eventuality k . Again, this is to be expected given that neither the definition of present in (234a) nor the definition of perfect in (236b) imposes any restriction on the location of j (or k) with respect to n ; we will return to this issue in Section 1.5.4.

- (238) Ik heb je paper morgen zeker gelezen.
 I have your paper tomorrow certainly read
 ‘I’ll certainly have read your paper by tomorrow.’

In the literature there is extensive discussion about whether perfect-tense constructions should be considered temporal or aspectual in nature. The position that individual linguists take often depends on the specific tense and aspectual theory they endorse. Since the characterization of the perfect tense in the binary (and the Reichenbachian) tense theory does not appeal to the internal temporal structure of the event, this allows us to adopt a non-aspectual view of the perfect tense. The non-aspectual view may also be supported by the fact that the use of the perfect tense does not affect the way in which the internal structuring of eventuality *k* is presented; it is rather the interaction of perfect tense and °Aktionsart (inner aspect) that should be held responsible for that. This will become clear when we consider the contrast between the °atelic (states and activities) and °telic (accomplishments and achievements) eventualities in (239). We refer the reader to Section 1.2.3 for a discussion of the different kinds of Aktionsart.

- (239) a. Jan heeft zijn hele leven van Marie gehouden. [state]
 Jan has always of Marie loved
 ‘Jan has loved Marie always.’
- b. Jan heeft vanmorgen aan zijn dissertatie gewerkt. [activity]
 Jan has this.morning on his dissertation worked
 ‘Jan has worked on his PhD thesis all morning.’
- c. Jan is vanmorgen uit Amsterdam vertrokken. [achievement]
 Jan is this.morning from Amsterdam left
 ‘Jan left Amsterdam this morning.’
- d. Jan heeft de brief vanmorgen geschreven. [accomplishment]
 Jan has the letter this.morning written
 ‘Jan wrote the letter this morning.’

All examples in (239) present the eventualities as autonomous units that (under the default reading) are completed at or before speech time *n*. This does not imply, however, that eventualities cannot be continued or resumed after *n*. This is in fact quite natural in the case of atelic verbs: an example such as (239a) does not entail that Jan will not love Marie after speech time *n* as is clear from the fact that it can readily be followed by ... *en hij zal dat wel altijd blijven doen* ‘and he will probably continue to do so forever’. Likewise, example (239b) does not imply that Jan will not continue his work on his thesis after speech time *n* as is clear from the fact that (239b) can readily be followed by ... *en hij zal daar vanmiddag mee doorgaan* ‘... and he will continue doing that in the afternoon’. The telic events in (239c&d), on the other hand, do imply that the events have reached their implied endpoint and can therefore not be continued after speech time *n*. The examples in (239) thus show that the internal temporal structure of the eventualities is not affected by the perfect tense but determined by the Aktionsart of the verbs/verbal projections in question. From this we conclude that the perfect is not aspectual in nature but part of the tense system; see Verkuyl (2008:20-27) for a more detailed discussion.

3. *Future*

The future expresses that eventuality k takes place after speech time n , that is, eventuality k is located in the non-actualized part of the present tense interval ($j = i_o$).

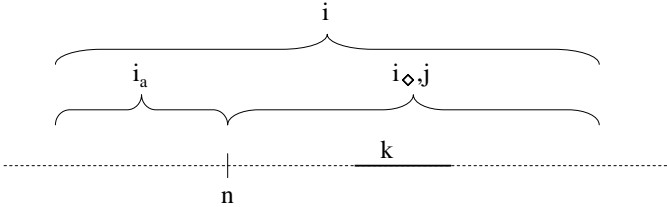


Figure 10: *Future* (Ik zal wandelen ‘I will walk’)

The implication of Figure 10 is that eventuality k cannot take place during i_a , but example (240) shows that this implication can be readily cancelled in languages like Dutch. In fact, this will be one of the reasons to deny that *willen* functions as a future auxiliary in Dutch. We will return to this in Sections 1.5.2 and 1.5.4.

- (240) Jan zal je paper lezen. Misschien heeft hij het al gedaan.
 Jan will your paper read maybe has he it already done
 ‘Jan will read your paper. Maybe he has already done it.’

4. *Future perfect*

The interpretation of the future perfect is similar to that of the future, but differs in two ways: (i) it is not necessary that the eventuality k has started after n and (ii) it is implied that the state of affairs is completed before the time span i_o has come to an end.

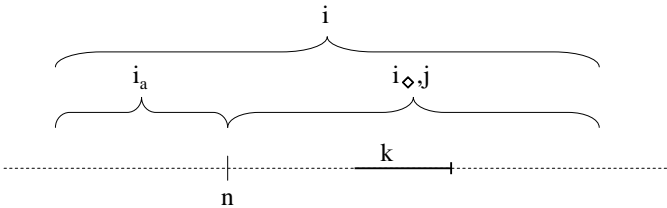


Figure 11: *Future perfect* (Ik zal hebben gewandeld ‘I will have walked’)

The implication of Figure 11 is again that eventuality k cannot take place during i_a , but example (241) shows that this implication can be readily cancelled in languages like Dutch by means of, e.g., adverbial modification. We will put this non-future reading aside for the moment but return to it in Sections 1.5.2 and 1.5.4.

- (241) Jan zal je paper ondertussen waarschijnlijk wel gelezen hebben.
 Jan will your paper by.now probably PRT read have
 ‘Jan will probably have read your paper by now.’

The main difference between the future and the future perfect is that in the former the focus is on the progression of the eventuality (without taking into account its completion), whereas in the latter the focus is on the completion of the

eventuality k in j . This difference is often somewhat subtle in the case of states and activities but transparent in the case of telic events. Whereas the future tense in example (242a) expresses that the process of melting will start or take place after speech time n , the future perfect example in (242b) simply expresses that the completion of the melting process will take place in some j that is positioned in i_0 ; the future perfect leaves entirely open whether the melting process started before, after or at n .

- (242) a. Het ijs zal vanavond smelten.
 the ice will tonight melt
 'The ice will melt tonight.'
- b. Het ijs zal vanavond gesmolten zijn.
 the ice will tonight melted be
 'The ice will have melted tonight.'

In (243), similar examples are given with the accomplishment *die brief schrijven*: (243a) places the entire eventuality after the time n , whereas (243b) does not seem to make any claim about the starting point of the eventuality but simply expresses that the eventuality will be completed after n (but within i_0).

- (243) a. Jan zal vanavond die brief · schrijven.
 Jan will tonight that letter write
 'Jan will write that letter tonight.'
- b. Jan zal vanavond die brief geschreven hebben.
 Jan will tonight that letter written have
 'Jan will have written that letter by tonight.'

For the moment, we will ignore the difference between future and future perfect with respect to the starting point of the state of affairs, but we will return to this in Section 1.5.2, where we will challenge the claim that *zullen* is a future auxiliary.

5. The need to distinguish i and j

In the tense representations given in the previous subsections, we made a distinction between the present i of the speaker/hearer, on the one hand, and the present j of eventuality k , on the other. Although the latter is always included in the former, it can readily be shown that the distinction need be made. This may not be so clear in examples such as (244a), in which j seems to synchronize with the entire present tense interval i of the speaker/hearer. Adverbial phrases of time, however, may cause j to synchronize to a subpart of i : the adverb *vandaag* 'today' in (244b) refers to a subpart of i that includes n , and *morgen* 'tomorrow' in (244c) refers to a subpart of i situated in i_0 .

- (244) a. We zijn thuis.
 we are at.home
 'We are at home.'
- b. We zijn vandaag thuis.
 we are today at.home
- c. We zijn morgen thuis.
 we are tomorrow at.home

That it is *j* and not the present tense interval *i* that is affected by adverbial modification is also clear from the fact that it is possible to have present-tense examples such as (245), in which the two adverbial phrases refer to two subdomains within *i*.

- (245) We zijn vandaag thuis en morgen in Utrecht.
 we are today at.home and tomorrow in Utrecht

Entailments are furthermore computed on the basis of *j* and not the present tense interval *i*. Example (244b), in which *j* synchronizes with a subpart of *i* that includes *n*, does not say anything about the whereabouts of the speaker yesterday or tomorrow, even when these time intervals are construed as part of present tense interval *i*. That entailments are computed on the basis of *j* and not *i* is even clearer in example (244c), in which *j* synchronizes with (a subpart of) *i_s*; this example does not say anything about the whereabouts of the speaker at speech time *n*, which clearly shows that the state of affairs does not have to hold during the complete present tense interval *i*. It is only in cases such as (244a), without a temporal modifier, that we conclude (by default) that the state of affairs holds for the complete present tense interval *i*.

C. The past tense interval

The examples in (246) show that, like the present tense, the past tense involves some larger time interval, which can be divided into smaller subdomains. A speaker can utter an example such as (246a) to report on Els' activities during the past-tense interval evoked by the adverbial phrase *vorige week* 'last week'. This utterance can be followed in discourse by the utterances in (246b-d), which subdivide this past-tense interval into smaller subparts in a fashion completely parallel to the way in which the present-tense examples in (230b-d) subdivide the present tense interval evoked by the adverbial phrase *deze week* 'this week' in (230a).

- (246) a. Els werkte vorige week aan de paragraaf over het temporele systeem. [past]
 Els worked last week on the section about the tense system
 'Last week, Els was working on the section on the tense system.'
- b. Op maandag had ze de algemene opbouw vastgesteld. [past perfect]
 on Monday had she the overall organization prt.-determined
 'On Monday, she had determined the overall organization.'
- c. Op dinsdag schreef ze de inleiding. [simple past]
 on Tuesday wrote she the introduction
 'On Tuesday, she wrote the introduction.'
- d. Daarna zou ze de acht temporele vormen beschrijven. [future in past]
 after.that would she the eight tense forms describe
 'After that, she would describe the eight tense forms.'
- e. Ze zou het zaterdag wel voltooid hebben. [future perfect in past]
 she would it Saturday PRT completed have
 'She probably would have finished it on Saturday.'

The striking parallelism between the four present-tense forms and the four past-tense forms makes it possible to assume that the mental representations of the past

tenses are similar to the ones for the present tenses except for n . To account for the striking parallelism between the four present tenses and the four past tenses, we will assume that the past tenses are defined by means of a virtual “speech-time-in-the-past”, which we will refer to as n' . To make this a bit more concrete, assume that the speaker of the discourse chunk in (246) is telling about a conversation he has had with Els. We may then identify n' with the moment that the conversation took place; the speaker is repeating the information provided by Els from the perspective of that specific point in time. This leads to the representation in Figure 12, in which the dotted line represents the time line, index i stands for the time interval that is construed as the past (that is, the *then*-present) for the speaker/hearer, i_a for the actualized part of the past at n' , and i_\diamond for the non-actualized part of the past at n' .

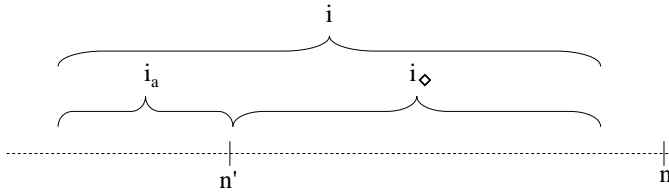


Figure 12: The past-tense interval i

In what follows we will show that the four past tenses in Table 9 differ with respect to the way in which they locate the eventuality k in past-tense interval i . Before we start doing this, we want to point out that the present proposal diverges in one crucial respect from the proposal in Verkuyl (2008). In Figure 12, we placed speech time n external to i and Verkuyl indeed claims that this is a defining property of the past-tense interval i , as is clear from his definition of present and past tense given in Subsection A, which is repeated here as (247).

- (247) • The feature $[\pm\text{PAST}]$ (to be revised)
- a. Present: $i \circ n$ [i includes speech time n]
 - b. Past: $i < n$ [i precedes speech time n]

The idea that the past-tense interval must precede speech time n does not seem to follow from anything in the system. There is, for example, no *a priori* reason for rejecting the idea that, like the present tense interval, the past-tense interval can be stretched indefinitely, and is thus able to include speech time n . In the subsections below, we will in fact provide empirical evidence that inclusion of n is possible. For example, the future in the past and future perfect in the past examples in (248) show that eventuality k can readily be placed after speech time n .

- (248) a. Marie zou morgen vertrekken.
 Marie would tomorrow leave
 ‘Marie would leave tomorrow.’
- b. Marie zou oma morgen bezocht hebben.
 Marie would grandma tomorrow visited have
 ‘Marie would have visited Grandma tomorrow.’

In order to formally account for the acceptability of examples such as (248), Broekhuis & Verkuyl (in prep.) adapted the definition in (247b) as in (249b). Note

that the examples in (248) also have a modal meaning component; we will ignore this for the moment but return to it in Section 1.5.2.

- (249) • The feature [±PAST] (adapted version)
- a. Present: $i \circ n$ [i includes speech time n]
 - b. Past: $i \circ n'$ [i includes virtual speech-time-in-the-past n']

The definitions in (249) leave the core of the binary tense system unaffected given that they maintain the asymmetry between the present and the past but now on the basis of an opposition between the *now*-present (characterized by the inclusion of n) and the *then*-present (characterized by the inclusion of n'). The *now*-present could be seen as the time interval that is immediately accessible to and directly relevant for the speaker/hearer-in-the-present, whereas the *then*-present should rather be seen as the time interval accessible to and relevant for some speaker/hearer-in-the-past; see Janssen (1983:324ff.) and Boogaart & Janssen (2007) for a review of a number of descriptions in cognitive terms of the distinction between past and present that may prove useful for sharpening the characterization of the *now*- and *then*-present proposed here. The definition of past in (249b) is also preferred to the one in (247b) for theoretical reasons: first, it formally accounts for the parallel architecture of the present and the past and, second, it solves the problem that n' did not play an explicit role in the definition of the three binary oppositions given in Subsection A, and was therefore left undefined.

D. The four past tenses defined by Binary Tense Theory

The following subsections will show that the four past tenses in Table 9 in the introduction to this subsection differ with respect to (i) the location of eventuality k denoted by the lexical projection of the main verb within present-tense interval i , and (ii) whether or not it is presented as completed within its own past-tense interval j . Recall that we will focus on the temporal interpretations cross-linguistically attributed to the tenses in Table 9 and postpone the discussion of the more special temporal and the non-temporal aspects of their interpretations in Dutch to Section 1.5.4.

1. Simple past

The simple past expresses that eventuality k takes place during past-tense interval i . This can be expressed by means of Figure 13, in which the continuous line below k refers to the time interval during which the eventuality holds. The continuous line below k indicates that the default reading of an example such as *Ik wandelde* ‘I was walking’ is that eventuality k takes place at n' .

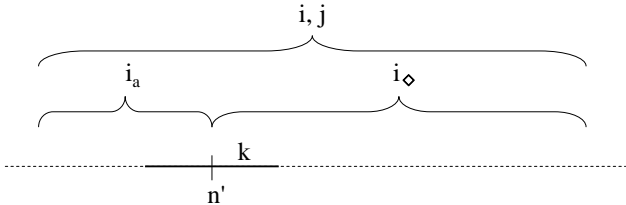


Figure 13: *Simple past* (Ik wandelde ‘I was walking’)

By stating that $j = i$, Figure 13 also expresses that the simple past does not have any implications for the time preceding or following the relevant past-tense interval i : the eventuality k may or may not hold before/after i . Thus, an example such as (250) does not say anything about the speaker's feelings on the day before yesterday or today. This also implies that the simple past cannot shed any light on the issue of whether speech time n can be included in past-tense interval i .

- (250) Ik was gisteren erg gelukkig.
 I was yesterday very happy
 'I was very happy yesterday.'

2. Past perfect

The default reading of the past perfect is that eventuality k takes place before n' , that is, k is located in the actualized past-tense interval i_a ($j = i_a$). In addition, the past perfect presents the eventuality as a discrete, bounded unit that is completed within time interval j , that is, cannot be continued after n' ; this is again represented by means of the short vertical line after the continuous line below k . Given that k precedes n' and n' precedes n , k also precedes n , which implies that examples of this type cannot shed any light on whether speech time n can be included in the past-tense interval i .

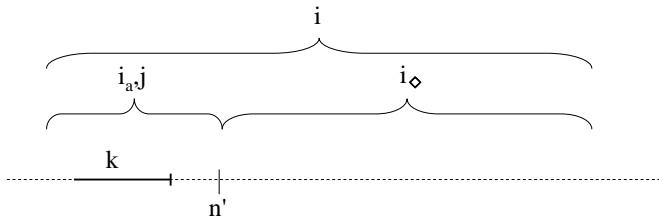


Figure 14: Past perfect (Ik had gewandeld 'I had walked')

3. Future in the past

The future in the past expresses that the eventuality k takes place after n' , that is, k is located in the non-actualized part of the past-tense interval ($j = i_0$).

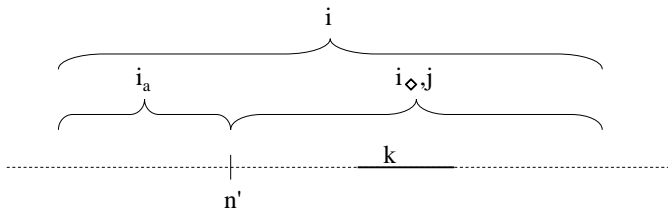


Figure 15: Future in the past (Ik zou wandelen 'I would walk')

The future in the past examples in (251b&c) show that speech time n can be included in the past-tense interval. We have already seen above that this refutes the definition of past in (247b) and supports the revised definition in (249b).

- (251) a. Els zou gisteren wandelen.
 Els would yesterday walk
 b. Els zou vandaag wandelen.
 Els would today walk
 c. Els zou morgen wandelen.
 Els would tomorrow walk

4. Future perfect in the past

The interpretation of the future perfect in the past is similar to that of the future in the past, but requires that the state of affairs be completed within time span i_0 .

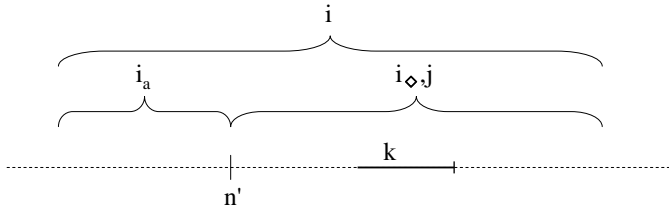


Figure 16: Future perfect in past (Ik zou hebben gewandeld ‘I would have walked’)

The difference between the future in the past and the future perfect in the past is parallel to the difference between the future and the future perfect discussed in Subsection A: in future in the past examples such as (252a) the focus is on the progression of the eventuality, which is placed in its entirety after n' , whereas in future perfect in the past examples such as (252b) the focus is on the completion of the eventuality and no particular claim is made concerning the starting point of the event.

- (252) a. Het ijs zou gisteren smelten.
 the ice would yesterday melt
 ‘The ice would melt yesterday.’
 b. Het ijs zou gisteren gesmolten zijn.
 the ice will yesterday melted be
 ‘The ice would have melted yesterday.’

Similar examples with the achievement *die brief schrijven* are given in (253): the future in the past in (253a) locates the entire eventuality after n' , whereas the future perfect in the past in (253b) does not seem to make any claim about the starting point of the eventuality but simply expresses that the eventuality will be completed after n' (but within i_0).

- (253) a. Jan zou gisteren die brief schrijven.
 Jan would yesterday that letter write
 ‘Jan would write that letter yesterday.’
 b. Jan zou gisteren die brief geschreven hebben.
 Jan would yesterday that letter written have
 ‘Jan would have written that letter yesterday.’

The examples in (254) with the adverbial phrase *morgen* ‘tomorrow’ show that the future perfect in the past provides evidence in favor of the claim that speech time *n* can be included in the past-tense interval. We have already seen that this refutes the definition of past in (247b) and supports the revised definition in (249b).

- (254) a. Het ijs zou morgen gesmolten zijn.
 the ice will tomorrow melted be
 ‘The ice would have melted tonight.’
 b. Jan zou morgen die brief geschreven hebben.
 Jan would tomorrow that letter written have
 ‘Jan would have written a letter tomorrow.’

E. The choice between present and past: a matter of perspective

So far, we have discussed the three binary features in (255) assumed within Te Winkel/Verkuyl’s binary tense theory: these features define four present and four past tenses, which were exemplified in Table 9.

- (255) a. [±PAST]: present versus past
 b. [±POSTERIOR]: future versus non-future
 c. [±PERFECT]: imperfect versus perfect

Subsections A and C discussed the default interpretations assigned to these present and past tenses by Verkuyl (2008). We also discussed Verkuyl’s formalizations of the features in (255) and saw that there was reason to somewhat adapt the definition of [+PAST]. This resulted in the set of definitions in (256).

- (256) a. Present: $i \circ n$ [i includes speech time *n*]
 a'. Past: $i \circ n'$ [i includes virtual speech-time-in-the-past *n'*]
 b. Imperfect: $k \preceq j$ [k need not be completed within *j*]
 b'. Perfect: $k \prec j$ [k is completed within *j*]
 c. Non-future: $i \approx j$ [i and *j* synchronize]
 c'. Future: $i_a < j$ [*i*_a precedes *j*]

An important finding of the previous subsections is that in principle the present and past interval can be indefinite, with the result that the past-tense interval may include speech time *n*. This means that the present and the past do not refer to mutually exclusive temporal domains and, consequently, that it should be possible to discuss eventualities both as part of the past and as part of the present domain. This subsection provides evidence in favor of this position and will argue that the choice between the two options is a matter of perspective, that is, whether the eventuality is viewed from the perspective of speech time *n* or the virtual speech time in the past *n'*.

1. Supratemporality

The use of adverbial phrases of time in sentences with a past tense may introduce a so-called SUPRATEMPORAL ambiguity; cf. Verkuyl (2008:118-123). This ambiguity is especially visible when the adverbial phrase occupies the first position of the sentence, as in (257).

- (257) a. Om vijf uur ging Marie weg.
 at 5 o'clock went Marie away
 'Marie would leave at 5 o'clock.'
- b. Een uur geleden had Marie nog zwart haar.
 an hour ago had Marie still black hair
 'An hour ago Marie still had black hair.'

The two sentences in (257) have a run-of-the-mill “real event” interpretation in the sense that the sentence is about Marie’s departure or about Marie having black hair at the time indicated by the adverbial phrase; in such cases the adverbial phrase functions as a regular temporal modifier of the time interval j that includes eventuality k . There is, however, also a supratemporal interpretation in which the eventuality itself does not play any particular role apart from being the topic of discussion. Under this interpretation, the speaker of (257a) expresses that his most recent information about Marie’s departure goes back to five o’clock. This means that the adverbial phrase *om vijf uur* ‘at five o’clock’ thus does not pertain to the location of the eventuality on the time axis but to the speaker: “according to my information at five o’clock, the situation was such that Marie would be leaving”. In a similar way, (257b) may be interpreted as a correction of a mistake signaled by the speaker in, e.g., a manuscript; the sentence is not about the character Marie but about information about the character Marie: “An hour ago, I read that Marie is black-haired (but now it is mentioned that Jan is fond of her auburn hair)”.

Past-tense clauses are compatible with future eventualities on a supratemporal reading. Consider a situation in which the speaker is discussing Els’ plans for some time interval after speech time n . He may then compare the information available at two different moments in time: sentence (258a), for example, compares the information that the speaker had yesterday with the information that he has just received. The first conjunct of (258a) also illustrates that past-tense clauses with a supratemporal reading are compatible with locating the eventuality k after speech time; the speaker’s talk is located in the speaker’s future. Example (258b) in fact shows that it is even possible to make the future location of k explicit by means of a second adverbial phrase like *morgen* ‘tomorrow’, particularly when adding the particle *nog* right behind *gisteren* ‘yesterday’; see Boogaart & Janssen (2007) for similar examples.

- (258) a. Gisteren zou Els mijn lezing bijwonen, maar nu gaat ze op vakantie.
 yesterday would Els my talk attend but now goes she on holiday
 ‘As of yesterday, the plan was that Els would attend my lecture but now I’ve information that she’ll be going on holiday.’
- b. Gisteren (nog) zou Els morgen mijn lezing bijwonen,
 yesterday PRT would Els tomorrow my lecture attend
 maar nu gaat ze op vakantie.
 but now goes she on holiday
 ‘As of yesterday, the plan was that Els would attend my talk tomorrow but now I’ve information that she’ll be going on holiday.’

That the past tense in the first conjunct of the examples in (258) is compatible with locating the eventuality after speech time n and that the adverbs *gisteren* ‘yesterday’

and *morgen* ‘tomorrow’ can be used in a single clause is exceptional. However, that this is possible need not surprise us when we realize that speech time n can be included in the past-tense interval. As is illustrated in Figure 17 for example (258b), the first conjuncts in sentences such as (258) give rise to completely coherent interpretations. The notation used aims at expressing that the adverbial phrase *gisteren* is a supra-temporal modifier of the virtual speech-time-in-the past n' , whereas the adverbial phrase *morgen* ‘tomorrow’ functions as a regular temporal modifier of j .

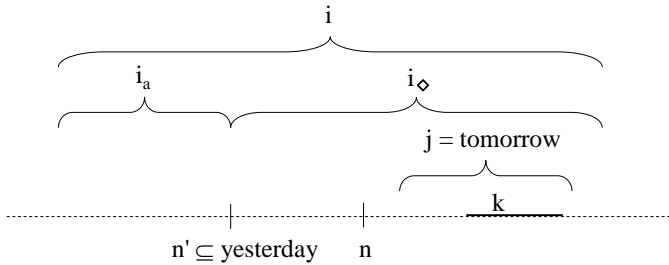


Figure 17: Supratemporal interpretation of future in the past

2. Sequence of tense

The claim that speech time n may be included in the past-tense interval also has important consequences for the description of the so-called SEQUENCE OF TENSE phenomenon, that is, the fact that the tense of a dependent clause can be adapted to concord with the past tense of the °matrix clause. Sequence of tense is illustrated by means of the two examples in (259): example (259a) is unacceptable if we interpret the adverb *morgen* ‘tomorrow’ as a temporal modifier of the eventuality k , whereas example (259b) is fully acceptable in that case.

- (259) a. [§]Jan vertrok morgen.
 Jan left tomorrow
 ‘Jan was leaving tomorrow.’
- b. Els zei [dat Jan morgen vertrok].
 Els said that Jan tomorrow left
 ‘Els said that Jan was leaving tomorrow.’

The unacceptability of (259a) is normally taken to represent the normal case: past tense is incompatible with adverbial phrases like *morgen* that situate the eventuality after speech time n , and therefore (259a) cannot be interpreted as a modifier of the *then*-present j of the eventuality k ; on this view, the sequence-of-tense example in (259b) is unexpected and must therefore be considered to be a special case. If we assume that speech time n can be included in the past-tense interval, on the other hand, the acceptability of (259b) is expected without further ado; the eventualities in the main and the embedded clause are both viewed as belonging to the past-tense interval i , which happens to also contain speech time n . The real problem on this view is the unacceptability of example (259a) given that the system predicts this example to be possible in the intended reading as well.

The claim that the past-tense interval may include speech time n may also account for the contrast between the two examples in (260). In (260a) the

eventualities are both considered to be part of the past-tense interval, and as a result of this we cannot determine from this example whether the speaker believes that Els is still pregnant at speech time *n*; this may or may not be the case. In (260b), on the other hand, the eventuality of Els being pregnant is presented as being part of the present time domain, and the speaker therefore does imply that Els is still expecting at speech time *n*; see Hornstein (1990: Section 4.1) for similar intuitions.

- (260) a. Jan zei [dat Els zwanger was].
 Jan said that Els pregnant was
 ‘Jan said that Els was pregnant.’
 b. Jan zei [dat Els zwanger is].
 Jan said that Els pregnant is
 ‘Jan said that Els is pregnant.’

This contrast in interpretation can also be demonstrated by means of the examples in (261). Because sequence-of-tense constructions do not imply that the eventuality expressed by the embedded clause still endures at speech time *n*, the continuation in (261a) is fully natural; it is suggested that Marie has given birth and hence is a mother by now. In (261b), on the other hand, the continuation gives rise to a semantic anomaly given that the use of the present in the embedded clause strongly suggests that the speaker believes that Marie is still pregnant.

- (261) a. Jan zei [dat Els zwanger was]; ze zal ondertussen wel moeder zijn.
 Jan said that Els pregnant was she will by.now PRT mother be
 ‘Jan said that Els was pregnant; she’ll probably be a mother by now.’
 b. ^sJan zei [dat Els zwanger is]; ze zal ondertussen wel moeder zijn.
 Jan said that Els pregnant is she will by.now PRT mother be
 ‘Jan said that Els is pregnant; she’ll probably be a mother by now.’

A similar account can be given for the observation in Kiparsky & Kiparsky (1970:162-3), which is illustrated in (262), that for some speakers factive and non-factive constructions differ in that the former normally have optional sequence of tense, whereas the latter (often) have obligatory sequence of tense. The reason for this is again that the use of the present tense suggests that the speaker believes that the eventuality expressed by the embedded clause holds at speech time *n*. We used a percentage sign in (262b) to indicate that some speakers at least marginally accept the use of the present tense in non-factive constructions like this.

- (262) a. De oude Grieken wisten al [dat de wereld rond was/is].
 the old Greeks knew already that the world round was/is
 ‘The old Greeks knew already that the world is round.’
 b. De kerk beweerde lang [dat de wereld plat was/[%]is].
 the church claimed long that the world flat was/is
 ‘The church claimed for a long time that the World was flat.’

3. Past-tense examples with the future adverbs like morgen ‘tomorrow’

The discussion in the previous subsection has shown that the claim that the past-tense interval may include speech time *n* correctly predicts that sequence of tense is not required, and may even be impossible if the right conditions are met. As we

noticed earlier in our discussion of the examples in (259), this in a sense reverses the traditional problem; it is not the sequence-of-tense example in (259b) that constitutes a problem but the fact that in simple clauses such as (259a), the past tense blocks the use of adverbial phrases like *morgen* ‘tomorrow’ that locate the eventuality after speech time *n*.

It should be noted, however, that under specific conditions past tense actually can be combined with adverbs like *morgen*. This holds, for instance, for the question in (263b), provided by Angeliek van Hout (p.c.). The two examples in (263) differ in their point of perspective: (263a) expresses that speaker assumes on the basis of his knowledge at speech time *n* that the addressee will come tomorrow, whereas (263b) expresses that the speaker assumes this on the basis of his knowledge at virtual speech-time-in-the-past *n'*. Some speakers report that (263b) feels somewhat more polite than (263a), which may be related to this difference in perspective; by using (263b), the speaker explicitly leaves open the possibility that his information is outdated, and, consequently, that the conclusion that he draws from this information is wrong.

- (263) a. Je komt morgen toch?
 you come tomorrow PRT
 ‘You’ve the intention to come tomorrow, don’t you?’
 b. Je kwam morgen toch?
 you came tomorrow prt
 ‘You had the intention to come tomorrow, didn’t you?’

Past tenses can also be combined with the adverb *morgen* in questions such as (264b). The difference again involves a difference in perspective. By using question (264a), the speaker is simply inquiring after some information available at *n*; he has the expectation that there will be a visitor tomorrow and he wants to know who that visitor is. Example (264b) is used when the speaker is aware of the fact that he had information about the identity of the visitor at some virtual speech-time-in-the-past *n'*, but does not remember that information (which is typically signaled by the string *ook al weer*).

- (264) a. Wie komt er morgen?
 who comes there tomorrow
 ‘Who is coming tomorrow?’
 b. Wie kwam morgen ook al weer?
 who came tomorrow OOK AL WEER
 ‘Please, tell me again who will come tomorrow?’

Yet another example, taken from Boogaart & Janssen (2007: 809), is given in (265). Example (265a) simply states the speaker’s intention to leave tomorrow, whereas example (265b) leaves open the possibility that there are reasons that were not known at some virtual speech-time-in-the-past *n'* that may forestall the implementation of the speaker’s intention to leave.

- (265) a. Ik vertrek morgen.
 I leave tomorrow
 'I'll leave tomorrow.'
- b. Ik vertrok morgen graag.
 I left tomorrow gladly
 'I'd've liked to leave tomorrow.'

A final example that seems closely related to the one in (265b) and which is also taken in a slightly adapted form from Boogaart & Janssen is given in (266b). Examples like that can be used as objections to some order/request by showing that it is inconsistent with some earlier obligation or plan.

- (266) a. Je moet morgen thuis blijven.
 you have.to tomorrow at.home stay
 'You have to stay at home tomorrow.'
- b. Maar ik vertrok morgen naar Budapest!
 but I left tomorrow to Budapest
 'But I was supposed to leave for Budapest tomorrow.'

The examples in (263) to (266) show that there is no inherent prohibition on combining past tenses with adverbs like *morgen* 'tomorrow', and thus show that there is no need to build such a prohibition into tense theory. Of course, this still leaves us with the unacceptability of simple declarative clauses like *Jan kwam morgen* 'Jan came tomorrow', but Section 1.5.4 will solve this problem by arguing that this example is excluded not because it is semantically incoherent but for pragmatic reasons: Grice's 'maxim of quantity' prefers the use of the simple present/future in cases like this.

4. Present-tense examples with past adverbs like *gisteren* 'yesterday'

The previous subsection has shown that it is possible to combine past tenses with adverbs referring to time intervals following speech time n . Similarly, it seems possible to combine present tenses with adverbs like *gisteren* 'yesterday' that refer to time intervals preceding speech time n . Subsection A2 has already discussed this for present perfect constructions such as (267) and has shown that this is fully allowed by our definitions in (256); since neither the definition of present in (256a) nor the definition of perfect in (256b) imposes any restriction on the location of j (or k) with respect to n , the adverbial *gisteren* 'yesterday' may be analyzed as an identifier of j on the assumption that the time interval referred to by *gisteren* is part of a larger present-tense interval i that includes speech time n .

- (267) a. Ik heb gisteren gewandeld.
 I have yesterday walked
 'I walked yesterday.'

In fact, we would expect for the same reason that it is also possible to combine adverbs like *gisteren* with the simple present: the definition of present in (256a) does not impose any restriction on the location of j (or k) with respect to n . This means that we expect examples such as (268c) to be possible alongside (268a&b).

Although the examples in (268a&b) are certainly more frequent, examples such as (268c) occur frequently in speech and can readily be found on the internet.

- (268) a. Ik las gisteren/daarnet in de krant dat ...
 I read_{past} yesterday/just.now in the newspaper that
 ‘Yesterday/A moment ago, I read in the newspaper that’
- b. Ik heb gisteren/daarnet in de krant gelezen dat ...
 I have yesterday/just.now in the newspaper read_{part} that
 ‘Yesterday/A moment ago, I read in the newspaper that’
- c. Ik lees gisteren/daarnet in de krant dat ...
 I read_{present} yesterday/just.now in the newspaper that
 ‘Yesterday/A moment ago, I was reading in the newspaper that ...’

The acceptability of examples such as (268c) need not surprise us and in fact need no special stipulation. The only thing we have to account for is why the frequency of such examples is relatively low: one reason that may come to mind is simply that examples of this type are blocked by the perfect-tense example in (268b) because the latter is more precise in that it presents the eventuality as completed.

Present-tense examples such as (268c) are especially common in narrative contexts as an alternative for the simple past, for which reason this use of the simple present is often referred to as the HISTORICAL PRESENT. The historical present is often said to result in a more vivid narrative style (see Haeseryn et al. 1997:120), which can be readily understood from the perspective of binary tense theory. First, it should be noted that the simple past is normally preferred in narrative contexts over the present perfect given that it presents the story not as a series of completed eventualities but as a series of ongoing events. However, since the simple past presents the story from the perspective of some virtual speech-time-in-the-past, it maintains a certain distance between the events discussed and the listener/reader. The vividness of the historical present is the result of the fact that the simple present removes this distance by presenting the story as part of the actual present tense interval of the listener/reader.

The historical present has become convention that is frequently used in the narration of historical events, even if the events are more likely construed as being part of some past-tense interval; see (269). Again, the goal of using the historical present is to bridge the gap between the narrated events and the reader by presenting these events as part of the reader’s present-tense interval.

- (269) a. In 1957 verscheen *Syntactic structures*, dat Chomsky beroemd zou maken.
 in 1957 appeared *Syntactic structures* that Chomsky famous would make
 ‘In 1957, *Syntactic Structures* appeared, which would make Chomsky famous.’
- b. In 1957 verschijnt *Syntactic structures*, dat Chomsky beroemd zal maken.
 in 1957 appears *Syntactic structures* that Chomsky famous will make
 ‘In 1957, *Syntactic Structures* appears, which will make Chomsky famous.’

This use of the historical present is therefore not very special from a grammatical point of view given that it just involves the pretense that $n' = n$, and we will therefore not digress any further on this use. The conclusion that we can draw from the discussion above is that the stylistic effect of the so-called historical present

confirms our main claim that the choice between past and present tense is a matter of perspective.

5. *Non-rigid designators*

This subsection concludes our discussion of the choice between present and past by showing that tense determines not only the perspective on the eventuality expressed by the lexical °projection of the main verb but also affects the interpretation of so-called non-rigid designators like *de minister-president* ‘the prime minister’; cf. Cremers (1980) and Janssen (1983). Non-rigid designators are noun phrases that do not have a fixed referent but referents that change over time; whereas the noun phrase *de minister-president* refers to Wim Kok in the period August 1994–July 2002, it refers to Jan Peter Balkenende in the period July 2002–February 2010.

That choice of tense may affect the interpretation of the noun phrase can be illustrated by means of the examples in (270). The interpretation of the present-tense example in (270a) depends on the actual speech time n ; if uttered in 1996, it is a contention about Wim Kok, if uttered in 2008, it is a contention about Jan Peter Balkenende. Similarly, the interpretation of the past-tense example in (270b) depends on the location of the virtual speech-time-in-the-past n' : in a discussion about the period 1994 to 2002, it will be interpreted as an assertion about Wim Kok, but in a discussion about the period 2002 to 2010, as an assertion about Jan Peter Balkenende. Crucially, example (270b) need not be construed as an assertion about the person who performs the function of prime minister at speech time n .

- (270) a. De minister-president is een bekwaam bestuurder.
 the prime.minister is an able governor
- b. De minister-president was een bekwaam bestuurder.
 the prime.minister was an able governor

The examples in (270) show that present/past tense fixes the reference of non-rigid designators; we select their reference at n/n' . Now, consider the examples in (271), in which the index *now* on the noun phrase is used to indicate that the intended referent is the one who performs the function of prime minister at speech time n . The number sign indicates that example (271a) is not very felicitous when one wants to express that the current prime minister had attended high school when he was young. This follows immediately from the claim that the reference of non-rigid designators is determined by tense; the past tense indicates that the description *de minister-president* can only refer to the person performing the function of prime minister at virtual speech-time-in-the-past n' . Example (271b), on the other hand, can felicitously express the intended meaning given that it simply presents the prime minister’s school days as part of the present tense interval: the person referred to by the description *de minister-president* at speech time n is said to have attended high school during the actualized part of the present-tense interval.

- (271) a. #De minister-president zat op het gymnasium.
 the prime.minister_{now} sat on the high.school
 ‘The prime minister attended high school.’
 b. De minister-president heeft op het gymnasium gezeten.
 the prime.minister_{now} has on the high.school sat
 ‘The prime minister has attended high school.’

For completeness’ sake, note that we do not claim that it is impossible to interpret a non-rigid designator from the perspective of speech time n in past tense sentences, but this is possible only if the description happens to refer to the same individual at n and n' . This is illustrated by the fact that the two examples in (272) are both perfectly acceptable.

- (272) a. De minister-president was enkele dagen in Brussel.
 the prime.minister_{now} was some days in Brussels
 ‘The prime minister was in Brussels for a couple of days.’
 b. De minister-president is enkele dagen in Brussel geweest.
 the prime.minister_{now} is some days in Brussels been
 ‘The prime minister has been in Brussels for a couple of days.’

The discussion above has shown that present/past tense not only determines the perspective from which the eventuality as a whole is observed, but also affects the interpretation of noun phrases that function as non-rigid designators.

Before closing this subsection, we want to mention that Cremers (1980:44) has claimed that the judgments on the examples above only hold if a non-rigid designators is used descriptively; he suggests that in certain contexts, such noun phrases can also be used as proper names. An example such as (273b), for example, can readily be used in a historical narrative to refer to Queen Wilhelmina or Queen Juliana, even if the story is told/written during the regency of Queen Beatrix.

- (273) a. De koningin was zich voortdurend bewust van ...
 the queen_{past} was REFL continuously aware of
 ‘The Queen was continuously aware of ...’
 b. De koningin is zich voortdurend bewust van ...
 the queen_{past} is REFL continuously aware of
 ‘The Queen is constantly aware of ...’

Since the previous subsection has already mentioned that historical narratives often use the historical present, an alternative approach to account for the interpretation in (273b) might be that it is this use of the present that affects the interpretation of non-rigid designators; the pretense that $n' = n$ simply does not block the option of interpreting the non-rigid designator with respect to n' . We leave this issue for future research.

6. Conclusion

The previous subsections have shown that in Te Winkel/Verkuyl’s binary tense system the present and past tenses are structured in a completely parallel way. The present subtenses are located in a present tense interval that includes speech time n ,

whereas the past subtenses are located in a past-tense interval that includes a contextually determined virtual speech-time-in-the-past *n'*. The subtenses locate the eventuality with respect to *n/n'*.

II. A comparison with Reichenbach's approach

Subsection I has outlined Te Winkel/Verkuyl's binary tense system, which is based on three binary oppositions: present versus past, imperfect versus perfect, and non-future versus future. This subsection briefly discusses why we do not follow the currently dominant view based on Reichenbach's (1947); see Comrie (1985) or, within in the generative framework, Hornstein (1990) for extensive discussions of the Reichenbachian approach to tense. Reichenbach's proposal is based on the two ternary oppositions in (274): S stands for speech time, that is, the time at which the sentence is uttered; R stands for the so-called reference point, the function of which will be clarified in a moment; E stands for event time, that is, the time at which the eventuality denoted by lexical °projection of the main verb takes place. The comma and the em-dash "—" express, respectively, a relation of simultaneousness and a relation of precedence: (S,R) thus states that the speech time and the reference point share the same point on the time line and (S—R) that the speech time precedes the reference point.

- (274) a. present (S,R), past (R—S), and future (S—R)
- b. simultaneous (R,E), anterior (E—R), and posterior (R—E)

The crucial ingredient of Reichenbach's theory is the reference point R, since it would be impossible to define tenses like the past perfect, the future in the past or the future perfect without it. By means of the oppositions in (274), it is possible to define nine different tenses, which are depicted in Figure 18. Reichenbach's proposal is relatively successful in its descriptive adequacy; we have already seen in Subsection I that 7 out of the 9 predicted tenses can indeed be found in Dutch.

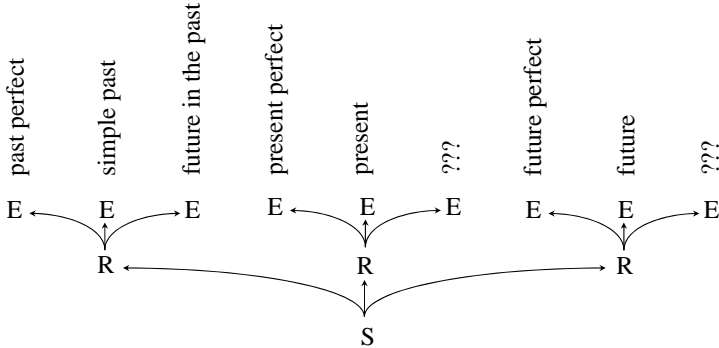


Figure 18: Reichenbach's tense system

There are, however, a number of serious problems as well. The most well-known problem for Reichenbach's proposal is that it is not able to account for the future perfect in the past: *Ik zou hebben gewandeld* 'I would have walked'. The reason for this is quite simple: Figure 18 shows that the perfect involves the anterior relation E—R whereas the future in the past involves the posterior relation R—E, and

combining the two would therefore lead to the contradiction that E must both precede and follow R. There are proposals that try to resolve this contradiction by the introduction of a *second* reference point R' (cf., e.g., Prior 1967, Comrie 1985, Haeseryn et al. 1997:116), but this, of course, goes against the spirit of the proposal that the tense system can be described by postulating no more than three temporal points S, R, and E, on the basis of the two ternary oppositions in (274).

A second problem for Reichenbach's proposal is that there are in fact two different notions of future: one type is defined as future (S—R) and one as posteriority (R—E), and it remains to be seen whether there are systematic semantic differences between the two. It is important to note that it is impossible to drop one of these relations in favor of the other given that this would result in too few future tenses; if we drop the relation S—R, as in the left part of Figure 19, we will no longer be able to derive the future perfect as this would exclude the final triplet in Figure 18; if we drop the relation R—E, as in the right part of Figure 19, we will no longer be able to account for the future in the past as this would exclude the third option in each triplet. Figure 19 shows that both adaptations lead to a system with just six tense forms, which means two tenses too few.

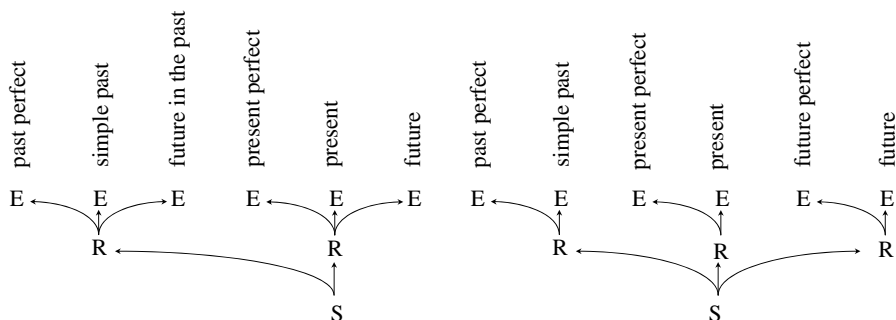


Figure 19: Adapted versions of Reichenbach's tense system

A third problem is that, at least in Dutch, the nine tenses defined in the Reichenbachian system cannot be compositionally derived. In the binary system the three oppositions are nicely matched by specific morphological or lexical units; [\pm PAST] can be expressed in Dutch by means of the tense marking on the finite verb; [\pm PERFECT] by means of the auxiliary or the past participle; and [\pm POSTERIOR] by means of the future auxiliary *zullen* (if that is indeed the correct analysis for Dutch). For the Reichenbachian approach this is impossible; although there are designated morphological/syntactic means to express the present/past (R,S and R—S), the future (R—S) and the perfect (E—R), it remains to be seen whether such means can be identified for the simultaneous relation (R,E) and the posteriority relation (R—E). This becomes especially apparent for the posteriority relation if we place the nine tenses defined in Figure 18 in the matrix in Table 10 and try to match these with the tense forms actually found in Dutch. The problem is that the matrix seems to define two (posteriority) tenses too many and it needs to be established whether these tenses can indeed be found in the languages of the world. The tense form that comes closest to the two gaps in Figure 18 is the one with the present-tense form of *zullen* 'will', which suggests that *zal lopen* 'will walk' must be taken

to be three-ways ambiguous in Reichenbach's system as is indicated by the three cells within the bold lines in Table 10, which is taken in a slightly adapted form from Verkuyl (2008).

Table 10: Reichenbach's tense system matched to the Dutch system

	PAST (R—S)	PRESENT (S,R)	FUTURE (S—R)
ANTERIOR (E—R)	past perfect <i>had gelopen</i> 'had walked'	present perfect <i>heeft gelopen</i> 'has walked'	future perfect <i>zal hebben gelopen</i> 'will have walked'
SIMULTANEOUS (R,E)	simple past <i>liep</i> 'walked'	simple present <i>loopt</i> 'walks'	future <i>zal lopen</i> 'will walk'
POSTERIOR (R—E)	future in past <i>zou lopen</i> 'would walk'	???	???
		<i>zal lopen</i> 'will walk'	<i>zal lopen</i> 'will walk'

Table 10 also shows that Reichenbach's approach leads to the conclusion that the verb *zullen* 'will' expresses not only future (S—R) but also posteriority (R—E); see also Janssen (1983). This, in turn, predicts that the S—R—E relation should be expressed by means of *two* occurrences of *zullen*. The fact that **zal zullen wandelen* (lit.: will will walk) is excluded in Dutch therefore suggests that the posteriority (R—E) relation is not part of the tense system.

The discussion above has shown that there are a number of serious empirical problems with Reichenbach's tense system, which are all related to the postulated posteriority (R—E) relation: (i) posteriority is incompatible with anteriority and as a result the future perfect in the past cannot be derived; (ii) it is not clear how posteriority and future differ semantically; (iii) posteriority defines a number of future tenses the existence of which remains to be established. Since it seems impossible to solve these problems in a non-*ad hoc* way by replacing the posteriority relation by some other relation, we conclude that the binary tense system as described in Subsection I is superior to Reichenbach's proposal. For a more extensive critical discussion of Reichenbach's tense system on the basis of Dutch, we refer to Janssen (1983) and Verkuyl (2008).

III. Conclusion

This section discussed the tense system proposed by Te Winkel (1866), which distinguishes eight different tenses on the basis of the three binary oppositions in (275). This system is argued to be superior to the more commonly adopted Reichenbachian approach to the tense system.

- (275) a. [±PAST]: present versus past
 b. [±POSTERIOR]: future versus non-future
 c. [±PERFECT]: imperfect versus perfect

Verkuyl (2008) referred to Te Winkel's system as the binary tense system and claimed that this system is universally (that is, in all languages) used for the cognitive representation of tense. This claim does not intend to imply, however, that all oppositions are morphologically or syntactically encoded in the verbal systems of all languages; some languages may have a poor tense system in the sense that

they lack the morphological or syntactic means to express one or more of the three oppositions in (275) in the verbal system and must therefore appeal to other means like adverbial phrases, aspectual markers, or even pragmatic information to make the desired distinctions; see Verkuyl (2008:ch.6) for some examples.

Although we have illustrated the properties of the binary tense system by means of Dutch examples, this does not imply that Dutch really expresses all three oppositions *in its verbal system* (although Verkuyl 2008 does take this to be the case without giving sufficient argument). Section 1.5.2 will show that there are reasons for assuming that the opposition [\pm POSTERIOR] is not overtly expressed in the Dutch verbal system: whatever the auxiliary *zullen* may mean, this meaning can be shown to be non-temporal in nature.

1.5.2. Epistemic modality

Modality is used as a cover term for various meanings that can be expressed by modal verbs and adverbs. Barbiers (1995:ch.5), for instance, has argued that example (276a) can have the four modal interpretations in (276b).

- (276) a. Jan moet schaatsen.
 Jan must skate
- b. (i) Dispositional: Jan definitely wants to skate.
 (ii) Directed deontic: Jan has the obligation to skate.
 (iii) Non-directed deontic: It is required that Jan skate.
 (iv) Epistemic: It must be the case that Jan skates.

The first three interpretations of (276b) can be seen as subcases of event modality and stand in opposition to interpretation (iv), which can be seen as a subcase of propositional modality. The main difference is that event modality expresses the view of the speaker on the moving forces that favor the *potential realization* of the event referred to by the proposition expressed by the lexical \circ projection of the embedded verb (obligation, volition, ability, etc). Epistemic modality, on the other hand, expresses the view of the speaker on the *truth* of this proposition (necessity, probability, likelihood, etc). The examples in (277) show that the two groups can readily be distinguished syntactically given that they exhibit different behavior in perfect-tense constructions that refer to eventualities preceding speech time *n*; dispositional/deontic modal verbs appear as non-finite forms in such constructions, whereas epistemic modal verbs normally appear as finite forms; note that this distinction this does not hold for perfect-tense constructions that refer to future eventualities, which can be four-fold ambiguous. We refer the reader to Section 5.2.3.2, sub III, for a more detailed discussion of the distinction between event and epistemic modality.

- (277) a. Jan heeft gisteren moeten schaatsen. [event modality]
 Jan has yesterday must skate
 ‘Jan had to skate yesterday.’
- b. Jan moet gisteren hebben geschaatst. [epistemic modality]
 Jan must yesterday have skated
 ‘It must be the case that Jan has skated yesterday.’

This section will focus on epistemic modality. Subsection I starts with a brief discussion of the epistemic modal verbs *moeten* ‘must’ and *kunnen* ‘can’. Subsection II argues that the verb *zullen* behaves in all relevant respects as an epistemic modal verb and that the future reading normally attributed to this verb is due to pragmatics. Subsection III supports this conclusion by showing that we find the same pragmatic effects with other verb types.

I. The epistemic modal verbs moeten ‘must’ and kunnen ‘may’

Epistemic modality is concerned with the mental representation of the world of the language user, who may imagine states of affairs different from what they are in the actual world, states of affairs as they will hold in the future, etc. Consider the examples in (278).

- (278) a. Dat huis stort in.
that house collapses prt.
‘It is the case that that house collapses.’
- b. Dat huis moet instorten.
that house has.to prt.-collapse
‘It must be the case that that house will collapse.’
- c. Dat huis kan instorten.
that house may prt.-collapse
‘It may be the case that that house will collapse.’

By uttering sentences like these the speaker provides his estimation on the basis of the information available to him of the likelihood that \circ eventuality k will actually occur. Under the default (non-future) reading of (278a), the speaker witnesses the collapse of the house. In the case of (278b) and (278c) there is no collapse at speech time n , but the speaker asserts something about the likelihood of a future collapse. By uttering (278b) or (278c), the speaker in a sense quantifies over a set of possible, that is, not (yet) actualized worlds: the modal verb *moeten* ‘must’ functions as a universal quantifier, which is used by the speaker to assert that the eventuality of that house collapsing will take place in all possible worlds; *kunnen* ‘may’, on the other hand, functions as an existential quantifier, which is used by the speaker to assert that this eventuality will take place in at least one possible world. Note in passing that the future reading triggered by the epistemic modal verbs need not be attributed to the modal verb itself given that example (278a) can also be used with a future reading; see Section 1.5.4 for more discussion of this.

We will represent the meaning of examples like (278b&c) by means of temporal diagrams of the sort in Figure 20, which are essentially the same as the ones introduced in Section 1.5.1 with the addition of possible worlds. Again, n stands for the speech time, i stands for the present of the speaker/hearer, i_a for the actualized and i_o for the non-actualized part of this present. The index k stands for the event denoted by the lexical projection of the embedded main verb and the continuous line below it for the actual running time of k . Index j , finally, represents the present of k , that is, the temporal domain within which k must be located. The possible worlds in Figure 20 may differ with respect to (i) whether eventuality k does or does not occur, as well as (ii) the precise location of eventuality k on the

time axis. Possible world representations like Figure 20 are, of course, simplifications in the sense that they select a number of possible worlds that suit our illustrative purposes from an in principle infinite set of possible worlds.

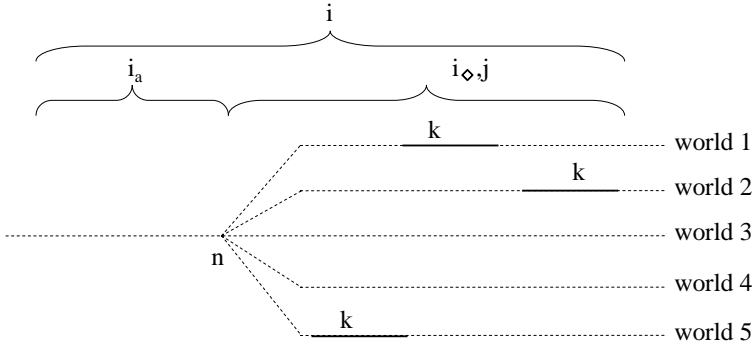


Figure 20: Epistemic modality and present tense

Figure 20 is a correct semantic representation of the assertion in example (278c) with existential *kunnen* given that there is at least one possible world in which the eventuality denoted by the lexical projection of the embedded main verb takes place, but it is an incorrect representation of the assertion in (278b) with universal *moeten* because the eventuality does not take place in possible worlds 3 and 4.

The examples in (279) show that epistemic modal verbs can readily occur in the past tense. The additions of the particle/adverbial phrase within parentheses will make these examples sound more natural in isolation, but they are also perfectly acceptable without them in a proper discourse.

- (279) a. Dat huis moest (wel) instorten.
 that house had. to PRT prt.-collapse
 ‘It had to be the case that that house would collapse.’
- b. Dat huis kon (elk moment) instorten.
 that house might any moment prt.-collapse
 ‘It might have been the case that that house would collapse any moment.’

Now consider the representation in Figure 21, in which n' stands for the virtual speech-time-in-the past that functions as the point of perspective, and i stands for the relevant past-tense interval. Figure 21 is a correct representation of the assertion in (279b) given that there are possible worlds in which eventuality k takes place, but an incorrect representation of the assertion in (279a) given that there are possible worlds in which eventuality k does not take place. Figure 21 is again a simplification; it selects a number of possible worlds that suit our illustrative purposes from an in principle infinite set of possible worlds. From now on our semantic representations will contain only the minimal selection of possible worlds that is needed to illustrate our point.

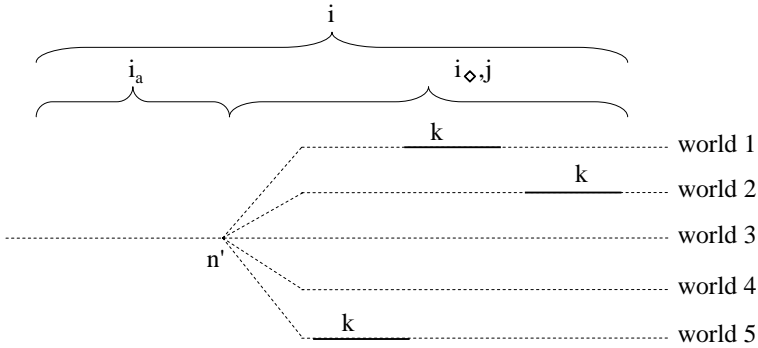


Figure 21: *Epistemic modality and past tense*

It must further be noted that examples such as (279) are normally used if speech time *n* is not included in the past-tense interval. Examples such as (279a) are used if eventuality *k* did take place before *n* in order to suggest that the occurrence of *k* was inevitable. Examples such as (279b), on the other hand, are especially used if eventuality *k* did not take place in the actual world in order to suggest that certain measures have prevented *k* from taking place, that we are dealing with a lucky escape, etc. We will return to these restrictions on the usage of the examples in (279) in Section 1.5.2, sub IIC, and confine ourselves here to noting that the epistemic modals differ in this respect from their deontic counterparts, which normally do not carry such implications: the past-tense construction with deontic *moeten* in (280), for example, may refer both to factual and counterfactual situations.

- (280) Jan moest verleden week dat boek lezen, ...
 Jan had. to last week that book read
 ‘Jan had the obligation to read that book last week, ...’
- a. ... maar hij heeft het niet gedaan. [counterfactual]
 but he has it not done
 ‘... but he didn’t do it.’
 - b. ... en het is hem met veel moeite gelukt. [factual]
 and it is him with much trouble succeeded
 ‘... and he has managed to do it with much trouble.’

In Figure 20 and Figure 21, the splitting point into possible worlds (from now on: *split-off point*) starts at *n* or *n'*. This is, however, by no means necessary. Suppose the following context. There has been a storm last week and on Sunday the speaker inspected his weekend house and saw that it was seriously damaged. Since it will remain stormy this week the speaker has worries about what will happen to the house and on Tuesday he expresses these by means of the utterance in (281).

- (281) Mijn huis moet deze week instorten.
 my house has.to this week prt.-collapse
 ‘It must be the case that my house will collapse this week.’

Given that the speaker does not know whether the house is still standing at n , the utterance refers to the situation depicted in Figure 22, in which the split-off point is situated at the moment that the speaker left the house on Sunday; the present j of eventuality k , which is specified by the adverbial phrase *deze week* ‘this week’, therefore starts on Monday and ends on Sunday next. In this situation it is immaterial whether eventuality k precedes, overlaps with or follows n .

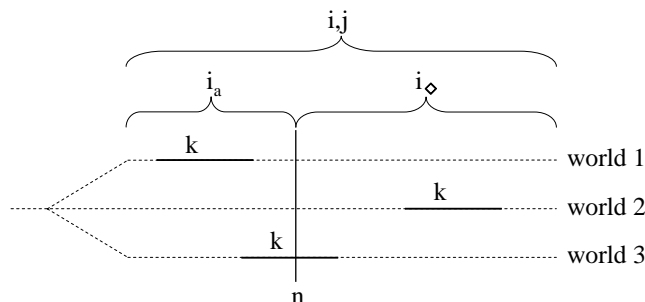


Figure 22: Epistemic modality and present tense (revised)

The fact that k can be located anywhere within time interval j is related to the fact that the speaker has a knowledge gap about his actual world; he simply does not know at n whether the house is still standing, that is, in which possible world he is actually living. In fact, this is made explicit in (282) by the addition of a sentence that explicitly states that the collapse may already have taken place at speech time n .

- (282) Mijn huis moet deze week instorten. Mogelijk is het al gebeurd.
 my house has.to this week prt.-collapse possibly is it already happened
 ‘It must be the case that my house collapsed or will collapse this week.
 Possibly it has already happened.’

The situation is quite different, however, when the knowledge of the speaker is up-to-date. Suppose that the speaker is at the house with someone on Tuesday and that he utters the sentence in (283).

- (283) Dit huis moet deze week instorten.
 this house has.to this week prt.-collapse
 ‘It must be the case that this house will collapse this week.’

From this utterance we now will conclude that the house is still standing at speech time n , and infer from this that it is asserted that the collapsing of the house will take place in the non-actualized part of the present tense interval $i_◊$. This is, however, not a matter of semantics but of pragmatics. The infelicity of utterance (283) in a world in which the speaker already knows that the house has collapsed follows from Grice’s (1975) °maxim of quantity given that the speaker could describe that situation more accurately by means of the perfect-tense construction in (284), which places the eventuality in the actualized part of the present tense interval i_a ; see Section 1.5.4.2.

- (284) Dit huis is deze week ingestort.
 this house has this week prt.-collapsed
 ‘This house has collapsed this week.’

The observations concerning (283) and (284) show that the simple present can only be used to refer to an eventuality preceding speech time n if the speaker is underinformed: if he has more specific information about the location of the eventuality, he will use the tense form that most aptly describes that location. As a result, example (282) does not primarily provide temporal information concerning the eventuality of a collapse but information about the necessity of this eventuality.

We conclude with an observation that is closely related to this. The past-tense counterpart of (281) can also be followed by a sentence that explicitly states that the collapse may already have taken place at speech time n . We assume here the same situation as for (282): the sentence uttered on Tuesday looks back to some virtual speech-time-in-the-past at which it was said that the house would collapse during the time interval referred to by the adverbial phrase *deze week* ‘this week’, that is, a time interval that includes speech time n . Given that the speaker is underinformed about the actual state of his house, what counts is not the actual eventuality of a collapse but the necessity of this eventuality.

- (285) Mijn huis moest deze week instorten. Mogelijk is het al gebeurd.
 my house had.to this week prt.-collapse possibly is it already happened
 ‘It had to be the case that my house will collapse this week. Possibly it has already happened.’

The observations in (282) and (285) show that the use of an epistemic modal shifts the attention from the actual location of eventuality k within the interval j to epistemic information; the speaker primarily focuses on the necessity, probability, likelihood, etc. of the occurrence of eventuality k within j . Information about the precise location of k is of a secondary nature and dependent on contextual information that determines the split-off point of possible worlds as well as information about the knowledge state of the speaker. Our findings are summarized in (286).

- (286) Temporal interpretation of epistemic modal, simple present/past constructions:
- a. If the split-off point of the possible worlds is located at speech time n , eventuality k cannot be situated in the actualized part i_a of the present/past-tense interval because the maxim of quantity would then favor a present/past perfect-tense construction.
 - b. If the split-off point of the possible worlds precedes speech time n , the temporal interpretation depends on the knowledge state of the speaker:
 - (i) if the speaker is underinformed, that is, not able to immediately observe whether eventuality k has taken place, eventuality k can be situated before speech time n .
 - (ii) if the speaker is not underinformed, that is, able to immediately observe whether eventuality k has taken place, eventuality k cannot be situated before speech time n , because the maxim of quantity would then favor a present/past perfect-tense construction.

II. The verb *zullen* ‘will’: future auxiliary or epistemic modal?

The binary tense system discussed in Section 1.5.1 takes *zullen* in examples such as (287a) as a future auxiliary. However, it is also claimed that *zullen* can be used as an epistemic modal verb in examples such as (287b); cf. Haeseryn et al. (1997:944). On this view there are two verbs *zullen*, one temporal, and the other modal.

- (287) a. Marie zal dat boek morgen versturen. [temporal: future]
 Marie will that book tomorrow send
 ‘Marie will send that book tomorrow.’
- b. Marie zal dat boek wel versturen. [modal: probability]
 Marie will that book PRT send
 ‘It is very likely that Marie will send that book.’

That *zullen* need not function as a future auxiliary is also clear from the fact that examples with *zullen* of the type in (288b) behave similar as examples with epistemic *moeten/kunnen* ‘must/may’ in (288a) in that they refer to an eventuality *k* that overlaps with speech time *n* as is clear from the use of the adverb *nu* ‘now’.

- (288) a. Het is vier uur. Marie moet/kan nu wel thuis zijn.
 it is 4.00 p.m. Marie must/may now PRT at.home be
 ‘It is 4.00 p.m. Marie must/may be at home now.’
- b. Het is vier uur. Marie zal nu wel thuis zijn.
 it is 4.00 p.m. Marie will now PRT at.home now
 ‘It is 4.00 p.m. Marie will be at home now.’

The examples in (287) and (288) do not necessarily lead to the conclusion that *zullen* is homonymous. The fact discussed in Subsection I that epistemic verbs like *moeten/kunnen* can also be used in examples with a future interpretation in fact suggests that *zullen* functions as an epistemic modal throughout; see Janssen (1983/1989), and also Erb (2001), who concludes the same thing for German *werden* ‘will’. The following subsections will more extensively motivate this conclusion.

A. The verb *zullen* is not homonymous

The claim that *zullen* is homonymous is often motivated by the meaning attributed to sentences such as (287). Example (287a) strongly suggests that the eventuality of Marie sending that book will take place tomorrow, thus giving room to the idea that the information is primarily about the location of the eventuality with respect to speech time *n* and therefore essentially temporal. The idea is then that (287b) is about whether or not Marie will send that book and the speaker finds it probable that she will; we are dealing with epistemic modality—temporality is not a factor.

A contrast between a temporal and a probability reading should come out by adding the conjunct ... *maar je weet het natuurlijk nooit echt zeker* ‘... but one never knows for sure, of course’ as this should lead to an acceptable result with sentences expressing probability only; in sentences expressing future the result should be semantically incoherent given that the added, second clause contradicts the presumed core meaning of the first clause. That this does not come true is shown by the fact that both examples in (289) are fully acceptable.

- (289) a. Marie zal dat boek morgen versturen ...
 Marie will that book tomorrow send
 (maar je weet het natuurlijk nooit echt zeker bij haar).
 but you know it of.course never really certain with her
 ‘Marie will send that book tomorrow (although one never knows for sure with her, of course).’
- b. Marie zal dat boek wel versturen
 Marie will that book PRT send
 (maar je weet het natuurlijk nooit echt zeker bij haar).
 but you know it of.course never really certain with her
 ‘It is very likely that Marie will send that book (although one never knows for sure with her, of course).’

Haeseryn et al. (1997:994) note that examples with a probability reading normally include the modal particle *wel*, which opens the possibility that the probability reading is not part of the meaning of the verb *zullen* but should be ascribed to the particle. This suggestion is supported by the fact that examples such as (290) receive a probability reading without the help of the verb *zullen*, and it is also consistent with the fact that Van Dale’s dictionary simply classifies *wel* as a modal adverb that may express a conjecture or doubt.

- (290) Marie stuurt dat boek wel.
 Marie sends that book PRT
 ‘It is very likely that Marie will send that book.’

If *wel* is indeed responsible for the probability meaning of examples such as (287b), it is no longer clear that the two occurrences of *zullen* in (287) differ in meaning. That these occurrences may have identical meanings might be further supported by the fact that the two examples in (287) receive similar quantificational force when we add modal adverbs like *zeker* ‘certainly’ or *misschien* ‘maybe’, as in (291).

- (291) a. Marie zal dat boek morgen zeker/misschien sturen.
 Marie will that book today certainly/maybe send
 ‘It will certainly/maybe be the case that Marie will send that book tomorrow.’
- b. Marie zal dat boek zeker/misschien wel sturen.
 Marie will that book certainly/maybe PRT send
 ‘It will certainly/maybe be the case that Marie will send that book.’

The acceptability of (291b) would be surprising if the meaning aspect “probably” of (287b) is due to the meaning of *zullen*. First, this presumed meaning of *zullen* is inconsistent with the meaning “certainly” expressed by the adverb *zeker*, and we would therefore wrongly predict example (291b) to be semantically incoherent with this adverb. Second, this presumed meaning aspect of *zullen* is very similar to the meaning expressed by the adverb *misschien* ‘maybe’ and example (291b) would therefore be expected to have the feel of a tautology with this adverb. The fact that this is not borne out again suggests that the probability meaning aspect of (287b) is due to the modal particle *wel*, which can also be supported by the fact illustrated in (292) that the combinations *zeker wel* and *misschien wel* can also be used to express epistemic modality in constructions without *zullen*. We therefore conclude that the

two occurrences of *zullen* in (287) are semantically more similar than is often assumed, if not identical.

- (292) a. Marie stuurt dat boek zeker wel.
 Marie sends that book certainly PRT
 'It is virtually certain that Marie will send the book.'
- a'. Stuurt Marie dat boek? ja, zeker wel.
 sends Marie that book yes certainly PRT
 'Will Marie send the book? Yes, definitely.'
- b. Marie stuurt dat boek misschien wel.
 Marie sends that book maybe PRT
 'It isn't excluded that Marie will send the book.'
- b'. Stuurt Marie dat boek? ja, misschien wel.
 sends Marie that book yes maybe PRT
 'Will Marie send the book? Yes, maybe.'

That the two occurrences of *zullen* in (287) are similar is less easy to establish on the basis of their morphosyntactic behavior. At first sight, the primeless sentences in (293) seem to show that, like the epistemic modals *moeten* and *kunnen*, both occurrences of *zullen* appear as the finite verb in the corresponding perfect-tense constructions that refer to eventualities preceding speech time *n*, whereas the primed examples seem to show that they do not allow the syntactic format normally found with deontic modals; see the discussion of the examples in (277) in the introduction to Section 1.5.2. The problem with this argument, however, is that some readers will reject the idea that the (a)-examples with *gisteren* 'yesterday' involve temporal *zullen* simply because we are dealing with an eventuality preceding *n* in that case. We nevertheless include this argument given that it should be valid for readers that follow, e.g., Hornstein's (1990) implementation of Reichenbach's tense system, which in fact predicts that the future perfect can refer to eventualities preceding speech time *n*.

- (293) a. Marie zal dat boek gisteren hebben verstuurd.
 Marie will that book yesterday have sent
 'Marie will have sent that book yesterday.'
- a'. *Marie heeft dat boek gisteren zullen versturen.
 Marie has that book yesterday will sent
- b. Marie zal het boek gisteren wel verstuurd hebben.
 Marie will the book yesterday probably sent have
 'Marie will probably have sent the book yesterday.'
- b'. *Marie heeft het boek gisteren wel zullen versturen.
 Marie has the book yesterday probably will send

We will not, however, press this argument any further and conclude this subsection by observing that the past-tense counterpart of example (293a') seems fully acceptable. However, examples such as (294) are °irrealis constructions of a special type, in which *hebben* does not seem to function as a perfect auxiliary.

- (294) Marie had dat boek gisteren zullen versturen (maar ze had geen tijd).
 Marie had that book yesterday will sent but she had no time
 ‘Marie would have sent that book yesterday (but she couldn’t find the time).’

B. The verb zullen is not a future auxiliary

If the two occurrences of *zullen* in (287) are not homonymous but representatives of a single category, we will have to establish whether we are dealing with a future auxiliary or with an epistemic modal. If *zullen* is a future auxiliary, we would expect the use of its present-tense forms to have the effect of locating eventuality *k* in non-actualized part i_{\diamond} of the present-tense interval, as indicated in Figure 23, where we assume *n* to be the split-off point for the possible worlds; note that we have seen earlier that *zullen* does not imply that eventuality *k* takes place in all possible worlds, but we ignore this for the moment for simplicity.

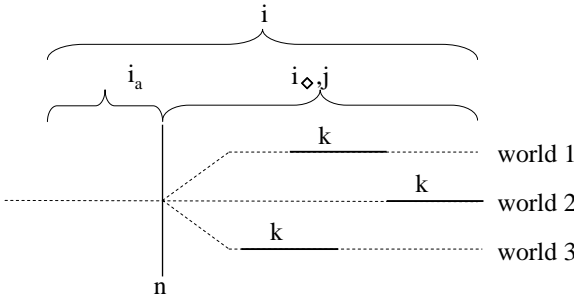


Figure 23: Future reading of *zullen* ‘will’

If *zullen* is an epistemic modal, on the other hand, we would expect that its present-tense forms are also possible if the split-off point precedes *n* and eventuality *k* is located in the actualized part i_a of the present-tense interval, as in Figure 24. Since the examples in (288) in the introduction to this subsection have already shown that in certain examples with *zullen* eventuality *k* may overlap with speech time *n*, the discussion below will focus on whether *k* may also precede *n*.

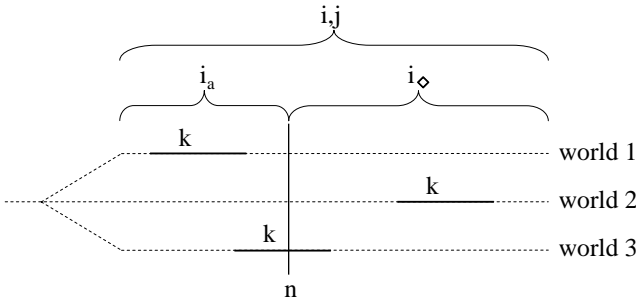


Figure 24: Epistemic reading of *zullen* ‘will’

The representation in Figure 24 is essentially the one that we gave in Figure 22 for example (282) with epistemic *moeten* ‘must’; the main difference involves the fact not indicated here that whereas *moeten* is truly a universal quantifier, the use of *zullen* does not imply that the speaker asserts that eventuality *k* will take place in all

possible worlds. This means that we can easily test whether *zullen* can be used epistemically by considering the result of replacing *moeten* in (282) by *zullen*, as in (295).

- (295) Mijn huis zal deze week instorten. Mogelijk is het al gebeurd.
 my house will this week prt.-collapse possibly is it already happened
 ‘My house will collapse this week. Possibly it has already happened.’

Now, assume the same context as for (282): there has been a storm last week and on Sunday the speaker inspected his weekend house and saw that it was seriously damaged. Since it has remained stormy, the speaker has worries about the house and on Tuesday he expresses these worries by means of uttering sentence (295). In this context, this sentence would be considered true if the house had already collapsed on Monday, as in world 1 of Figure 24, and we can therefore conclude that *zullen* indeed exhibits the semantic hallmark of epistemic modals.

As in the case of *moeten* and *kunnen*, the unambiguous future readings in Figure 23 should be seen as the result of pragmatics. This will become clear when we replace the modal *moeten* in example (283) by *zullen*, as in (296a). The proximate demonstrative *dit* in *dit huis* ‘this house’ suggests that the speaker is able to evaluate the actual state of the house at speech time *n*. It now follows from Grice’s (1975) °maxim of quantity that (296a) can only be used if the house is still standing: if the house is already in ruins at *n*, the speaker could, and therefore would have expressed this more accurately by using the perfect-tense construction in (296b).

- (296) a. Dit huis zal deze week instorten.
 this house will this week prt.-collapse
 ‘This house will collapse this week.’
 b. Dit huis is deze week ingestort.
 this house has this week prt.-collapse
 ‘This house has collapsed this week.’

In the situation just described, a simple present sentence such as (297) would also receive a future interpretation for the same pragmatic reason; if the house is already in ruins at *n*, the speaker again could have expressed this more accurately by the perfect-tense construction in (296b). This shows that the future reading of (296c) is independent of the use of the verb *zullen*.

- (297) Dit huis stort deze week in.
 this house collapses this week prt.
 ‘This house will collapse this week.’

Note, finally, that the speaker who uttered sentence (295) could also have used the sentence in (298) given that the two examples express virtually identical meanings; compare the discussion of *moeten* in sentences like (282) and (285).

- (298) Mijn huis zou deze week instorten. Mogelijk is het al gebeurd.
 my house would this week prt.-collapse maybe is it already happened
 ‘My house would collapse this week. Maybe it has already happened.’

The possibility that the house still stands at speech time n is not only left open in (295), but also in (298). This is due to the fact that speech time n can be included in past-tense interval i ; see the definition of [+PAST] in Section 1.5.1, sub C, example (249b). The two examples differ, however, in the perspective from which the information about eventuality k is presented. In (295) the information is presented from the perspective of the actual speech time n of the speaker/hearer, as is clear from the fact that it can be followed by the present-tense clause ...*zo is mij verteld* 'so I am told'. In (298), on the other hand, the information is presented from the perspective of the virtual speech-time-in-the past n' , as is clear from the fact that it can only be followed by a past-tense clause: ... *zo werd mij verteld* 'so I was told'. This suggests that the choice between present and past tense is determined by the wish to speak about eventuality k on the basis of information available within, respectively, a specific present tense interval i or a specific past-tense interval i .

That eventuality k can precede speech time n can also be illustrated by means of non-telic predicates; see Janssen (1983). An example such as (299) is three ways ambiguous when it comes to the location of eventuality k . First, if the speaker and hearer know that Jan has already departed, the speaker can use (299) to express his expectation that Jan has already travelled for three hours at the moment of speech ($k < n$). Second, if the speaker and hearer know that Jan has departed one hour earlier, the speaker can use (299) to express his expectation that Jan will arrive in two hours (n is included in k). Third, if the speaker and hearer know that Jan has not yet departed, (299) can be used to express the speaker's expectation that Jan will undertake a future journey that lasts three hours ($n < k$).

- (299) Jan zal in totaal drie uur onderweg zijn.
 Jan will in total three hours on.the.road be
 'Jan will be on the road for three hours.'

Note, however, that the three readings of (299) differ in their implications for the duration of Jan's travel. The first reading ($k < n$) can be used if the speaker knows the complete journey will take longer than three hours, whereas under the second and third reading the speaker expresses that the journey will take three hours. We assume that this is a side effect of the fact that the first reading implies some evaluation time that is identical to speech time, which could be made explicit by means of the adverb *nu* 'now'. When we overrule this default evaluation time by adding an adverbial phrase like *morgenmiddag om drie uur* 'at 3:00 p.m. tomorrow', the future reading ($k < n$) of this example will also allow the reading that the journey will take longer than three hours. If we put this side effect aside, we can conclude that the three way ambiguity of (299) with respect to the location of k shows that examples with *zullen* can have the temporal representation in Figure 24, and, hence, that *zullen* is not a future auxiliary.

This subsection has shown that the interpretation of simple present/past-tense constructions with the verb *zullen* proceeds in a way similar to the interpretation of simple present/past constructions with the epistemic modals *moeten* 'must' and *kunnen* 'may'. This means especially that in both cases inferences about the precise location of eventuality k (that is, whether it is situated before or after speech time n) are made along the lines sketched in (286) in Subsection I. We take this to be a

conclusive argument for assuming that *zullen* is not a future auxiliary; see Janssen (1983) for a similar line of reasoning.

C. The meaning contribution of *zullen*

Now that we have established that *zullen* is not a future auxiliary, we can conclude that it is an epistemic modal verb. This subsection tries to establish more precisely what its meaning contribution is.

1. No quantificational force

It seems that *zullen* ‘will’ differs from epistemic modal verbs like *moeten* ‘must’ and *kunnen* ‘may’ in that it does not have any inherent quantificational force. This will be clear from the examples in (300), in which the quantificational force must be attributed to the modal adverbs: *zeker* ‘certainly’ expresses universal quantification over possible worlds, *mogelijk/misschien* ‘possibly’ expresses a low degree of probability, and *waarschijnlijk* ‘probably’ expresses a high degree of probability.

- (300) a. Dit huis zal deze week zeker instorten. [universal]
 this house will this week certainly prt.-collapse
 ‘This house will certainly collapse this week.’
- b. Dit huis zal deze week mogelijk/misschien instorten. [low degree]
 this house will this week possibly/maybe prt.-collapse
 ‘Possibly/Maybe, this house will collapse this week.’
- c. Dit huis zal deze week waarschijnlijk instorten. [high degree]
 this house will this week probably prt.-collapse
 ‘This house will probably collapse this week.’

If *zullen* were inherently quantificational, we would expect the examples in (300) to be degraded or at least to give rise to special effects (which is indeed the case in various degrees when we replace *zullen* by *moeten* or *kunnen*). For example, if *zullen* were to inherently express universal quantification, the modal adverb *zeker* in (300a) would be tautologous and the adverbs *mogelijk* and *waarschijnlijk* in (300b&c) would be contradictory. And if *zullen* were to inherently express existential quantification, *mogelijk* and *waarschijnlijk* in (300b&c) would be tautologous. Nevertheless, it should be noted that examples like (295) and (296a), which do not contain any element with quantificational force, are normally used if the speaker has strong reason for believing that eventuality *k* will occur in all possible worlds; high degree quantification therefore seems to be the default reading of sentences with *zullen*.

2. Subjective assessment

In order to describe the meaning contribution of *zullen* ‘will’, we have to discuss a meaning aspect of epistemic modality that has only been mentioned in passing. Epistemic modality stands in opposition to what is known as metaphysical modality, in which *objective truth* is the central notion and which is part of a very long philosophical tradition concerned with the reliability of scientific knowledge. Epistemic modality, on the other hand, concerns *the degree of certainty* assigned to

the truth of a proposition by an individual on the basis of his knowledge state (note in this connection that the notion *epistemic* is derived from Greek *episteme* ‘knowledge’). Epistemic modal verbs like *moeten* ‘must’ and *kunnen* ‘can’, for example, do not express a degree of probability that is objectively given, but one that results from the assessment of the situation by some individual on the basis of the knowledge available to him. The difference between a declarative clause without a modal verb such as (301a) and a declarative clause with a modal verb such as (301b) is thus that in the former case the proposition that Marie is at home is merely asserted “without indicating the reasons for that assertion or the speaker’s commitment to it” (Palmer 2001:64), whereas in the latter the modal verb indicates “that a judgment has been made or that there is evidence for the proposition” (Palmer 2001:68).

- (301) a. Marie is nu thuis.
 Marie is now at.home
 ‘Marie is at home now.’
 b. Marie moet/kan nu thuis zijn.
 Marie must/may now at.home be
 ‘Marie must/may be at home now.’

In his *Kritik der reinen Vernunft* (1781) Immanuel Kant already distinguished three types of epistemic modality, which he called problematical, apodeictical and assertorical modality. Palmer (2001) makes essentially the same distinctions in Section 2.1; he refers to the three types as speculative, deductive and assumptive modality. Illustrations are given in (302).

- (302) a. Marie kan nu thuis zijn. [problematic/speculative]
 Marie may now at.home be
 b. Marie moet nu thuis zijn. [apodeictical/deductive]
 Marie must now at.home be
 c. Marie zal nu thuis zijn. [assertorical/assumptive]
 Marie will now at.home be

By uttering examples such as (302), the speaker provides three different epistemic judgments about (his commitment to the truth of) the proposition *Marie is at home*. The use of *kunnen* ‘may’ in (302a) presents the proposition as *a possible* conclusion: the speaker is uncertain whether the proposition is true, but on the basis of the information available to him he is not able to exclude it. The use of *moeten* ‘must’ in (302b) presents the proposition as *the only possible* conclusion: on the basis of information available the speaker concludes that it is true. The use of *zullen* ‘will’ in (302c), finally, presents the proposition as *a reasonable but uncertain* conclusion on the basis of the available evidence; see also Droste (1958:311) and Janssen (1983/1989). Palmer (2001) further suggests that the evidence involved may include experience and generally accepted knowledge as in *Het is vier uur; Marie kan/moet/zal nu thuis zijn* ‘It is 4.00 p.m.; Marie may/must/will be at home now’. Note that contrary to what Palmer suggests in Section 2.1.2, we believe that (at least in Dutch) this holds not only for assumptive but for all types of epistemic modality.

The claim that epistemic modality involves some subjective assessment is completely compatible with our earlier claim that epistemic modality introduces a set of possible worlds. The term possible world in fact only makes sense if such a world is accessible, that is, if one can, in principle, enter it from the one that counts as the point of departure. Thus, the creation of a point of perspective is—however metaphorically expressed—an essential ingredient of the notion of possible world; “Suppose now that someone living in w_i is asked whether a specific proposition, p , is possible (whether p might be true). He will regard this as the question as to whether in some conceivable world (conceivable, that is, from the point of view of his world, w_i), p would be true ...” (Hughes & Cresswell 1968:77).

That we are dealing with subjective assessments is clear from the fact that examples such as (303a) are definitely weird; the modals *moeten* and *kunnen* express that the suggested probability of the sun rising is just the result of an assessment by the speaker, who thereby suggests that the alternative view of the sun not rising tomorrow might in principle also be viable. Example (303b) shows that the modal *zullen* likewise gives rise to a weird result; examples like these are only possible if stating the obvious has some rhetoric function as in *Maak je niet druk, de zon zal morgen ook wel opkomen* ‘Don’t get upset, the sun will rise tomorrow just the same’. Janssen (1983) suggests that the markedness of the examples in (303) follows from Grice’s maxim of quantity; the expression of doubt makes the utterances more informative than is required.

- (303) a. [§]De zon moet/kan morgen op komen.
the sun has.to/may tomorrow up come
‘The sun must/may rise tomorrow.’
b. [§]De zon zal morgen op komen.
the sun will tomorrow up come
‘The sun will rise tomorrow.’

That epistemic modals imply an assessment by some individual may also be supported by the fact that examples like (304a&b) are completely acceptable if uttered by an amateur astronomer who has calculated for the first time in his life the time of the rising of the sun on a specific day; in these cases the possibility that the sun rises at some other time than indicated is indeed viable, as the speaker may have made some miscalculation. The expression of doubt in these examples is thus in accordance with the maxim of quantity.

- (304) a. De zon moet morgen om 6.13 op komen.
the sun has.to tomorrow at 6:13 up come
‘The sun must rise at 6:13 a.m. tomorrow.’
b. De zon zal morgen om 6:13 op komen.
the sun will tomorrow at 6.13 up come
‘The sun will rise at 6:13 a.m. tomorrow.’

That subjective assessment is an essential part of the meaning of epistemic modal verbs is perhaps clearer in English than in Dutch given that epistemic clauses require that a modal verb be used in the English, but not the Dutch, simple present. This difference can be formulated as in (305): English obeys the material implication in (305a), from which we can derive (305a’) by [°]modus tollens (the

valid argument form in propositional logic according to which we may conclude from $P \rightarrow Q$ and $\neg Q$ that $\neg P$); Dutch, on the other hand, has the °material implication in (305b), from which we cannot derive the statement in (305b') as that would be a formal fallacy.

- (305) • Distribution of epistemic modals in the present tense
- a. English: subjective assessment \rightarrow modal present
 - a'. no modal present \rightarrow no subjective assessment [valid inference]
 - b. Dutch: modal present \rightarrow subjective assessment
 - b'. no modal present \rightarrow no subjective assessment [invalid inference]

From this difference it follows that the Dutch simple present can be used in a wider range of “future” constructions than the English simple present. Comrie (1985:118) has claimed that the English simple present construction can only be used to refer to future states of affairs if we are dealing with what he calls scheduled events (such as the rising of the sun, the departure of a train, etc.). Under the reasonable assumption that scheduled events do not involve a subjective assessment, this is correctly predicted by the valid inference in (305a').

- (306) a. *Jan leaves tomorrow.
b. The train leaves at 8.25 a.m.

The invalidity of the inference in (305b'), on the other hand, expresses that Dutch is not restricted in the same way as English, but can freely use clauses in the simple present to refer to any future event; see Section 1.5.4 for further discussion.

- (307) a. Jan vertrekt morgen.
Jan leaves tomorrow
'Jan will leave tomorrow.'
b. De trein vertrekt om 8.25 uur.
the train leaves om 8.25 hour
'The train leaves at 8.25 a.m.'

Although the presence of an epistemic modal is not forced in contexts of subjective assessment in Dutch, the discussion above has shown that subjective assessment is an inherent part of the meaning of epistemic modals. Note that the person whose assessment is given can be made explicit by means of an adverbial PP. In accordance with the generalizations in (305) such PPs normally require an epistemic modal verb to be present in English present-tense constructions (Carole Boster, p.c.), whereas in Dutch they can also be used without such a modal.

- (308) a. Volgens Jan komt de zon morgen om 6.13 uur op.
according.to Jan comes the sun tomorrow at 6.13 hour up
'According to Jan the sun will rise at 6.13 a.m. tomorrow.'
a'. *? According to John the sun rises at 6.13 a.m. tomorrow.
b. Volgens Jan zal de zon morgen om 6.13 uur op komen.
according.to Jan will the sun tomorrow at 6.13 hour up come
'According to Jan the sun will rise at 6.13 a.m. tomorrow.'
b'. According to John the sun will rise at 6.13 a.m. tomorrow.

3. Default values of the source

The previous subsection has shown that epistemic modals are used to provide a subjective assessment of the degree of probability that the proposition expressed by the lexical °projection of the embedded verb is true. The person providing the assessment will from now on be referred to as the SOURCE. Given that the source need not be syntactically expressed by means of an adverbial *volgens*-PP and need not even be identified by the context, it seems that language users assign specific default values to the source. When uttered “out of the blue”, the assessment expressed by epistemic modals in present tense sentences such as (309a) will be attributed to the speaker himself (who, of course, may rely either on his own judgment or on some other source). This default interpretation can only be canceled by explicitly assigning a value to the source by adding a *volgens*-PP, as in (309b). Observe that it is also possible for speakers to explicitly present themselves as the source.

- (309) a. Dit huis moet/kan/zal instorten.
 this house has.to/may/will prt.-collapse
 b. Volgens Els/mij moet/kan/zal dit huis instorten.
 according.to Els/me has.to/may/will this house prt.-collapse

In past-tense constructions with the universal modal verb *moeten* ‘must’, the default interpretation of the source again seems to be the speaker. As in the present tense this default interpretation can be canceled or be made explicit by adding a *volgens*-PP.

- (310) a. Dit huis moest (toen wel) instorten.
 this house had.to then PRT prt.-collapse
 b. Volgens Els/mij moest dit huis instorten.
 according.to Els/me had.to this house prt.-collapse

We have seen in Subsection I that examples such as (310a) are normally used to indicate that a specific eventuality that occurred before speech time *n* was inevitable. Furthermore, example (311) shows that it is impossible to cancel the universal quantification expressed by the modal. The reason for this is that the sources of the first and the second conjunct in (311) have the same value, the speaker. On the assumption that the past-tense interval precedes speech time *n*, this leads to a contradiction: according to the first conjunct the eventuality occurs in all possible worlds in the past-tense interval, but according to the second conjunct the eventuality did not take place in the actualized part of the present tense interval.

- (311) §Dit huis moest (toen wel) instorten, maar het is niet gebeurd.
 this house had.to then PRT prt.-collapse but it is not happened
 ‘This house had to collapse, but it didn’t happen.’

A potential problem for this account is that the past-tense interval may in principle include speech time *n*; see the discussion in Section 1.5.1, sub I. Consequently, the first conjunct of (311) should be true if the collapsing of the house takes place after speech time *n*. This reading of (311) is blocked, however, by Grice’s maxim of quantity given that the speaker can more accurately express this situation by means

of the present-tense counterpart of (310a): *Dit huis moet (wel) instorten* ‘This house has to collapse’.

Examples such as (312) that do explicitly mention the source by means of a *volgens*-PP are different in that they do not imply that the eventuality denoted by the lexical projection of the embedded main verb occurred before speech time *n*; this is clear from the fact that examples such as (312a) do not lead to a contradiction but are fully acceptable. The reason for this is that the sources of the first and the second conjunct have different values: the former has *Els* as its source and the latter the speaker. This leads to the coherent interpretation that *Els*’ past assessment has proven to be incorrect. In fact, example (312b) may receive a similar interpretation, provided that we construe the pronoun *mij* as referring to the speaker-in-the-past; by (312b) the speaker asserts that his earlier assessment was wrong. If we interpret the pronoun as referring to the speaker-in-the-present, the example becomes incoherent again.

- (312) a. Volgens Els moest dit huis instorten, maar het is niet gebeurd.
 according.to Els had.to this house prt.-collapse but it is not happened
 ‘According to *Els*, this house had to collapse, but it didn’t happen.’
 b. Volgens mij moest dit huis instorten, maar het is niet gebeurd.
 according.to me had.to this house prt.-collapse but it is not happened
 ‘According to me, this house had to collapse, but it didn’t happen.’

In the past-tense example with the existential modal verb *kunnen* in (313a), the default interpretation of the source is again the speaker; as usual, this default interpretation can be canceled or be made explicit by adding a *volgens*-PP.

- (313) a. Dit huis kon (elk moment) instorten.
 this house might any moment prt.-collapse
 ‘It might have been the case that this house would collapse any moment.’
 b. Volgens Els/mij kon dit huis (elk moment) instorten.
 according.to Els/me might this house any moment prt.-collapse

We have seen in Subsection I that examples such as (313a) are especially used if the event denoted by the lexical projection of the embedded main verb did not yet take place in the actual world, and suggest that certain measures have prevented the eventuality from taking place, that we have had a lucky escape, etc. That the source of this example is the speaker is clear from the fact that adding the conjunct *...maar dat was onzin* to this example, as in (314a), leads to an incoherent result: the first conjunct asserts the speaker’s currently held belief that there are possible worlds accessible from some point of time in the present-tense interval in which the house would have collapsed (e.g., in which the measures that have prevented the eventuality from occurring in the speaker’s actual world were not taken or in which the circumstances were different) and in the second conjunct the speaker characterizes this belief as nonsense. Example (314b), of course, does not suffer from this defect as it is perfectly coherent to characterize a belief held by somebody else or by the speaker-in-the-past as nonsense.

- (314) a. ^SDit huis kon (elk moment) instorten, maar dat was onzin.
 this house might any moment prt.-collapse but that was nonsense
 ‘It might have been the case that this house would collapse any moment, but that was nonsense.’
- b. Volgens Els/mij kon dit huis (elk moment) instorten,
 according.to Els/me might this house any moment prt.-collapse
 maar dat was onzin.
 but that was nonsense
 ‘According to Els/me, it might have been the case that this house would collapse any moment, but that turned out to be nonsense.’

Given the discussion above, one might expect that in past-tense examples with *zullen*, the default interpretation of the source is again the speaker, but this is not borne out; such examples typically involve some other source, as will be clear from the fact that the examples in (315) are both fully coherent: (315a) expresses that the prediction of some source has not come true and (315b) expresses that somebody’s belief was badly motivated.

- (315) a. Dit huis zou instorten, maar het is niet gebeurd.
 this house would prt.-collapse but it is not happened
 ‘This house was predicted to collapse, but it didn’t happen.’
- b. Dit huis zou (elk moment) instorten, maar dat was onzin.
 this house would any moment prt.-collapse but that was nonsense
 ‘It was said that this house would collapse any moment, but that was/turned out to be nonsense.’

That past-tense examples with *zullen* have a default interpretation in which the source is not the speaker may account for the fact that constructions with *zullen* are versatile in counterfactuals such as (315a) and conditionals such as (316). We will return to constructions of these types in Section 1.5.4.2.

- (316) a. Als hij al zijn geld in aandelen belegd had,
 if he all his money in shares invested had,
 dan zou hij nu straatarm zijn.
 then would he now penniless be
 ‘If he had invested all his money in shares, he would be penniless now.’
- b. Als hij niet al zijn geld in aandelen belegd zou hebben,
 if he not all his money in shares invested would have
 dan was hij nu schatrijk.
 then was he now immensely rich
 ‘If he hadn’t invested all his money in shares, he would be rich now.’

The verb *zullen* thus differs from *moeten* and *kunnen* in that the speaker is the default value of the source in the present but not in the past tense. This contrast in interpretation can also be brought to the fore by the contrast between (317) and (318). The fact that the speaker is the default value of the source in present-tense examples with *zullen* accounts for the fact that examples such as (317) are readily construed as promises made by the speaker as he can be held responsible for the truth of the assertions.

- (317) a. Ik zal u het boek deze week toesturen.
 I will you the book this week prt.-send
 'I'll send you the book this week.'
- b. Het boek zal u deze week toegestuurd worden.
 the book will you this week prt.-sent be
 'The book will be sent to you this week.'

The fact that the default value of the source in past-tense examples with *zullen* is some person other than the speaker accounts for the fact that examples such as (318) are construed as promises made by the (implicit) agent of the clause (which, of course, can also be the speaker-in-the-past). Examples such as (318) often have a counterfactual interpretation: they strongly suggest that, to the knowledge of the speaker-in-the-present, the promise has not been fulfilled, which is also clear from the fact that they are typically followed by a conjunct connected with the adversative coordinator *maar* 'but'.

- (318) a. Els zou u/me het boek vorige week toesturen (maar ...).
 Els would you/me the book last week prt.-send but
 'Els would have sent you/me the book last week (but ...).'
- b. Het boek zou u/me vorige week toegestuurd worden (maar ...).
 the book would you/me last week prt.-sent be but
 'The book would have been sent to you/me last week (but ...).'

III. Future reference and pragmatics

Subsection II has shown that the future reading of the modal verb *zullen* is triggered by pragmatics and is thus not an inherent part of the meaning of the verb. Present tense sentences with *zullen* can felicitously refer to the situation depicted in Figure 23 from Subsection I where the split-off point of the possible worlds is situated at speech time n ; such examples cannot refer to a similar situation in which the eventuality k is situated in time interval i_a given that such a situation could be more accurately expressed without *zullen* by means of the present perfect.

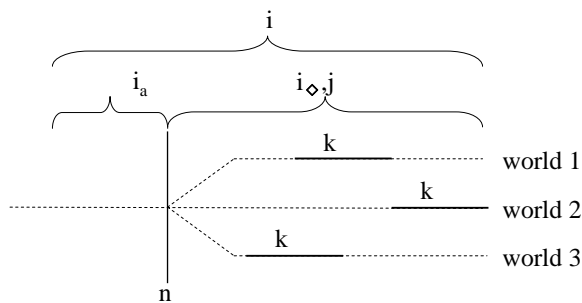


Figure 23: Future reading of *zullen* 'will'

If this approach is correct, we would expect future readings to arise as well with other (non-main) verbs in situations like Figure 23. We have already seen in Subsection I, that this is indeed the case with the epistemic modals *moeten* and *kunnen*. It is important to stress, however, that we can find the same effect outside the domain of epistemic modal verbs. Consider the examples in (319).

- (319) a. Ik ga/kom vandaag vissen.
 I go/come today fish
 'I (will) go/come fishing today.'
- b. Ik ga slapen.
 I go sleep
 'I (will) go to sleep.'

The semantics of the verbs in (319) is rather complex. In some cases, they seem to have maintained the lexical meaning of the main verb and thus imply movement of the subject of the clause: example (319a) with *gaan* 'to go' may express that the speaker is leaving his default location (e.g., his home) whereas the same example with *komen* 'to come' may express that the speaker will move to the default location of the addressee; see Section 6.4.1, sub I, for more discussion. However, this change of location reading can also be entirely missing with *gaan*; example (319b), for example, can be uttered when the speaker is already in bed, and thus does not have to change location in order to get to sleep. The verb *gaan* in (319b) is solely used to express inchoative aspect, a meaning aspect that can also be detected in the examples in (319a); see Haeseryn et al. (1997: Section 5.4.3).

The future reading of the examples in (319) can again be derived by means of Grice's maxim of quantity: if the eventuality denoted by the lexical projection of the main verb had already started at speech time n , the speaker could have described the situation more precisely by using the simple present or the present perfect (depending on whether the eventuality is presented as ongoing or completed). Things are again different in situations where the split-off point of the possible worlds precedes speech time n , like in Figure 22 in Subsection I. Consider the examples in (320) and suppose that the speaker does not know anything about Els' movement since some contextually determined moment preceding speech time n .

- (320) a. Els gaat vandaag vissen. b. Els komt vandaag vissen.
 Els goes today fish Els comes today fish
 'Els goes fishing today.' 'Els will come fishing today.'

In the situation sketched, example (320a) does not imply anything about the temporal location of the eventuality denoted by the lexical projection of the main verb within the present tense interval; it may precede, overlap with or follow speech time n . In (320b), a future reading is greatly favored given that this example strongly suggests that the agent of the clause is moving to the default location of the speaker; if Els had already joined the speaker, the speaker could have expressed the situation more precisely by using the present perfect: *Els is vandaag komen vissen* 'Els has come fishing today'.

To conclude, note that we find similar facts with the verb *blijven*, which in its main verb use means "to stay" and denotes lack of movement. In examples such as (321a) the meaning of the main verb is retained, and the sentence is interpreted as referring to a future event. In examples such as (321b) the locational interpretation has completely disappeared and it is just a durative (non-terminative) aspect that remains, and the eventuality denoted by the lexical projection of the main verb is therefore construed as occurring at speech time n .

- (322) a. Jan wandelt op de hei.
 Jan walks on the moor
 ‘Jan is walking on the moor.’
 b. #John walks on the moor.

Section 1.5.4 will show that the Dutch simple present/past has a wide range of possible interpretations concerning the location of °eventuality *k* expressed by the lexical projection of the main verb with respect to speech time *n*/virtual speech-time-in-the-past *n'*: the former may precede, follow or overlap with the latter. Therefore, it will not come as a big surprise that Dutch also has special means for expressing progressive aspect, that is, for expressing that a certain eventuality *k* is ongoing at *n/n'*.

A first option is the use of a set of semi-aspectual verbs, as in (323). The glosses show that these aspectual verbs are normally verbs that can also be used to denote specific postures or specific ways of moving. This meaning aspect may still be present, as in the examples in (323a), but it may also be suppressed; a speaker who utters (323b) typically has no knowledge of Jan’s posture or activity during the relevant present tense interval.

- (323) a. Jan zit/ligt/staat (°morgen) te lezen.
 Jan sits/lies/stands tomorrow to read
 ‘Jan is reading.’
 b. Jan zit/loopt zich (°morgen) te vervelen.
 Jan sit/walks REFL tomorrow to bore
 ‘Jan is being bored.’

The markedness of the use of the time adverb *morgen* ‘tomorrow’ shows that the examples in (323) are preferably used to refer to some eventuality during speech time *n*. This seems to be confirmed by a Google search (4/27/2012) on the string [*zit morgen (weer) te*] which resulted in no more than 16 attestations. This result is especially telling in view of the fact that a similar search on the string [*zit te lezen*] already resulted in nearly 500 cases.

A more special progressive construction is the *aan het* + *V_{infinitive}* + *zijn* construction exemplified in (324). The markedness of the use of the time adverb *morgen* ‘tomorrow’ shows that examples such as (323) are preferably used to refer to some eventuality during speech time *n*. This seems to be confirmed by a Google search (4/27/2012) on the string [*is morgen (weer) aan het*] resulted in fewer than 50 results, many of which do not involve the relevant construction. This result is especially telling in view of the fact that a similar search on the string [*is aan het dansen*] resulted in nearly 250 cases.

- (324) Jan is (°morgen) aan het dansen.
 Jan is tomorrow AAN HET dance
 ‘Jan is dancing.’

The *aan het* + *V_{infinitive}* + *zijn* construction is problematic in the sense that it is not clear what the precise syntactic status of the *aan het* + *V_{infinitive}* sequence is: there are reasons for assuming that it is a °complementive PP headed by the preposition *aan*, but there are also reasons for assuming that it is just a non-finite form of the

verb. The most important evidence in favor of claiming that we are dealing with a complementive *aan*-PP is related to word order: example (325b) shows that the sequence *aan het wandelen* behaves like a complementive in that it must precede the verb(s) in clause-final position; this restriction would be surprising if *aan het wandelen* were simply an inflected main verb given that main verbs normally can follow the verb that they are selected by; cf. *dat Jan heeft gewandeld op de hei* ‘that Jan has walked on the moor’ and *dat Jan wil wandelen op de hei* ‘that Jan wants to walk on the moor.’

- (325) a. Jan is aan het wandelen op de hei.
 Jan is AAN HET walk on the moor
 ‘Jan is walking on the moor.’
 b. dat Jan <aan het wandelen> is <*aan het wandelen> op de hei.
 that Jan AAN HET walk is on the moor
 ‘that Jan is walking on the moor.’

The assumption that we are dealing with a complementive PP also accounts for the fact illustrated in (326) that the verb *zijn* appears as a past participle in the perfect-tense construction. If the *aan het* + $V_{\text{infinitive}}$ sequence were simply an inflected verb, we might wrongly expect the infinitive *zijn/wezen* ‘be’ given that such complex perfect-tense constructions normally exhibit the called *°infinitivus-pro-participio* effect.

- (326) a. Jan is aan het wandelen geweest op de hei.
 Jan is AAN HET walk been on the moor
 ‘Jan has been walking on the moor.’

That the *aan*-PP must precede the verbs in clause-final position and the verb *zijn* ‘to be’ appears as a participle in perfect-tense constructions thus suggests that we are dealing with a copular-like construction with a complementive *aan*-PP. This seems to be supported by the fact that the verb *zijn* ‘to be’ can be replaced by the modal verbs *lijken* ‘to appear’, *schijnen* ‘to seem’ and *blijken* ‘to turn out’, which are traditionally also analyzed as copular verbs; cf. (327a). The same thing holds for copular verbs like *blijven* ‘to remain’ and *raken* ‘to get’ in (327b&c). For completeness’ sake, the primed examples illustrate the unsuspected copular use of these verbs.

- (327) a. Ze leken aan het kletsen. a'. Hij leek wat verward.
 they appeared AAN HET chat he was a.bit confused
 ‘They appears to be chatting.’ ‘He was a bit confused.’
 b. Ze bleven aan het kletsen. b'. Hij bleef wat verward.
 they continued AAN HET chat he remain a.bit confused
 ‘They continued chatting.’ ‘He stayed a bit confused.’
 c. Ze raakten aan het kletsen. c'. Hij raakte wat verward.
 they got AAN HET chat he got a.bit confused
 ‘They started to chat.’ ‘He got a bit confused.’

More support is provided by the fact that undative verbs like *hebben* ‘to have’, *krijgen* ‘to get’ and *houden* ‘to keep’ may occur in this construction given that

Section A.6.2.1 shows that these verbs can be used as semi-copular verbs; the examples in (328) are adapted from Booij (2010:ch.6).

- (328) a. Ik heb/kreeg de motor weer aan het draaien.
 I have/got the engine again AAN HET run
 'I have/got the engine running again.'
- b. Ik hield de motor met moeite aan het draaien.
 I kept the engine with difficulty AAN HET run
 'I kept the engine running with difficulty.'

A final piece of evidence for assuming that the sequence *aan het* + $V_{\text{infinitive}}$ functions as a complementive is that it can also occur in resultative-like constructions such as (329), which are again adapted from Booij (2010). Such resultative constructions are often of a more or less idiomatic nature.

- (329) a. Jan bracht Marie aan het twijfelen.
 Jan brought Marie AAN HET doubt
 'Jan made Marie doubt.'
- b. Els maakte Peter aan het lachen.
 Els made Peter AAN HET laugh
 'Els made Peter laugh.'
- c. Haar opmerking zette mij aan het denken.
 her remark put me AAN HET think
 'Her remark made me think.'

If the *aan het* + $V_{\text{infinitive}}$ phrase is indeed a complementive PP, the phrase *het* + $V_{\text{infinitive}}$ is most likely an INF-nominalization, which seems to be the direction that Booij (2010:163) is heading. That this is indeed conceivable is clear from the fact illustrated in (330) that the sequence *het* + $V_{\text{infinitive}}$ sometimes alternates with an undisputable noun phrase with the article *de* 'the'. So, besides the primeless examples in (327), we find examples such as (330) with more or less the same meaning. Note in passing that a Google search (8/24/2011) on the string [*aan het kletsen/de klets V*] suggests that the copular verb *zijn* prefers the infinitive *kletsen*, *raken* prefers the noun *klets*, and that *blijven* has no clear preference between the options; an investigation of more minimal pairs is needed, however, to determine whether this is indeed a general tendency.

- (330) a. Ze waren aan de klets.
 they were AAN DE chat
- b. Ze bleven aan de klets.
 they were AAN DE chat
- c. Ze raakten aan de klets.
 they got AAN DE chat

It can be noted in passing that the suggested analyses may also be supported by the fact that certain German dialects allow constructions like *Ich bin am Arbeiten*, in which *am* can be seen as the contraction form of the preposition *an* and the dative, neuter article *dem*; see Bhatt & Schmidt (1993). However, if we are indeed dealing with INF-nominalization in the progressive *aan het* + $V_{\text{infinitive}}$ + *zijn* construction,

we should conclude that noun phrases following the preposition *aan* exhibit more restricted behavior than run-of-the-mill nominalizations; whereas (331a) shows that such nominalizations can normally be modified by an adverbially or attributively used adjective, example (331b) shows that it is not possible to modify the infinitive in the *aan het* + $V_{\text{infinitive}}$ sequence in the same way—modification is possible but only if the modifier is an adverbial phrase preceding the *aan het* + $V_{\text{infinitive}}$ sequence, as in (331b’).

- (331) a. het geanimeerd(e) kletsen (van de kinderen)
 the animated chatting of the children
 b. *De kinderen waren aan het geanimeerd(e) kletsen.
 the children were AAN HET animated chat
 b’. De kinderen waren geanimeerd aan het kletsen.
 the children were animated AAN HET chat
 ‘They were having a vivid conversation.’

Something similar to the restrictions on modifiers holds for the internal °argument(s) of the input verb. Whereas nominalizations like *het boeken lezen/het lezen van de boeken* ‘the reading of (the) books’ are perfectly acceptable, example (332a) is not; expression of the direct object *boeken* ‘books’ is possible provided that it is external to the *aan het* + $V_{\text{infinitive}}$ sequence, as in (332a’). Essentially the same thing holds for °complementives like *helderblauw* ‘pale blue’; whereas nominalizations like *het lichtblauw verven van het hek* are fully acceptable, the (b)-examples in (332) show that the complementive must be external to the *aan het* + $V_{\text{infinitive}}$ sequence.

- (332) a. *Ze zijn aan het <boeken> lezen <van de boeken>.
 they are AAN HET books read of the books
 a’. Ze zijn (de) boeken aan het lezen.
 they are the books AAN HET read
 ‘They’re reading (the) books.’
 b. *Ze zijn het hek aan het lichtblauw verven.
 they are the gat AAN HET pale.blue paint
 b’. Ze zijn het hek lichtblauw aan het verven.
 they are the gat pale.blue AAN HET paint
 ‘They’re painting the gate blue.’

The examples in (331) and (332) strongly suggest that infinitives in the *aan het* + $V_{\text{infinitive}}$ sequence must be bare in the sense that it cannot be accompanied by any other material, but there seem to be exceptions to this general rule: if the verb forms a fixed collocation with a bare noun, as in *paard rijden* ‘to ride horseback’, or a predicative adjective, as in *dronken voeren* ‘to ply someone with liquor’, the non-verbal part of the collocation noun can be either external or internal to the *aan het* + $V_{\text{infinitive}}$ sequence; see Smits (1987), Booij (2010), and references cited there. The same thing holds for verbal particles, which are argued in Section 2.2.1 to function as complementives as well.

- (333) a. Ze zijn <paard> aan het <paard> rijden.
 they are horse AAN HET ride
 'They're riding horseback.'
- b. Ze waren Peter <dronken> aan het <dronken> voeren.
 they were Peter drunk AAN HET feed
 'They were plying Peter with liquor.'
- c. Ze waren de whisky <op> aan het <op> drinken.
 they were the whisky up AAN HET drink
 'They were finishing the whisky.'

It will be clear that the unacceptability of the primeless examples in (332) is problematic for the assumption that infinitives in *aan het* + $V_{\text{infinitive}}$ sequences are INF-nominalizations, and thus also for the hypothesis that we are dealing with complementive *aan*-PPs. In fact, the acceptability of the primed examples is even more problematic for this hypothesis, as this would imply that the presumed INF-nominalizations are able to license the inherited \circ complements of their input verbs by assigning them a \circ thematic role and/or case in the position external to the *aan*-PP; this would clearly be unprecedented.

This problem does not occur if we assume that the *aan het* + $V_{\text{infinitive}}$ sequence is simply a regular main verb, that is, that the *aan het* part functions as some kind of inflection comparable to the prefix *ge-* in past participles; cf. Smits (1987). Although this is an unconventional move, it may not be too far-fetched given that we proposed a similar analysis for the element *te* preceding infinitives in Section 1.3, sub IIIA1. The main reason given there in favor of the claim that *te* is a prefix and not an independent word is that it behaves like the prefix *ge-* in that it is always left-adjacent to the verbal element/stem; this is illustrated again in (334).

- (334) a. Hij heeft <paard> ge- <*paard> -reden.
 he has horse GE ridden
 'He has ridden on horseback.'
- a'. Hij probeert <paard> te <*paard> rijden.
 he tries horse to ride
 'He tries to ride on horseback.'
- b. Hij heeft Peter <dronken> ge- <*dronken> -voerd.
 he has Peter drunk GE fed
 'He has plied Peter with liquor.'
- b'. Hij probeert Marie <dronken> te <*dronken> voeren.
 he tries Marie drunk to feed
 'He tries to ply Marie with liquor.'
- c. Marie heeft de whisky <op> ge- <*op> -dronken.
 Marie has the whisky up GE drunk
 'Marie has finished the whisky.'
- c'. Marie probeert de whisky <op> te <*op> drinken.
 Marie tries the whisky up to drink
 'Marie tries to finish the whisky.'

When we compare the examples in (334) to those in (333), we immediately see that this argument does not carry over to the *aan het* + $V_{\text{infinitive}}$ sequence; there are cases

in which the verbal part of the sequence can be split from the *aan het* part. Claiming that the *aan het* part is some sort of inflection therefore requires extensive motivation (which Smits in fact tries to provide). If we add this to the problem illustrated in (325b) above that the *aan het*-phrase must precede the finite verb in clause-final position, we see that the analysis according to which the *aan het* + $V_{\text{infinitive}}$ sequence is an inflected form of the verb is not without its problems either. We therefore conclude that the internal organization of the progressive *aan het* + $V_{\text{infinitive}}$ + *zijn* construction is still far from clear and therefore in need of further investigation.

II. Inchoative and terminative aspect

Inchoative aspect can be expressed by the verb *beginnen* ‘to begin/start’, as in (335a). The fact that the object of the verb *lezen* must precede the verb *beginnen* in clause-final position may suggest that the latter verb is not a main verb with a clausal complement but a non-main verb that forms a °verbal complex with the main verb *lezen*. It is, however, far from clear whether this is sufficient for claiming that *beginnen* is a non-main verb, as other main verbs exhibit similar behavior; see Chapter 4 for relevant discussion.

- (335) a. dat Jan het boek begint te lezen.
 that Jan the book begins to read
 ‘that Jan is beginning to read the book.’
 b. *dat Jan begint het boek te lezen.

Example (336a) shows that terminative aspect cannot be expressed by means of a verbal complex. Instead the constructions in (336b&c) are used: the verb *stoppen* ‘to stop’ selects a *met*-PP with an INF-nominalization denoting the terminated action. That we are dealing with a true nominalization is clear from the fact that the object of the input verb can be realized as a postnominal *van*-PP or, if the object is indefinite, as a prenominal noun phrase; cf. N2.2.3.2.

- (336) a. *dat Jan het boek stopt te lezen.
 that Jan the book stops to read
 b. dat Jan stopt met het lezen van het boek.
 that stops with the reading of the book
 ‘that Jan stops reading the book.’
 c. dat Jan stopt met boeken lezen.
 that stops with books reading
 ‘that Jan stops reading books.’

1.5.4. The Dutch verbal tense system

Section 1.5.1 discussed the binary tense theory proposed by Te Winkel (1866) and Verkuyl (2008), according to which the three binary distinctions in (337) are used in mental representations of tense. Languages may differ when it comes to the grammatical means use for expressing the oppositions in (337): this can be done within the verbal system by means of inflection and/or auxiliaries, but may also involve the use of adverbial phrases, aspectual markers, pragmatic information, etc. Verkuyl claims that Dutch expresses all oppositions in (337) in the verbal system:

[+PAST] is expressed by inflection, [+POSTERIOR] by means of the verb *zullen* ‘will’, and [+PERFECT] by means of the auxiliaries *hebben* ‘to have’ and *zijn* ‘to be’.

- (337) a. [±PAST]: present versus past
- b. [±POSTERIOR]: future versus non-future
- c. [±PERFECT]: imperfect versus perfect

Section 1.5.2 has argued at length that the claim that *zullen* is a future auxiliary is incorrect: it is an epistemic modal and it is only due to pragmatic considerations that examples with *zullen* are sometimes interpreted with future time reference. If this is indeed correct, the Dutch verbal system is based on just the binary features [±PAST] and [±PERFECT], and therefore does not make an eight-way, but only a four-way tense distinction. This means that the traditional view on the Dutch verbal tense system in Table 9 from Section 1.5.1, sub I, must be replaced by the one in Table 11; the examples with *zullen* no longer define a separate set of future tenses.

Table 11: The Dutch verbal tense system (revised)

	PRESENT	PAST
IMPERFECT	simple present (o.t.t.) <i>Ik wandel/Ik zal wandelen.</i> I walk/I will walk.	simple past (o.v.t.) <i>Ik wandelde/Ik zou wandelen.</i> I walked/ I would walk.
PERFECT	present perfect (v.t.t.) <i>Ik heb gewandeld/</i> <i>Ik zal hebben gewandeld.</i> I have walked/I will have walked.	past perfect past perfect (v.v.t.) <i>Ik had gewandeld/</i> <i>Ik zou hebben gewandeld.</i> I had walked/I would have walked.

This revised view on the verbal tense system of Dutch implies that utterances in the simple present/past can normally refer to any event time interval in present/past-tense interval *i*; eventuality *k* may precede, follow or overlap with *n/n'*, as indicated in Figure 25. Recall that the number of possible worlds is in principle infinite and that we simply select a number of them that suit our purpose.

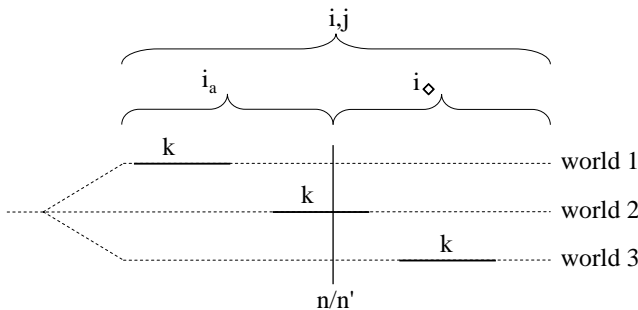


Figure 25: Simple tenses in Dutch

The representation of the perfect tenses is virtually identical to that in Figure 25; the only difference is that the eventualities are construed as completed autonomous units within the present/past-tense interval. As before, we indicate this in Figure 26 by means of a vertical line at the end of the event time interval *k*.

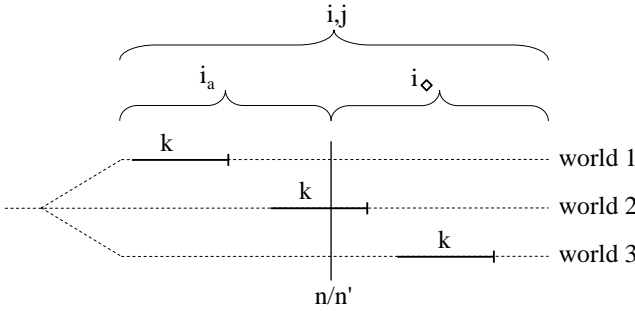


Figure 26: *Perfect tenses in Dutch*

Note that we assumed in the figures above that the default value of time interval j (that is, the time interval within which the eventuality denoted by the lexical projection of the main verb must take place) is equal to that of the complete present/past-tense interval i . In the following sections we will show that contextual information (both of a linguistic and a non-linguistic nature) may overrule this default interpretation and that this gives rise to more restricted interpretations.

Before we start with the Dutch tense system, we want to note that, although Verkuyl (2008) was probably wrong in assuming that binary tense theory was perfectly mirrored by the Dutch tense system, it seems that Dutch is very suitable for studying the interaction of tense, modality and pragmatic information because it can be characterized as a strongly “tense-oriented” language. First, Dutch normally does not mark mood on the verb (the exception being imperative marking), so that it differs from, e.g., German in that it does not have a productive subjunctive marking on the verb; see Section 1.4.3 for more discussion. Second, Dutch normally does not mark syntactic aspect on the verb, so that it differs from, e.g., English in that progressive aspect can simply be expressed by means of the simple present/past. Third, Dutch does not require epistemic modality to be marked, so that it differs from English in that the expression of non-actualized (“future”) events need not be marked by the presence of *will* (or some other modal verb); Dutch *zullen* ‘will’ is optional in such cases. Finally, it may be useful to mention that, contrary to what is the case in English, adverbial phrases like *gisteren* ‘yesterday’ that refer to temporal intervals preceding speech time can be used in present-perfect constructions; Dutch does not have the property found in English that such adverbials can only be used in past-tense constructions. As a result, Dutch enables us to directly investigate the interaction of past tense, epistemic modality and pragmatics in deriving special meaning effects without the intervention of any of the more idiosyncratic properties concerning mood/modality, aspect and adverbial modification of the type mentioned above.

1.5.4.1. *The uses of the simple tenses*

This section discusses the uses of the simple tenses. We will assume that the default interpretation of these tenses is as given in Figure 25, and that eventuality k can thus precede, follow or overlap with n/n' ; in other words, the default interpretation of the present j of eventuality k is identical to the present/past i of the speaker/hearer. We will further argue that the more restricted/special interpretations of the simple

tenses do not require any special stipulations but follow from the interaction of three types of linguistic information.

- (338) a. Temporal information (tense and adverbial modification)
 b. Modal information (theory of possible worlds)
 c. Pragmatic information (Grice's maxim of quantity)

The discussion will focus on the simple present as we assume that the argumentation carries over to the simple past (although this may not always be easy to demonstrate); we will see, however, that the use of the simple past sometimes triggers some special effects.

I. Default use

In their discussion of non-temporal analyses of tense, Boogaart & Janssen (2007:808ff.) discuss a number of examples in the simple present in which the eventuality takes place before speech time. Two of their examples from, respectively, English and Dutch are given as (339). Boogaart & Janssen also claim that the fact that the telling/asking precedes *n* or, in their words, "took place in the past" is problematic for temporal theories of time given that "such discrepancies cannot be accounted for coherently in exclusively temporal terms."

- (339) a. John tells me that you are getting a new car.
 b. Fred, iemand vraagt naar je. Kom je even?
 Fred someone asks for you come you a.moment
 'Fred, someone is asking for you. Will you come here for a minute?'

From the point of view encoded in Figure 25, this claim is clearly premature given that simple present examples such as (339) are precisely what we expect to arise, provided at least that eventuality *k* is included in present *i* of the speaker/hearer. Simple present tense situations in which the eventuality *k* precedes or follows speech time *n* also arise if the speaker provides a second hand report. When Els promised the speaker yesterday to read his paper today, the speaker may utter example (340) at noon to report this promise, even if Els has already read his paper in the morning or if she will start reading it later that day.

- (340) Els leest vandaag mijn artikel.
 Els reads today my paper
 'Els is reading my paper today.'

The fact that we are able to account for the fact that the simple present may also refer to an imperfect eventuality preceding or following *n* by assuming that Dutch does not express the binary feature [\pm POSTERIOR] within its verbal system provides strong support for the binary tense theory. This especially holds because this cannot be expressed by means of the Reichenbachian approaches to the verbal tense system; such approaches must treat such cases as special uses of the simple present.

II. Non-linguistic context: monitoring of k

The default interpretation of example (340) can be overruled by pragmatic considerations. In the context given above the split-off point of the possible worlds

precedes present tense interval i , and therefore also precedes speech time n . If the speaker is able to monitor Els' doings, however, the split-off point of the possible worlds coincides with n , and in this case example (340) can only be used to refer to the situation depicted in Figure 27, in which eventuality k must follow or overlap with n .

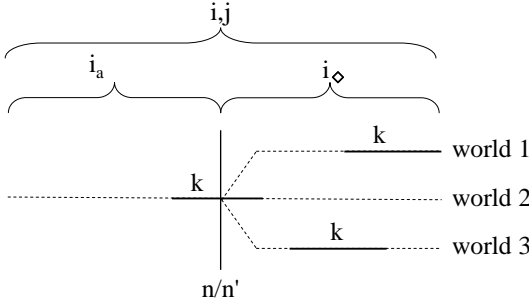


Figure 27: *Simple tenses in Dutch (split-off point of possible worlds = n/n')*

The fact that the simple present cannot be used if the eventuality precedes n is entirely due to pragmatics; since the speaker knows that eventuality k precedes n (that is, that k is presented as completed within the actualized part time interval i_a of the present/present-tense interval), he can describe this situation more precisely by means of the perfect (see Section 1.5.4.2, sub II-III), and Grice's °maxim of quantity therefore prohibits the use of the less informative simple present.

III. *Adverbial modification*

The interpretation of example (340) can also be restricted by grammatical means, more specifically, by the addition of temporal adverbial phrases, as in (341). Note in passing that, under the working assumption that the speech time is noon, (341a) is only felicitous if the split-off point of the possible worlds precedes speech time n ; if the split-off point coincides with n the present tense is excluded for the pragmatic reasons discussed in the Subsection II.

- (341) a. Els leest vanmorgen mijn artikel.
Els reads this.morning my paper
'Els is reading my paper this morning.'
- b. Els leest op dit moment mijn artikel.
Els reads at this moment my paper
'Els is reading my paper at this moment.'
- c. Els leest vanmiddag mijn artikel.
Els reads this.afternoon my paper
'Els is reading my paper this afternoon.'

The adverbial phrases *vanmorgen* 'this morning', *op dit moment* 'at this moment' and *vanmiddag* 'this afternoon' situate eventuality k respectively before, simultaneous with, and after n , that is, noon; we illustrate this in Figure 28 for the adverbial phrase *vanmiddag* 'this afternoon'. The effect of adding temporal adverbial phrases is thus that the time interval j is restricted to a subpart of i that may be situated in the actualized part of the present/past-tense interval, the non-

actualized part of the present/past-tense interval, or some other part of the present/past-tense interval that includes speech time n .

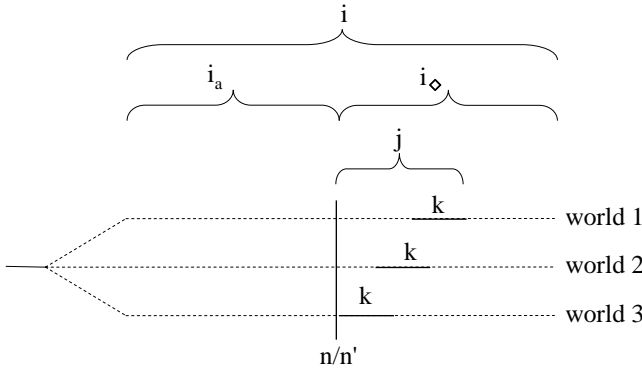


Figure 28: Simple tenses in Dutch (adverbial modification)

Temporal adverbial phrases do not necessarily restrict the temporal interval j , but may also modify event time interval k . This can be observed in example (342), in which *vanmiddag* ‘this afternoon’ modifies j and *na afloop van haar college* ‘after her course’ modifies k ; the event time interval k must be located within the time interval j denoted by *vanmiddag* and after the moment in time referred to by *na afloop van haar college*.

- (342) Els leest vanmiddag mijn artikel na afloop van haar college.
 Els reads this.afternoon my paper after the.end of her course
 ‘This afternoon, Els will be reading my paper after her course has ended.’

The effect of adverbial modification of interval k is especially conspicuous with momentaneous events like *bereiken* ‘to reach’ in (343); this example asserts that in all possible worlds eventuality k is located within the interval j denoted by *vanmiddag* ‘afternoon’ and includes 3 p.m. Since the eventuality is momentaneous, this implies that the eventuality will take place at 3 p.m. in all possible worlds (where 3 p.m. is, of course, both intended and interpreted as an approximation: “approximately at 3 p.m.”).

- (343) Het peloton bereikt vanmiddag om 3 uur de finish.
 the peloton reaches this.afternoon at 3 o'clock the finish
 ‘The peloton will reach the finish this afternoon at 3 o’clock.’

One may claim that the resulting reading of (343) is not due to the independent modification of the time intervals j and k , but that we are dealing with a single adverbial phrase *vanmiddag om drie uur*. That this is a possible analysis is undeniable given that the whole string is able to occur in clause-initial position, but example (344) shows that the proposed analysis is also a possible one: the string *vanmiddag om drie uur* can be split and the two parts are assigned different scopes with respect to the modal adverb *waarschijnlijk* ‘probably’.

- (344) Het peloton bereikt vanmiddag waarschijnlijk om 3 uur de finish.
 the peloton reaches this.afternoon probably at 3 o'clock the finish
 'This afternoon, the peloton will probably reach the finish at 3 o'clock.'

The adverb *vanmiddag*, the modifier of *j*, has wide scope with respect to the modal adverb; it is claimed that in all possible worlds the eventuality of reaching the finish will take place during the afternoon. The adverbial phrase *om 3 uur*, the modifier of event time interval *k*, on the other hand, has narrow scope with respect to the modal adverb; it is claimed that in the majority of possible worlds the eventuality of reaching the finish will take place at three o'clock. The net result is that the speaker asserts that it is certain that the eventuality of the peloton reaching the finish will take place in the afternoon and that there is a high probability that the event time interval *k* will include the time denoted by the phrase *om 3 uur*. The facts that the string *vanmiddag om drie uur* can be split and that the two parts can take scope independently of each other is clear evidence that it does not have to form a single constituent, but may consist of two independent temporal adverbial phrases.

IV. Multiple events

For the examples discussed so far, we tacitly assumed that the eventuality denoted by the lexical \circ projection of the main verb only occurs once. Although this may be the default interpretation, the examples in (345) show that this is certainly not necessary: example (345a) expresses that within present tense interval *i*, the speaker will eat three times: once in the time interval *j* denoted by *vanmorgen* 'this morning', once in the time interval *j'* denoted by *vanmiddag* 'this after noon', and once in the time interval *j''* denoted by *vanavond* 'this evening'. Similarly, the frequency adverb *vaak* 'often' in (345b) expresses that within present tense interval *i* (which in this case must involve a longer period of months or years) there are many instances of the eventuality denoted by phrase *naar de bioscoop gaan* 'go to the cinema'.

- (345) a. Ik eet vandaag drie keer: vanochtend, vanmiddag en vanavond.
 I eat today three time this.morning this.afternoon and tonight
 'I'll eat three times today: this morning, this afternoon and tonight.'
- b. Ik ga vaak naar de bioscoop.
 I go often to the cinema
 'I often go to the cinema.'

V. Habitual and generic clauses

The fact that present/past-tense interval *i* can contain multiple occurrences of the eventuality denoted by the lexical projection of the main verb is exploited to the full in habitual constructions such as (346), in which a regularly occurring eventuality can be expressed without the use of an overt adverbial phrase. The availability of this reading may again be a matter of pragmatics, but there are also analyses that postulate empty \circ operators with a similar function as frequency adverbs like *altijd* or *vaak*; see Oosterhof (2008) for examples of such proposals.

- (346) a. Jan gaat (altijd) met de bus naar zijn werk.
Jan goes always with the bus to his work
'Jan (always) goes to his work by bus.'
- b. Jan rookt.
Jan smokes
'Jan smokes/is a smoker.'

From habitual examples such as (346), it seems just a small step to get to truly generic examples such as (347); see section N5.1.1.5 for an extensive discussion of the different types of generic examples.

- (347) a. Een echte heer is hoffelijk.
a true gent is courteous
- b. Echte heren zijn hoffelijk.
true gents are courteous
- c. De walvis is een zoogdier.
the whale is a mammal

Note that examples similar to (346) and (347) can readily be given in the simple past. Even the past-tense counterpart of example (347c), *De walvis was een zoogdier* 'the whale was a mammal' is possible with the reading that in a specific past-tense interval whales were mammals. This sentence is infelicitous, of course, since it wrongly suggests that whales are not mammals in the present tense interval (or that they are extinct), but this is again due to pragmatics: if the speaker is aware of the fact that whales are also mammals in the present tense interval, Grice's °maxim of quantity would have required the use of the present tense with a present tense interval that includes the past-tense interval.

VI. Conditionals and hypotheticals

Present-tense examples such as (348) allow at least two readings, which we may refer to as conditional and hypothetical. This subsection shows that the choice between the two readings is pragmatic in nature.

- (348) Als ik genoeg geld heb, ga ik op vakantie.
when/if I enough money have go I on holiday
'When/If I've enough money, I will go on holiday.'

The conditional reading is the default reading and expresses that for any subinterval in the present tense interval for which it is true that the speaker has enough money, it will also be true that the speaker will go on holiday. The hypothetical reading is pragmatic in nature and arises if the actualized part of the present tense interval is considered irrelevant: the utterance expresses that in any future world in which the speaker has enough money, he will go on holiday. The ambiguity between the two readings can be resolved by means of adverbial modification.

- (349) a. Als ik genoeg geld heb, ga ik altijd op vakantie. [conditional]
 when I enough money have go I always on holiday
 ‘Whenever I’ve enough money, I go on holiday.’
- b. Als ik volgend jaar genoeg geld heb, ga ik op vakantie. [hypothetical]
 if I next year enough money have go I on holiday
 ‘If I’ve enough money next year, I’ll go on holiday.’

Modification of the consequence of the construction by means of a frequency adverb like *altijd* ‘always’ favors the conditional reading, whereas modification of the antecedent by a temporal adverbial phrase like *volgend jaar* ‘next year’ triggers the hypothetical reading. That this is more than just a tendency is shown by the examples in (350). Given that (350a) expresses an established fact of chemistry, it is only compatible with a conditional reading. This is reflected by the fact that it is easily possible to modify the consequence by a frequency adverb, but that modification of the antecedent by a time adverb leads to an infelicitous result.

- (350) a. Als je waterstof en zuurstof verbindt, krijg je water (H₂O).
 if one hydrogen and oxygen merge get one water H₂O
 ‘If one merges hydrogen and oxygen, one gets water (H₂O).’
- b. Als je waterstof en zuurstof verbindt, krijg je meestal water (H₂O).
 if one hydrogen and oxygen merge get one mostly water H₂O
 ‘If one merges hydrogen and oxygen, one nearly always gets water (H₂O).’
- c. ^sAls je morgen waterstof en zuurstof verbindt, krijg je water.
 when one tomorrow hydrogen and oxygen merge get one water
 ‘If one merges hydrogen and oxygen tomorrow, one gets water.’

VII. Conditionals and counterfactuals

Past-tense examples such as (351a) also allow at least two readings. The first is again conditional but the second is counterfactual rather than hypothetical. We will argue below that the choice between the two readings is again pragmatic in nature. Note that examples such as (351b) are special in that the conditional reading is excluded: this is, of course, due to pragmatics as it is *a priori* unlikely that the antecedent of the construction will be true in any possible world.

- (351) a. Als ik genoeg geld had, ging ik op vakantie.
 when I enough money had went I on holiday
 ‘When/If I had enough money, I went/would go on holiday.’
- b. Als ik jou was, ging ik op vakantie.
 when I you were went I on holiday
 ‘If I were you, I would go on holiday.’

The conditional reading is again the default reading and expresses that for any subinterval in past-tense interval *i* for which it is true that the speaker has money, it is also true that the speaker goes on holiday. The counterfactual reading arises if the antecedent of the construction is not or not expected to be fulfilled in the speaker’s actual world (within the relevant past-tense interval). First, if the condition expressed by the antecedent of the construction had been fulfilled in the speaker’s actual world before speech time *n*, the speaker could be more precise by using

example (352a). Secondly, if the speaker believes that the condition will be fulfilled in some of the possible worlds that have their split-off point at speech time *n*, he can be more precise by using, e.g., example (352b).

- (352) a. Toen ik genoeg geld had, ging ik op vakantie.
 at.the.time I enough money had went I on holiday
 ‘At the time that I had enough money, I went on holiday.’
 b. Zodra ik genoeg geld heb, ga ik op vakantie.
 as.soon.as I enough money have go I on holiday
 ‘As soon as I’ve got enough money, I’ll go on holiday.’

The maxim of quantity therefore leaves the addressee no other choice than to conclude that the speaker believes that the antecedent in (351a) is only fulfilled in possible worlds other than the actual one, which furthermore must have a split-off point preceding *n*. This leads to the counterfactual interpretation.

An interesting fact about conditionals and counterfactuals is that *als*-phrases often alternate with constructions without *als*, in which the finite verb occupies the first position of the clause. Such verb-first constructions can be used to express wishes, especially if a particle like *maar* is present; note that under the wish reading the consequence can readily be left implicit. This shows that Grice’s maxim of quantity is more generally applicable to derive °irrealis constructions of various types.

- (353) a. Als Jan hier was, dan had ik wat gezelschap.
 if Jan here was, then had I a.bit.of company
 ‘If Jan were here, I’d have a bit of company.’
 b. Was Jan maar hier, (dan had ik wat gezelschap).
 were Jan PRT here then had I a.bit.of company
 ‘I wish that Jan were here, then I’d have a bit of company.’

VIII. Counterfactuals and epistemic modality

Example (354a) shows that counterfactual interpretations also arise in examples with an epistemic modal verb in the past tense. This option is expected under the assumptions adopted so far: the past tense on the modal verb in the first conjunct indicates that some source had reason for assuming that collapsing of the house was unavoidable, while the second conjunct indicates that this assessment was wrong. Counterfactual readings are not possible in present-tense examples such as (354b); if the speaker and addressee know that the house did not collapse before speech time *n*, a future interpretation will arise for the pragmatic reasons indicated in Section 1.5.2, sub I.

- (354) a. Mijn huis moest verleden week instorten, maar het is niet gebeurd.
 my house had.to last week prt.-collapse but it is not happened
 ‘There was reason for assuming that my house had to collapse last week, but it didn’t happen.’
 b. Mijn huis moet deze week instorten, (§maar het is niet gebeurd).
 my house has.to this week prt.-collapse but it is not happened
 ‘There is reason for assuming that my house has to collapse this week.’

The past tense of the modal verb *zullen* ‘will’ is frequently used to express a counterfactual interpretation. Example (355a) is interpreted counterfactually for the same reason as (354a): the past tense of *zullen* indicates that to some source had information that suggested that the collapsing of the house would take place, but the second conjunct again indicates that this assessment was wrong. The present-tense counterpart of this example in (355b) again has a future interpretation for pragmatic reasons; see Section 1.5.2, sub II, for detailed discussion of this.

- (355) a. Mijn huis zou verleden week instorten, maar het is niet gebeurd.
 my house would last week prt.-collapse but it is not happened
 ‘There was reason for assuming that my house would collapse last week, but it didn’t happen.’
- b. Mijn huis zal deze week instorten, (§maar het is niet gebeurd).
 my house will this week prt.-collapse but it is not happened
 ‘There is reason for assuming that my house has to collapse this week.’

For more discussion about the relation between counterfactual interpretations and past tense, the reader is referred to Section 1.4.3, sub II, where it is shown that many instances of the German past subjunctive can be expressed by regular past marking in Dutch.

IX. Denial of appropriateness of a nominal description

Pragmatics can also be used to account for the fact that the simple past can be used to express that a given nominal description is not applicable to a certain entity. Imagine a situation in which a pregnant woman enters a bus. All seats are occupied, and nobody seems to be willing to oblige her by standing up. An elderly lady gets angry and utters (356) to the boy sitting next to her. Since she knows at speech time that the boy had no intention to offer his seat, she implies by uttering (356) that the description *een echte heer* is not applicable to him. This use of the simple past seems very pervasive in children’s games; examples such as (356b) are used to introduce a play, and the participants assume certain model roles.

- (356) a. Een echte heer stond nu op.
 a true gent stood now up
 ‘A true gent would give up his seat now.’
- b. Ik was vader en jij was moeder.
 I was daddy and you were mommy
 ‘I’ll play daddy and you’ll play mommy.’

X. Conclusion

This section has shown that the default reading of the simple tenses is that the time interval j , during which the eventuality denoted by the lexical projection of the main verb must take place, is identical to the complete present/past-tense interval: the eventuality may take place before, during or after speech time n/n' . In many cases, however, the interpretation is more restricted and may sometimes also have non-temporal implications. This section has also shown that this can be derived without any further ado from the interaction between the temporal information (tense and

adverbial modification), modal information encoded in the sentence (the theory of possible worlds) and pragmatic information (Grice's maxim of quantity).

1.5.4.2. *The uses of the perfect tenses*

This section discusses the uses of the perfect tenses. We will assume that the default interpretation of these tenses is as given as in Figure 26, repeated below for convenience, and that eventuality *k* can thus precede, follow or overlap with *n/n'*; in other words, the default interpretation of the present *j* of eventuality *k* is identical to the present/past *i* of the speaker/hearer. The perfect tense thus only differ from the simple tenses discussed in 1.5.4.1 in that eventuality *k* is presented as completed within *j*.

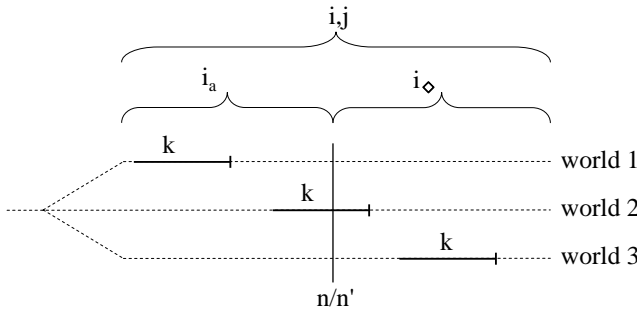


Figure 26: *Perfect tenses in Dutch*

We will further argue that the more restricted and more special interpretations of the perfect tenses do not need any special stipulations but follow from the interaction of three types of linguistic information.

- (357) a. Temporal information (tense and adverbial modification)
- b. Modal information (theory of possible worlds)
- c. Pragmatic information (Grice's maxim of quantity)

The discussion will mainly focus on the present perfect as we will assume that the argumentation carries over to the past perfect; we will see, however, that the use of the past perfect sometimes triggers some special effects.

1. *Default use*

Perfect tense situations represented by Figure 26 normally arise if the speaker provides a second hand report. When Els promised the speaker yesterday that she would read the paper under discussion today, the speaker may utter example (358) at noon to report this promise, even if Els has not yet completed the reading of the paper, that is, if she is still in the process of reading it or will start reading it later that day.

- (358) Els heeft vandaag mijn artikel gelezen.
 Els has today my paper read
 'Els will have read my paper today.'

That the present perfect may also refer to eventuality overlapping or following n is an immediate consequence of our claim that Dutch does not express the binary feature [\pm POSTERIOR] within its verbal system. This finding also favors the binary tense theory over the Reichenbachian approaches to the verbal tense system given that the latter does not have the means to express it, and must therefore treat such cases as special/unexpected uses of the present perfect.

The choice between the past and present perfect is often related to the temporal location of some other event. Consider the examples in (359): the present tense in example (359a) requires that the exam is part of the present tense interval (and in fact strongly suggests that it will take place in the non-actualized part of it), whereas (359b) strongly suggests that the exam is part of the past-tense interval preceding speech time n .

- (359) a. Ik heb me goed voorbereid voor het tentamen.
 I have me well prepared for the exam
 'I've prepared well for that exam.'
- b. Ik had me goed voorbereid voor dat tentamen.
 I had me well prepared for that exam
 'I've prepared well for that exam.'

Similarly, an example such as (360a) will be used to inform the addressee that the window in question is still open at the moment of speech, whereas (360b) does not have this implication but will rather be used in, e.g., a story about a break-in that happened in some past-tense interval.

- (360) a. Ik heb het raam niet gesloten.
 I have the window not closed
 'I haven't closed the window.'
- b. Ik had het raam niet gesloten.
 I had the window not closed
 'I hadn't closed the window.'

II. *Non-linguistic context: monitoring of k*

The interpretation of example (358) can be restricted by pragmatic considerations. In the context given above the split-off point of the possible worlds precedes present tense interval i , and therefore also precedes speech time n . However, if the speaker is able to monitor Els' doings during the actualized part of the present tense interval i_a , the split-off point of the possible worlds coincides with n , and in this case example (358) would normally be used to refer to the situation depicted in Figure 29, in which eventuality k precedes n ; cf. Verkuyl (2008).

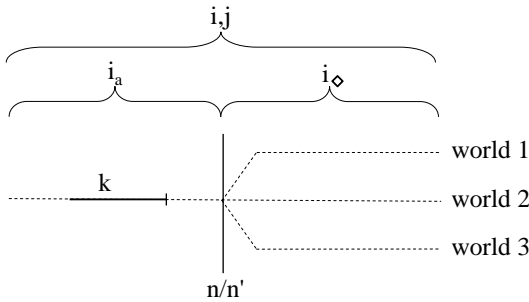


Figure 29: Perfect tenses in Dutch (split-off point of possible worlds = n/n')

That k normally precedes n in the situation sketched above is illustrated in (361a). Recall that 1.5.4.1, sub II, referred to this preferred reading of (361a) in order to account for the fact that the present in (361b) cannot normally be used to refer to some event preceding n .

- (361) a. Jan heeft vandaag gewerkt. [k precedes n]
 Jan has today worked
 'Jan has worked today.'
- b. Jan werkt vandaag. [k follows or overlaps with n]
 Jan works today
 'Jan will work today.'

Examples such as (362a), in which the completion of eventuality k is situated in the non-actualized part i_o of the present might help us to understand better how the more restricted interpretation in Figure 29 arises. As will be discussed more extensively in Subsection III, temporal adverbial phrases may restrict the precise location of eventuality k within interval j ; the temporal adverbial phrase *om drie uur* indicates that the completion of the eventuality of *Marie reading the speaker's paper* will take place before 3:00 p.m.; see also Janssen (1989). The reason why example (362b) normally does not refer to eventualities following n in the situation sketched in Figure 29 may be that the relevant point of time at which eventuality k must be completed is taken to be speech time n by default; making this point of time explicit by, e.g., adding the adverb *nu* 'now' is only possible if the speaker intends to emphasize that the relevant evaluation time is the speech time.

- (362) a. Marie heeft mijn artikel om drie uur zeker gelezen.
 Marie has my article at 3:00 p.m. certainly read
 'Marie will have read my article by 3:00 p.m.'
- b. Marie heeft mijn artikel gelezen.
 Marie has my article read
 'Marie has read my article.'

Although an account along these lines seems plausible, the examples in (363) show that it cannot be the whole story. In these examples, the adverb *vandaag* 'today' again modifies j and the adverbial phrase *tot drie uur* 'until 3:00 p.m.' restricts the location of eventuality k to some subinterval of j preceding 3:00 p.m. The comments between square brackets indicate, however, that even in situations where

the speaker is able to monitor eventuality *k*, present-perfect examples such as (363a) are normally used if *k* is completed before speech time *n*, whereas simple present examples such as (363b) are normally used if *k* will be completed after *n*.

- (363) a. Vandaag heeft Jan tot drie uur gewerkt. [n > 3:00 p.m.]
 today has Jan until 3:00 p.m. worked
 ‘Today, Jan has worked until three p.m.’
- b. Vandaag werkt Jan tot drie uur. [n < 3:00 p.m.]
 today works Jan until 3:00 p.m.
 ‘Today, Jan will work until 3:00 p.m.’

The fact that (363a) cannot have a future interpretation suggests that something is still missing. The following subsection tries to fill this gap by showing that °Aktionsart may also restrict the temporal interpretation of the perfect tenses.

III. Adverbial modification and Aktionsart

As in the case of the simple tenses, the temporal interpretation of the perfect tenses can be restricted by means of adverbial modification. It seems, however, that the situation is somewhat more complicated given that Aktionsart may likewise constrain the interpretation of the perfect tenses: more specifically, °atelic predicates differ from °telic ones in that they only allow a future interpretation of the perfect under very strict conditions.

A. Adverbial modification

The interpretation of example (358) can also be restricted by grammatical means, more specifically, by the addition of temporal adverbial phrases. If we assume that the examples in (364) are uttered at noon, example (364a) expresses that Els has finished reading the paper in the morning (before speech time *n*), and (364b) that Els will finish reading the paper in the afternoon (after speech time *n*).

- (364) a. Els heeft vanmorgen mijn artikel gelezen.
 Els has this.morning my paper read
 ‘Els has read my paper this morning.’
- b. Els heeft vanmiddag mijn artikel gelezen.
 Els has this.afternoon my paper read
 ‘Els will have read my paper by this afternoon.’

Given that the perfect tense focuses on the termination point of the event, it is immaterial for the truth of example (364b) whether the eventuality denoted by the lexical projection of the main verb overlaps or follows speech time *n*. This means that the adverbial phrase *vanmiddag* ‘this afternoon’ is compatible both with eventualities that overlap and eventualities that follow *n*. Example (364b) can thus refer to the situation in Figure 30.

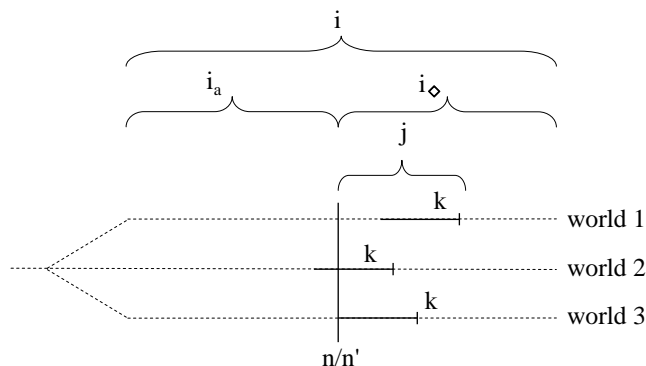


Figure 30: Perfect tenses in Dutch (adverbial modification)

The effect of adding temporal adverbial phrases is thus that time interval j , which must include the termination point of the eventuality denoted by the lexical projection of the main verb, is restricted to a subpart of i that may be situated in the actualized part of the present/past time interval, as in (364a), or in its non-actualized part, as in (364b).

Temporal adverbial phrases do not, however, necessarily restrict temporal interval j , but may also modify the event time interval k . The latter can be observed in example (365), in which *vanmiddag* ‘this afternoon’ modifies j and the adverbial PP *voor het college* ‘before the course’ modifies k , with the result that the termination point of event time interval k must be located within the time interval j denoted by *vanmiddag* and must precede the moment in time where the nominal complement of the preposition *voor* is situated.

- (365) Ik heb vanmiddag je artikel voor het college gelezen.
 I have this.afternoon your paper before the course read
 ‘This afternoon, I’ll have read your paper before the course starts.’

In (365) the modifier of j precedes the modifier of k and it seems that this is the normal state of affairs (in °middle field at least). In fact, it seems that the two also have different locations with respect to the modal adverb; the examples in (366) show that the adverbial modifiers of interval j normally precede modal adverbs like *waarschijnlijk* ‘probably’, whereas modifiers of the event time interval k must follow them.

- (366) a. Jan was gisteren/vandaag waarschijnlijk om 10 uur vertrokken.
 Jan was yesterday/today probably at 10 o’clock left
 ‘Jan had probably left at 10 o’clock yesterday/today.’
 b. Jan is morgen waarschijnlijk om 10 uur al vertrokken.
 Jan is tomorrow probably at 10 o’clock already left
 ‘Jan will probably already have left at 10 o’clock tomorrow.’

That the modifier of k must follow the modal adverbs can also be supported by the two examples in (367): in (367a) the adverbial phrase *om tien uur* precedes the modal adverb and the most conspicuous reading is that the leaving event took place before 10 o’clock; the adverbial phrase thus indicates the end of time interval j

within which the eventuality must be completed; in (367b), on the other hand, the adverbial phrase *om tien uur* follows the modal adverb and the most conspicuous reading is that the leaving event took place at 10 a.m. Note that English does not have similar means to distinguish the two readings; the translations of the examples in (367a&b) are truly ambiguous; cf. Comrie (1985:66).

- (367) a. Jan was om 10 uur waarschijnlijk al vertrokken.
 Jan was at 10 o'clock probably already left
 'Jan had probably already left at 10 o'clock.'
- b. Jan was waarschijnlijk al om 10 uur vertrokken.
 Jan was probably already at 10 o'clock left
 'Jan had probably already left at 10 o'clock.'

It seems that adverbial modification of *k* in present-perfect examples with a future reading must result in placement of the termination point *in between* speech time *n* and the time (interval) referred to by the adverbial phrase. If we maintain that the sentences are uttered at noon, this will become clear from the contrast between the fully acceptable example in (365) and the infelicitous, or at least marked, example in (368); the semantic difference is that whereas the modifier *voor het college* in (365) places the completion of *k* between noon and the course that will be given later that afternoon, the modifier *na het college* 'after the course' in (368) places it after the course (and hence also after speech time *n*).

- (368) #Ik heb vanmiddag je artikel na het college gelezen.
 I have this.afternoon my paper after the course read
 'This afternoon, I'll have read your paper after the course.'

That the future completion of *k* must be situated between *n* and some point referred to by the adverbial phrase that modifies *k* is even clearer if the modifier refers to a single point in time: the adverbial phrase *om 3 uur* in (369) refers to the ultimate time at which the eventuality denoted by the lexical projection of the main verb must have been completed.

- (369) Vanmiddag heeft het peloton om 3 uur de finish bereikt.
 this.afternoon has the peloton at 3 o'clock the finish reached
 'The peloton will reach the finish this afternoon at 3 o'clock.'

Similar restrictions do not occur if the completion of eventuality *k* precedes speech time *n*. If uttered at noon, the sentences in (370) are equally acceptable, despite the fact that the event time interval is only situated between breakfast and the time of utterance in (370b).

- (370) a. Ik heb vanmorgen je artikel voor het ontbijt gelezen.
 I have this.morning your paper before breakfast read
 'This morning, I read your paper before breakfast.'
- b. Ik heb vanmorgen je artikel na het ontbijt gelezen.
 I have this.morning your paper after breakfast read
 'This morning, I read your paper after breakfast.'

In past perfect constructions such as (371), we seem to find just the same facts, although judgments are a bit more delicate. If eventuality *k* is placed after *n'* the adverbial phrase must refer to some time after the completion of the event, as in (371a), which is equally acceptable as its present time counterpart in (370a). Example (371b) violates this restriction and is therefore marked and certainly less preferred than its present-tense counterpart in (370b).

- (371) a. Ik had vanmorgen je artikel voor het ontbijt gelezen.
 I had this.morning your paper before breakfast read
 'This morning, I'd read your paper before breakfast.'
- b. [?]Ik had vanmorgen je artikel na het ontbijt gelezen.
 I had this.morning your paper after breakfast read
 'This morning, I read your paper after breakfast.'

Example (371b) is perhaps not as bad as one might expect, but this may be due to the fact that *vanmorgen* can in principle also be read as a modifier of the past-tense interval. The examples in (372) show that in that case the examples are fully acceptable (provided that the adverbial phrase refers to an eventuality preceding *n'*).

- (372) a. Ik had gisteren je artikel voor het ontbijt gelezen.
 I had yesterday your paper before breakfast read
 'Yesterday, I'd read your paper before breakfast.'
- b. Ik had gisteren je artikel na het ontbijt gelezen.
 I have yesterday your paper after breakfast read
 'Yesterday, I read your paper after breakfast.'

B. Aktionsart

Modification of the time interval *j* by means of a time adverbial referring to some time interval following *n* is not always successful in triggering a future reading on perfect-tense constructions. The examples in (373) show that Aktionsart may affect the result: atelic predicates like the state *ziek zijn* 'to be ill' or the activity *aan zijn dissertatie werken* 'to work on his thesis' normally resist a future interpretation.

- (373) a. Jan is vorige week ziek geweest. [state]
 Jan is last week ill been
 'Jan was ill last week.'
- a'. *Jan is volgende week ziek geweest.
 Jan is next week ill been
- b. Jan heeft vanmorgen aan zijn dissertatie gewerkt. [activity]
 Jan has this.morning on his dissertation worked
 'Jan has worked on his PhD thesis all morning.'
- b'. ^{??}Jan heeft morgen aan zijn dissertatie gewerkt.
 Jan has tomorrow on his dissertation worked

The unacceptability of the primed examples seems to be related to the fact discussed in Section 1.5.1, sub IB2, that the perfect has different implication for eventuality *k* with telic and atelic predicates; we illustrate this difference again in (374) for activities and accomplishments.

- (374) a. Jan heeft vanmorgen aan zijn dissertatie gewerkt. [= (373a); activity]
 Jan has this.morning on his dissertation worked
 ‘Jan has worked on his PhD thesis all morning.’
- b. Jan heeft de brief vanmorgen geschreven. [accomplishment]
 Jan has the letter this.morning written
 ‘Jan has written the letter this morning.’

Although the examples in (374) both present the eventualities expressed by the projection of the main verb as discrete, bounded units that are completed at or before speech time *n*, they differ with respect to whether the eventualities in question can be continued or resumed after *n*. This option seems natural for the activity in (374a), as is clear from the fact that this example can readily be followed by ... *en hij zal daar vanmiddag mee doorgaan* ‘... and he will continue doing that in the afternoon’. The accomplishment in (374b), on the other hand, seems to imply that the eventuality has reached its implied endpoint and therefore cannot be continued after speech time *n*.

Atelic and telic predicates also differ if it comes to modification by the accented adverb *nu* ‘now’, which expresses that the state of completeness is achieved at the very moment of speech; atelic predicates allow this use of *nu* only if a durative adverbial phrase like *een uur* ‘for an hour’ is added; see Janssen (1983) and the references cited there.

- (375) a. Jan heeft NU *(een uur) aan zijn dissertatie gewerkt. [activity]
 Jan has nu one hour on his dissertation worked
 ‘Jan has worked on his PhD thesis for an hour ... NOW.’
- b. Jan heeft de brief NU geschreven. [accomplishment]
 Jan has the letter now written
 ‘Jan has written the letter ... NOW.’

Janssen suggests that this is due to the fact that the moment at which atelic predicates can be considered “completed” is not conspicuous enough to be pointed at by means of accented *nu* ‘now’; we are normally only able to pass judgment on this after some time has elapsed unless the rightward boundary is explicitly indicated by, e.g., a durative adverbial phrase. This inconspicuousness of the end point of atelic eventualities is of course related to the fact that they can in principle be extended indefinitely, and is probably also the reason why speakers will refrain from using the perfect if it comes to future atelic eventualities; like in example (375a), the speaker will use the perfect only if the extent of the atelic predicate is explicitly bounded by means of a durative adverbial phrase. In other cases, the speaker will resort to the simple present to locate atelic eventualities in the non-actualized part of the present.

- (376) Morgen heeft Jan ??(precies een jaar) aan zijn dissertatie gewerkt.
 tomorrow has Jan exactly one year on his thesis worked
 ‘Tomorrow Jan has worked on his thesis for a full year.’

IV. Multiple events

For the examples so far, we tacitly assumed that the eventuality denoted by the lexical projection of the main verb occurs only once. Although this may be the default interpretation, the examples in (377) show that this is not necessary: example (377a) expresses that in the actualized part of the present tense interval *i* denoted by *vandaag* ‘today’, the speaker has eaten three times before speech time *n*. Similarly, the frequency adverb *vaak* ‘often’ in (377b) expresses that within the actualized part of the tense interval *i* denoted by the adverbial phrase *dit jaar* ‘this year’ there have been many occurrences of the eventuality denoted by the phrase *naar de bioscoop gaan* ‘go to the cinema’.

- (377) a. Ik heb vandaag drie maaltijden gegeten: ontbijt, lunch en avondeten.
 I have today three meals eaten breakfast lunch and supper
 ‘I’ve eaten three times today: breakfast, lunch and supper.’
- b. Ik ben dit jaar vaak naar de bioscoop geweest.
 I am this year often to the cinema been
 ‘I’ve often been to the cinema this year.’

As expected, the default interpretation of examples such as (377) is that the eventualities precede speech time *n*. This default reading can, however, readily be cancelled. An example such as *Als ik vanavond naar bed ga, heb ik drie maaltijden gegeten: ontbijt, lunch and avondeten* ‘When I go to bed tonight, I will have eaten three meals: breakfast, lunch and supper’ can readily be uttered at dawn or noon by, e.g., someone with an eating disorder who wants to express his good intentions.

V. Habitual and generic clauses

The fact that the present/past-tense interval can contain multiple occurrences of the eventuality denoted by the lexical projection of the main verb is exploited to the full in habitual constructions such as (378). These examples differ from the simple present examples in (346) in that they tend to situate the habit in the actualized part of the present tense interval *i_a*; for example, there is a strong tendency to interpret example (378b) such that Jan has quit smoking. It is, however, certainly not necessary to interpret perfect habituais in this way, as will be clear from the fact that example (378a) can readily be followed by ... *en hij zal dat wel blijven doen* ‘... and he will continue to do so’.

- (378) a. Jan is (altijd) met de bus naar zijn werk gegaan.
 Jan has always with the bus to his work gone
 ‘Jan has (always) gone to his work by bus.’
- b. Jan heeft (vroeger) gerookt.
 Jan has in.the.past smoked
 ‘Jan has smoked in the past/used to be a smoker.’

In contrast to the present-tense examples in (356), it does not seem possible to interpret the perfect-tense examples in (379) generically: the examples in (379a&b) are only acceptable if the subject refers to a (set of) unidentified individual(s); example (379c) can at best give rise to the semantically incoherent interpretation that a specific whale has become a fish.

- (379) a. #Een echte heer is hoffelijk geweest.
 a true gent is courteous been
 'A true gent has been courteous.'
- b. #Echte heren zijn hoffelijk geweest.
 true gents are courteous been
- c. *De walvis is een zoogdier geweest.
 the whale is a mammal been

VI. Conditionals and hypotheticals

Present perfect-tense clauses introduced by *als* 'when' seem to allow both a conditional and a hypothetical reading, just like the simple present examples in (348) from Section 1.5.4.1. The conditional reading, which is illustrated in (380a&b), is again the default one. These examples involve identical strings but are given different glosses in order to express that a teacher could say this sentence either to his pupils in general to indicate that those who have fulfilled the condition expressed by the antecedent of the sentence may leave, or to a specific student if he does not know whether this student has fulfilled the condition.

- (380) a. Als je je spullen op geruimd hebt, mag je weg.
 when one his things away cleared has be.allowed one go.away
 'When one has put away his things, one may go.'
- b. Als je je spullen op geruimd hebt, mag je weg.
 when you your things away cleared has be.allowed you go.away
 'If you've put away your things, you may go.'

The hypothetical reading of this sentence arises if the discourse participants know that the antecedent is not fulfilled in the actualized part of the present tense interval, e.g., if the teacher addresses a specific pupil of whom he knows that he did not yet clear away his things; see the gloss and rendering of (381).

- (381) Als je je spullen op geruimd hebt, mag je weg.
 as.soon.as you your things away cleared has be.allowed you go.away
 'As soon as you've put away your things, you may go.'

The fact that contextual information is needed to distinguish the two readings of the antecedent clause *Als je je spullen opgeruimd hebt, mag je weg* clearly shows that pragmatics is involved. It is, however, possible to favor a certain reading by means of adverbial phrases. As in the present-tense examples, the conditional reading in (380) is favored by adding an adverb like *altijd* 'always' to the consequence: *Als je je spullen opgeruimd hebt, mag je altijd weg* 'if one has put away his things, one may always go'. The same thing holds for the addition of *al* 'already' to the antecedent since this locates the eventuality denoted by the lexical projection of the main verb of the antecedent clause in the actualized part of the present tense interval and thus blocks the hypothetical reading: *Als je je spullen al opgeruimd hebt, mag je weg* 'If you have already put away your things, you may go'. Addition of *straks* 'later' to the antecedent, on the other hand, will favor the hypothetical reading as it suggests that the speaker knows that the condition is not yet fulfilled at

the moment of speech: *Als je straks je spullen opgeruimd hebt, mag je weg* ‘If you have put away your things later, you may go’.

VII. Conditionals and counterfactuals

Past perfect tense utterances allow both a conditional and a counterfactual reading, just like the simple past examples in (351) from Section 1.5.4.1. The default conditional reading can be found in (382a), which refers to some general rule which was valid in the relevant past-tense interval. The conditional reading is not that easy to get if the pronoun *je* is interpreted referentially, as in (382b), which seems preferably interpreted counterfactually instead. This preference may again be pragmatic in nature. Given that the eventuality is situated in the past-tense interval, the speaker and the addressee may be expected to know whether or not the condition mentioned in the antecedent is fulfilled.

- (382) a. Als je je spullen op geruimd had, mocht je weg.
 when one his things away cleared had be.allowed one go.away
 ‘When one had put away his things, one was allowed to go.’
 b. Als je je spullen op geruimd had, mocht je weg.
 when you your things away cleared had be.allowed you go.away
 ‘If you had put away your things, you were allowed go.’

It is important to observe that the use of the simple past of the verb *mogen* ‘to be allowed’ in the consequence does not necessarily imply that the leaving event denoted by the lexical projection of the main verb in the consequence is located before speech time *n*. In fact, the preferred interpretation of counterfactuals of the form in (382b) is that in possible worlds in which the condition mentioned in the antecedent is fulfilled, the leaving event would coincide with or follow speech time *n*. This will be clear from the fact that the use of the adverb *gisteren* ‘yesterday’ is not possible in (383a). This shows again that the past-tense interval can include speech time *n* and thus overlap with the present tense interval; see the discussion in Section 1.5.1, sub IC. Note that this restriction on adverbial modification is lifted if the consequence is put in the perfect tense, as in (383b).

- (383) Als je je spullen op geruimd had, ...
 when you your things away cleared had
 ‘If you’d put away your things, ...’
 a. ... dan mocht je nu/morgen/*gisteren naar het feest.
 then be.allowed you now/tomorrow/yesterday to the party
 ‘... then you were allowed go to the party now/tomorrow.’
 b. ... dan had je nu/morgen/gisteren naar het feest gemogen.
 then had you now/tomorrow/yesterday to the party been.allowed
 ‘... then you would have been allowed to go to the party now/tomorrow/yesterday.’

An interesting fact about conditionals and hypotheticals is that the *als*-phrase alternates with constructions without *als*, in which the finite verb occupies the first position of the clause: the antecedent in (383) can also have the form *Had je je spullen opgeruimd, dan ...* With antecedents of this form, counterfactuals are often used to express regret or a wish; for obvious reasons the former reading is probably

more likely to arise if the speaker expresses a counterfactual situation that involves himself. The parentheses in these examples indicate that under these readings the consequence is often left implicit.

- (384) a. Had ik mijn spullen maar op geruimd, dan had ik weg gemogen.
 had I my things PRT away cleared then had I away been.allowed
 ‘I regret that I hadn’t put away my things/I wish I’d put away my things (since then I’d have been allowed to go).’
- b. Had hij zijn spullen maar op geruimd, dan had hij weg gemogen.
 had he his things PRT away cleared then had he away been.allowed
 ‘I wish he had put away his things since then he’d have been allowed to go.’

When the hypothetical involves the addressee, as in (385), the resulting structure is readily construed as a reproach. The construction is special, however, in that it is not possible to overtly express the subject of the antecedent, which strongly suggests that we are formally dealing with an imperative; see also the discussion of examples (179) and (180) in Section 1.4.2, sub I.

- (385) a. Had (*je) je spullen maar op geruimd, (dan had je weg gemogen).
 had you your things PRT away cleared then had you away been.allowed
 ‘It is your own fault: if you’d put away your things, you’d have been allowed to go.’
- b. Had (*je) niet zo veel gedronken (dan had je nu geen kater).
 had you not that much drunk then had you now no hangover
 ‘It would have been better if you hadn’t drunk that much (since then you wouldn’t have had a hangover now).’

The counterfactual examples in this subsection all have in common that the speaker/hearer can be assumed to know whether or not the condition given in the antecedent is satisfied, which makes the conditional reading of these examples uninformative: the speaker could simply have given the addressee permission to leave. Because the counterfactual reading is informative (the speaker informs the addressee about the situation that would have arisen if he had fulfilled the condition expressed by the antecedent), Grice’s °maxim of quantity favors this interpretation. This shows that Grice’s maxim of quantity is involved in triggering various types of °irrealis meanings of past perfect-tense constructions.

VIII. Denial of the appropriateness of a nominal description

Like the simple past in (356), the past perfect can be used to express that a given nominal description is not applicable to a specific entity. Imagine again a situation in which a pregnant woman enters a bus. All seats are occupied, and nobody seems to be willing to oblige her by giving up his seat. An elderly lady gets angry and utters (386) to the boy next to her, thus implying that the description *een echte heer* is not applicable to him.

- (386) Een echte heer was nu allang opgestaan.
 a true gent was nu a.long.time.ago up-stood
 ‘A true gent would have given up his seat a long time ago now.’

IX. Conclusion

This section has shown that, as in the case of the simple tenses, the default reading of the perfect tenses is that the time interval j , during which the eventuality denoted by the lexical projection of the main verb must take place, is identical to the complete present/past-tense interval i : the completion of the eventuality may take place before, during or after speech time n/n' . In many cases, however, the interpretation is more restricted and may sometimes also have non-temporal implications. This section has shown that this can be derived without any further ado from the interaction between the temporal information (tense and adverbial modification), modal information encoded in the sentence (the theory of possible worlds) and pragmatic information (Grice's maxim of quantity).

Chapter 2 Projection of verb phrases I: Argument structure

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Introduction

This proposes a syntactic classification of verbs on the basis of their \circ argument structure, that is, the number and the types of arguments they take. This introductory section discusses a number of notions that will play an important role in the discussion of argument structure; it concludes by giving a brief outline of the organization of this chapter.

I. Internal and external arguments

The fact that verbs take \circ arguments is closely related to the fact that they function semantically as n -place predicates. An intransitive verb like *lachen* ‘to laugh’ in (1a), for example, functions as a one-place predicate, which can be represented in predicate logic as in (1a’). A transitive verb like *lezen* ‘to read’ in (1b), on the other hand, takes two arguments and thus functions as a two-place predicate, which can be semantically represented as in (1b’). See Section 1.1, sub I, for more discussion.

- | | | | | |
|-----|-----|--------------|-----|-----------------------|
| (1) | a. | Jan lacht. | b. | Jan leest het boek. |
| | | Jan laughs | | Jan reads the book |
| | a’. | LACHEN (Jan) | b’. | LEZEN (Jan, het boek) |

The semantic representation in (1b’) suggests that the two arguments of the transitive verb *lachen* have more or less the same status; the subject noun phrase *Jan* and the direct object noun phrase *het boek* ‘the book’ are both needed to saturate the predicate LEZEN and thus to complete the predication. In another respect, however, their relation to the verb is asymmetrical; the direct object is needed to create a complex predicate HET BOEK LEZEN ‘to read the book’ that can be predicated of the subject *Jan*. In other words, the verb phrase *leest het boek* in (1b) has the same semantic status as the intransitive verb *lachen* in (1a), and objects can thus be said to be internal to the one-place predicate that is predicated of the subject of the clause. For this reason objects will be called INTERNAL ARGUMENTS or COMPLEMENTS of the verb, whereas the subject is normally an EXTERNAL ARGUMENT; see Section 1.2.2, sub I, for more discussion and Williams (1980/1981) for the original definitions of these notions.

II. Thematic roles

The previous subsection claimed that subjects are *normally* external arguments. The addition of *normally* is needed because in present-day linguistics the notions of internal and external argument are used not only to refer to the function of arguments in the saturation of the predicate denoted by the verb, but also (and perhaps even primarily) to the THEMATIC ROLES that these arguments may have; in the prototypical case an external argument refers to the agent or the cause of the event, whereas an internal argument instead refers to a theme, a goal/source, an experiencer, etc; see also Section 1.2. Since there are cases in which the subject of the clause does not refer to the agent/cause, but rather to one of the thematic roles that are typically assigned to internal arguments, this means that the notion of subject cannot be equated with that of external argument. For example, the subject of the passive clause in (2b) is not an external but an internal argument of the verb *lezen* ‘to read’, just like the direct object of the active clause in (2a).

- (2) a. Jan_{Agent} leest het boek_{Theme}.
 Jan reads the book
 'Jan is reading the book.'
 b. Het boek_{Theme} wordt gelezen.
 the book is read

Section 2.1 will show that there is a group of so-called °unaccusative verbs that have the defining property that their subject is not an external agentive argument, but an internal theme argument. That something like this may well be the case can be readily illustrated by means of the examples in (3), given that the thematic role of the subject of the one-place predicate *breken* in (3b) seems identical to that of the object of the transitive verb *breken* in (3a).

- (3) a. Jan_{Agent} brak de vaas_{Theme}.
 Jan broke the vase
 b. De vaas_{Theme} brak.
 the vase broke

Therefore, the notions of subject and object will from now on be strictly reserved for, respectively, the °nominative and non-nominative arguments in the clause, whereas the notions of internal and external argument will be used for arguments of the verbs carrying certain thematic roles.

III. The category of the complement of the verb

External arguments are typically nominal in nature, but this does not necessarily hold for internal arguments (complements) of the verb. The examples in (4) show that complements may also be prepositional or clausal in nature; for each example, we give the complement of the verb in italics and the phrase that is predicated of the subject of the clause in square brackets.

- (4) a. Jan [koopt *een boek*]. [nominal complement]
 Jan buys a book
 b. Jan [wacht *op zijn vader*]. [prepositional complement]
 Jan waits for his father
 c. Jan [ziet *dat de boot vertrekt*]. [finite clause complement]
 Jan sees that the boat leaves
 'Jan sees that the boat is leaving.'
 d. Jan [probeert *om dat boek te lezen*]. [infinitival clause complement]
 Jan tries COMP that book to read
 'Jan is trying to read that book.'

The strings consisting of the verb and its complement are constituents. This can be made clear by means of the complex verb constructions in (5): the primed examples show that the phrases within brackets can be placed in clause-initial position by means of topicalization, which is sufficient for assuming that they are constituents (cf. the °constituency test). Since these constituents are headed by a verb, they will be referred to as a verb phrase or verbal °projection (VP).

- (5) a. Jan wil graag [een boek kopen].
 Jan wants gladly a book buy
- a'. [Een boek kopen] wil Jan graag.
- b. Jan wil graag [op zijn vader wachten].
 Jan wants gladly for his father wait
- b'. [Op zijn vader wachten] wil Jan graag.
- c. Jan heeft ongetwijfeld [gezien dat de boot is vertrokken].
 Jan has undoubtedly seen that the boat has left
- c'. [Gezien dat de boot is vertrokken] heeft Jan ongetwijfeld.
- d. Jan heeft ongetwijfeld [geprobeerd om dat boek te lezen].
 Jan has undoubtedly tried COMP that book to read
- d'. [Geprobeerd om dat boek te lezen] heeft Jan ongetwijfeld.

IV. Secondary predication

The examples in (6) are somewhat more complex than run-of-the mill transitive clauses like *Jan sloeg de hond* 'Jan hit the dog' in that they contain not only a verbal predicate but also an additional predicate in the form of an adjectival, a prepositional or a nominal phrase. Such examples are therefore said to involve SECONDARY PREDICATION: the secondary predicates are italicized and the secondary predications are given within curly brackets. The fact that the secondary predicates are predicated of the direct objects of these examples suggests that the latter do not function as internal arguments of the verbs. The complements of the verbs are instead the secondary predications; these are therefore part of the predicates that are predicated of the subjects of the clauses, which is indicated again by means of square brackets. We will refer to the secondary predicates in (6) as predicative complements or °complementives.

- (6) a. Jan [sloeg {de hond *dood*}].
 Jan beat the dog dead
- b. Jan [zet {de vaas *op de tafel*}].
 Jan puts the vase on the table
- c. Jan [noemt {Peter *een oplichter*}].
 Jan calls Peter a swindler

V. Organization of the chapter

This chapter is organized as follows. Section 2.1 starts by discussing more extensively the classification of verbs proposed in Section 1.2.2, sub II, which is based on the number and types of nominal arguments that the verb takes; this section is therefore mainly concerned with arguments that surface as subjects or nominal object(s) of the clause. This is immediately followed by a discussion of secondary predicates in Section 2.2; the reason for this is that such predicates take a nominal external argument that likewise surfaces as the object or the subject of the clause.

The traditional definition of (in)transitivity in terms of the number of nominal arguments implies that the term intransitive verb can also be used for verbs like *wachten op* 'to wait for' that take a prepositional instead of a nominal complement. However, such verbs differ from the core cases of intransitive verbs at least as

much as transitive verbs in that they also take an internal argument, which happens to be syntactically realized, not as a noun phrase, but as a PP. We will discuss such PREPOSITIONAL OBJECT VERBS separately in Section 2.3. Section 2.4 continues by raising the question as to whether there are also verbs taking a (non-predicative) AP-complement. Since clausal complements raise a large number of additional questions they will not be discussed in this chapter: Chapter 5 will be entirely devoted to this topic.

Section 2.5 concludes the current chapter on argument structure with a discussion of so-called causative psych-verbs like *ergeren* ‘to annoy’ and inherently reflexive verbs like *zich vergissen* ‘to be mistaken’; it will show that these verbs exhibit special behavior in various respects.

2.1. Nominal arguments

This section discusses in more detail the classification of verbs with nominal arguments proposed in Section 1.2.2, sub II, repeated here as Table 1. This classification extends the traditional classification, which is solely based on the number of nominal arguments that the individual verbs take, by also appealing to the distinction between internal and external arguments.

Table 1: Classification of verbs according to the type of nominal arguments they take

	NAME USED IN THIS GRAMMAR	EXTERNAL ARGUMENT	INTERNAL ARGUMENT(S)
NO INTERNAL ARGUMENT	intransitive: <i>snurken</i> ‘to snore’	nominative (agent)	—
	impersonal: <i>sneeuwen</i> ‘to snow’	—	—
ONE INTERNAL ARGUMENT	transitive: <i>kopen</i> ‘to buy’	nominative (agent)	accusative (theme)
	unaccusative: <i>arriveren</i> ‘to arrive’	—	nominative (theme)
TWO INTERNAL ARGUMENTS	ditransitive: <i>aanbieden</i> ‘to offer’	nominative (agent)	dative (goal) accusative (theme)
	NOM-DAT: <i>bevallen</i> ‘to please’	—	dative (experiencer) nominative (theme)
	undative: <i>krijgen</i> ‘to get’	—	nominative (goal) accusative (theme)

If the classification in Table 1 is on the right track, it will no longer be possible to adopt the postulate of traditional grammar that there is a one-to-one mapping between the \circ adicity of verbs and verb type, as shown in (7). It is in fact even unclear whether the verbs in (7b) and (7c) form natural classes. The intransitive and unaccusative verbs in (7b), for example, do not seem to have much more in common than that they take a single nominal argument that surfaces as the \circ nominative subject of the construction.

- (7) a. Verbs with an adicity of zero: impersonal verbs.
 b. Monadic verbs (adicity of one): intransitive *and* unaccusative verbs.
 c. Dyadic verbs (adicity of two): transitive, NOM-DAT verbs *and* undative verbs.
 d. Triadic verbs (adicity of three): ditransitive verbs.

This section will show that the classification in Table 1 is more revealing than the traditional one in terms of adicity and it is organized as follows. Section 2.1.1 starts with a brief discussion of impersonal verbs. Section 2.1.2 continues by discussing the intransitive, transitive and monadic unaccusative verbs, where much attention will be paid to distinguishing the intransitive from the unaccusative verbs. Section 2.1.3 continues by discussing ditransitive and dyadic unaccusative (NOM-DAT) verbs. This section on nominal arguments will be concluded in 2.1.4 by a discussion of the undative verbs that involve derived subjects that correspond to the goal argument (indirect object) of a ditransitive verb.

2.1.1. Impersonal verbs

Impersonal verbs are verbs that can be assumed to not take any nominal argument at all, for which reason they are also known as aivalent verbs. Weather verbs like *regenen* ‘to rain’ and *sneeuwen* ‘to snow’ in (8) are typical instantiations of this type.

- (8) a. Het regent.
 it rains
 b. Het sneeuwt.
 it snows

The subject pronoun *het* in these examples is not referential and should therefore not be considered an argument of the weather verb; it is only present to satisfy the syntactic requirement that the verb has a (nominative) subject. Section 2.2.3, sub IB, will support this view by showing that *het* is obligatorily suppressed if some other element in the clause introduces a nominal argument that can function as a subject. This is illustrated here by means of the resultative construction in (9), in which the noun phrase *Jan* is licensed by the °complementive *nat* ‘wet’.

- (9) a. *Het regent Jan nat.
 it rains Jan wet
 b. Jan regent nat.
 Jan rains wet
 ‘Jan is getting wet as a result of the rain.’

Given that impersonal verbs do not take any other nominal arguments, this section does not have much to say about them. Therefore, we will confine ourselves here to giving a small sample of these verbs in (10): the (a)-examples are “truly” impersonal in the sense that they are normally not used with an argument, whereas the (b)-examples are verbs that can also be used as monadic or dyadic verbs.

- (10) a. Truly impersonal verbs: *dooien* ‘to thaw’, *hagelen* ‘to hail’, *ijzelen* ‘to be freezing over’, *miezeren* ‘to drizzle’, *misten* ‘to be foggy’, *motregen* ‘to drizzle’, *plenz* ‘to shower’, (*pijpenstelen*) *regenen* ‘to rain (cats and dogs)’,

sneeuwen ‘to snow’, *stormen* ‘to storm’, *stortregenen* ‘to rain cats and dogs’,
vriezen ‘to freeze’, *waaien* ‘to blow’

- b. Impersonal verbs with monadic/dyadic counterparts: *gieten* ‘to pour’, *hopen*
‘to shower’, *stromen* ‘to stream’

Before closing this section, we want to point out two things. First, the examples in (11) show that there are a number of exceptional, probably idiomatic, cases in which weather verbs of the type in (10a) do seem to take an internal argument.

- (11) a. Het regent pijpenstelen.
it rains PIJPENSTELLEN
‘It is raining cat and dogs.’
b. Het regent complimentjes.
it rains compliments
‘A lot of compliments are being given.’

Second, we want to mention that Bennis (1986: Section 2.2) has argued against the claim above that weather *het* is non-referential by showing that it is able to °control the implicit PRO-subject of an infinitival clause in examples such as (12a). A problem with this argument is, however, that the pronoun *het* in the main clause is not the subject of a weather verb but of a copular construction with a nominal predicate, similar to the one we find in examples such as (12b); the pronoun *het* in such constructions is clearly not referential.

- (12) a. Het is [na PRO lang geregend te hebben] weer droog weer.
it is after long rained to have again dry weather
‘After raining for a long time it is dry again.’
b. Het is een aardige jongen.
it is a nice boy
‘He’s a nice boy.’

Of course, it is possible to construct examples such as (13a) in which PRO is controlled by weather *het*, but given that PRO can be controlled by the non-referential pronoun *het* in (12a), this can no longer be taken as evidence in favor of the referential status of weather *het*. Bennis is more successful in arguing that weather verbs can at least sometimes take a referential subject by referring to examples such as (13b), which show that *waaien* ‘to blow’ can be predicated of the referential noun phrase *de wind* ‘the wind’.

- (13) a. Het heeft [na PRO lang geregend te hebben] wekenlang gesneeuwd.
it has after long rained to have for.weeks snowed
‘After raining for a long time it is has snowed for weeks.’
b. De wind/Het waait hard.
the wind/it blows hard

Example (13b) does not show, however, that the subject pronoun *het* is likewise referential. A serious problem for such a view is the earlier observation that it is not possible to realize the pronoun *het* in resultative constructions such as (9). This is unexpected if *het* is referential given that example (14a) shows that the referential

noun phrase *de wind* must be realized in such resultative constructions. Example (14a) thus contrasts sharply with the (b)-examples in (14), which show again that *het* is obligatorily omitted in the resultative construction; see Section 2.2.3, sub I, for more detailed discussion.

- (14) a. De wind waait de bladeren weg.
 the wind blows the leaves away
 b. #Het waait de bladeren weg.
 it blows the leaves away
 b'. De bladeren waaien weg.
 the leaves blow away

2.1.2. *Intransitive, transitive and monadic unaccusative verbs*

The distinction between transitive and intransitive verbs is taken from traditional grammar, where the defining distinction between these two classes is taken to be the number of nominal arguments they take: intransitive verbs take one argument that appears as a subject, whereas transitive verbs take two arguments which appear as, respectively, a subject and a direct object. The contrast between subjects and objects is made visible by case. The subject *de man* ‘the man’ in (15a) and (16a) is assigned nominative case, which is clear from the fact that it can be replaced by the nominative pronoun *hij* ‘he’. The object *de jongen* ‘the boy’ in (16a), on the other hand, is assigned °accusative case, which is clear from the fact that it can be replaced by the object pronoun *hem* ‘him’.

- (15) • Intransitive verbs
 a. De man/Hij_{nom} huilt.
 the man/he cries
 b. Het meisje/Zij_{nom} lacht.
 the girl/she laughs
- (16) • Transitive verbs
 a. De man/Hij_{nom} achtervolgt de jongen/hem_{acc}.
 the man chases the boy/him
 b. Het meisje/Zij_{nom} leest de krant/hem_{acc}.
 the girl/she reads the newspaper
 c. Jan/Hij_{nom} brak de vaas/hem_{acc}.
 Jan/he broke the vase/hem_{acc}

Although the traditional distinction between intransitive and transitive verbs is intuitively clear-cut, it seems too course-grained given that there is a class of verbs exhibiting properties of both transitive and intransitive verbs. Some typical examples of such verbs, which will be called UNACCUSATIVE for reasons that will become clear shortly, are given in (17). This section will argue that the verbs in (17) cannot be considered intransitive on a par with those in (15) by showing on the basis of several tests that the subjects in (17) are not external but internal arguments.

- (17) • Unaccusative verbs (verbs with an internal argument only)
- a. Jan/Hij_{nom} arriveert op tijd.
Jan/he arrives in time
 - b. De vaas/Hij_{nom} brak.
the vase/he broke

Preliminary evidence in favor of the claim that unaccusative verbs take an internal argument is that the semantic relation between the subject noun phrase *de vaas* ‘the vase’ and the monadic verb *breken* ‘to break’ in (17b) is similar to that between the object noun phrase *de vaas* and the dyadic verb *breken* in the transitive construction in (16c). By saying that the noun phrase *de vaas* is an internal (theme) argument of *breken* in both cases, this semantic intuition is formally accounted for.

The term unaccusative verb derives from the fact that, in contrast to (in)transitive verbs, verbs like *arriveren* and monadic *breken* are assumed to be unable to assign accusative case to their internal argument, which must therefore be assigned nominative case. In this respect, unaccusative verbs are similar to passive participles; in the passive counterparts of the transitive constructions in (16), which are given in (18), the internal argument of the transitive verbs *achtervolgen* ‘to chase’, *lezen* ‘to read’ and *breken* ‘to break’ cannot be assigned accusative case and they therefore also appear as nominative phrases, that is, as subjects of the passive constructions.

- (18) a. De jongens worden achtervolgd (door de man).
the boys are chased by the man
- b. De krant wordt gelezen (door het meisje).
the newspaper is read by the girl
- c. Het glas wordt gebroken (door Jan).
the glass is broken by Jan

We will see in Subsection II that there are more similarities between subjects of passive constructions and subjects of unaccusative verbs, which can be explained if we assume that the latter occupy a similar base position as the former; we are dealing in both cases with internal theme arguments that surface as DERIVED SUBJECTS of the constructions. To emphasize the similarity of the internal argument (direct object) of a transitive verb and the internal argument (subject) of an unaccusative verb, we will often use the term DO-SUBJECT for the latter.

The discussion is organized as follows. Subsection I starts by giving a general characterization of the intransitive, transitive and monadic unaccusative verbs. Since the intransitive and unaccusative verbs share by which the property of taking a single argument, they can readily be confused; the means to distinguish these two classes will be discussed in Subsection II. Subsection III concludes with a brief discussion of a number of verbs that meet some but not all criteria for assuming unaccusative status, and raises the question as to whether these verbs can be considered a special class of unaccusatives.

I. General introduction

This subsection provides a general characterization of the intransitive, transitive and monadic unaccusative verbs, as well as a small representative sample of each verb

class. This subsection further focuses on the fact that the distinction between transitive and intransitive verbs is not always clear-cut, given that transitive verbs can occur without an object in some cases and that intransitive verbs can sometimes occur with an object.

A. Transitive verbs

Transitive verbs like *kopen* ‘to buy’ or *lezen* ‘to read’ in (19) select two nominal arguments, one external and one internal. The external argument is realized as the subject and normally refers to an agent or a cause of the event, whereas the internal argument is realized as the direct object of the clause and normally refers to the theme of the event.

- (19) a. Jan_{Agent} kocht een leuke roman_{Theme}.
 Jan bought a nice novel
 b. Marie_{Agent} leest de krant_{Theme}.
 Marie reads the newspaper
 c. Jan_{Agent} rookt een sigaar_{Theme}.
 Jan smokes a cigar
 d. Marie_{Agent} schildert de stoel_{Theme}.
 Marie paints the chair

Generally speaking, the two arguments must be overtly expressed, as is clear from the fact that example (20a) is severely degraded. There are, however, many exceptions to this rule; example (20b), for example, is fully acceptable despite the fact that there is no direct object. It should be noted, however, that the theme argument is semantically implied in such cases, and interpreted as a CANONICAL object of the verb *lezen* ‘to read’; Marie is reading a text of some sort. That the theme argument is semantically implied is also clear from the fact that the pronoun *het* in the clause within parentheses can refer to the thing that Marie is reading. See Levin (1993: Section 1.2) and Van Hout (1993: Section 2.5) for more discussion.

- (20) a. *Jan kocht (maar ik kon niet zien wat het was).
 Jan bought but I could not see what it was
 b. Marie leest (maar ik kan niet zien wat het is).
 Marie reads but I can not see what it is
 ‘Marie is reading, but I can’t see what it is.’

Dropping the direct object is also possible in examples like (19c&d), but this gives rise to an habitual or an occupational reading; example (21a) expresses that Jan is an habitual smoker, and (21b) expresses that Marie has an occupation as a painter or is painting pictures as a hobby. We will refer to the verbs in (20b) and (21) as PSEUDO-INTRANSITIVE VERBS.

- (21) • Pseudo-intransitive verbs
- a. Jan rookt. [habitual]
 Jan smokes
 b. Marie schildert. [occupational]
 Marie paints

The properties of transitive verbs will be illustrated by means of a very small sample of verbs. Example (22) therefore gives a somewhat larger sample of verbs behaving in the same way. This sample is of course not exhaustive; the set of transitive verbs is an open class that consists of numerous lexical items, and which can readily be extended by adding borrowings or new coinages.

- (22) **Transitive verbs:** *aaien* 'to stroke/pet', *bewonderen* 'to admire', *blussen* 'to extinguish', *eten* 'to eat', *groeten* 'to greet', *kopen* 'to buy', *kopiëren* 'to copy', *kussen* 'to kiss', *knippen* 'to cut', *leggen* 'to empty', *onderzoeken* 'to investigate', *roken* 'to smoke', *schilderen* 'to paint', *schillen* 'to peel', *slaan* 'to beat', *zien* 'to see', etc.

B. Intransitive verbs

The defining property of intransitive verbs like *huilen* 'to cry' and *slapen* 'to sleep' is that they select an external nominal argument only. This argument is normally an agent or a cause, and is realized as the subject of the clause. Intransitive verbs are normally not accompanied by a direct object, as is clear from the fact that (23a') is degraded. Occasionally, however, intransitive verbs can be accompanied by a so-called COGNATE OBJECT. Consider the verb *slapen* 'to sleep' in (23b), which implies that *Marie* is having a sleep. This information can at least marginally be made explicit by adding a direct object, as in (23b'), provided that the object expresses some information that is not already implied by the verb; a modifier is obligatorily present. Something similar is illustrated by the (c)-examples; the cognate object is acceptable given that it has a negative connotation that is not part of the meaning of the verb.

- | | | | |
|---------|---------------|-----|--|
| (23) a. | Jan huilt. | a'. | *Jan huilt een traan. |
| | Jan cries | | Jan cries a tear |
| b. | Marie slaapt. | b'. | Marie sliep een *(verkwikkende) slaap. |
| | Marie sleeps | | Marie slept a refreshing sleep |
| c. | Jan praat. | c'. | Jan praat onzin. |
| | Jan talks | | Jan talks nonsense |

Example (24) gives a small sample of typical intransitive verbs. In the discussion below, we will illustrate the properties of the intransitive verbs only by means of a small subset of these examples. Note that many of these verbs involve voluntary or involuntary bodily functions, which shows that the notion of agent does not imply that the activity can be °controlled by the external argument.

- (24) **Intransitive verbs:** *ademen* 'to breathe', *boeren* 'to belch', *blozen* 'to blush', *dansen* 'to dance', *dromen* 'to dream', *falen* 'to fail', *gapen* 'to yawn', *hoesten* 'to cough', *huilen* 'to cry', *ijlen* 'to be delirious', *lachen* 'to laugh', *morren* 'to grumble', *plassen* 'to pee', *skiën* 'to ski', *slapen* 'to sleep', *werken* 'to work', *zwemmen* 'to swim', *zweeten* 'to sweat', etc.

C. *Unaccusative verbs*

Contrary to what traditional grammar assumes, the set of monadic verbs is not a uniform category; Subsection II will show that the intransitive verbs in (24) should be distinguished from the so-called unaccusative verbs in (25).

- (25) a. Jan arriveert.
 Jan arrives
 b. Het glas breekt.
 the glass breaks

Example (26) gives a small sample of such verbs. Unaccusative verbs normally denote some process and the subject is normally not presented as an agent but as a theme, that is, an entity that undergoes the process.

- (26) **Unaccusative verbs:** *arriveren* 'to arrive', *barsten* 'to burst', *gebeuren* 'to occur', *groeien* 'to grow', *kapseizen* 'to capsize', *ontstaan* 'to arise', *ontwaken* 'to wake up', *rimpelen* 'to wrinkle', *sneuvelen* 'to fall', *stagneren* 'to stagnate', *sterven* 'to die', *struikelen* 'to stumble', *vallen* 'to fall', *verdwijnen* 'to disappear', *verlopen* 'to pass'/'to elapse', *verschijnen* 'to appear', *verwelken* 'to wither', *voorkomen* 'to happen', *zinken* 'to sink', *zwellen* 'to swell', etc.

D. *The gradual nature of the distinction between transitive and intransitive verbs*

The previous subsections have shown that certain transitive verbs can be used as pseudo-intransitive verbs, that is, as intransitive verbs with an implied canonical object, and that certain intransitive verbs can be used transitively, that is, with a cognate object. These two facts show that the distinction between transitive and intransitive verbs is not absolute but gradual. It is therefore not surprising that some researchers (such as Hale and Keyser 1993) have argued that the two verb classes must actually be considered one single class. If so, whether a direct object is overtly expressed may depend on whether a canonical object is semantically implied by the semantics of the verb; a direct object can only be used if it adds something to the meaning inherently expressed by the verb.

This can be clarified by means of a verb like *dansen* 'to dance', which can readily be used both as an intransitive and as a transitive verb, as shown by the examples in (27). The reason why (27a) is marked with the direct object present is that the latter is redundant: the verb *dansen* already semantically implies that some sort of dance is performed. Example (27b), on the other hand, is acceptable with the direct object present since the direct object conveys information that is not implicitly present in the verb: it provides more information about the type of dance that is involved.

- (27) a. Jan danste (*?een dans).
 Jan danced a dance
 b. Jan danste de tango.
 Jan danced the tango

Perhaps something similar occurs with intransitive motion verbs like *schaatsen* 'to skate' and *lopen* 'to walk'. The primed examples in (28) show that cognate objects are particularly common with these verbs, where they trigger a reading according to which the subject partakes in some sporting activity; the cognate object then refers to some conventional unit that must be covered or to some specific sports event. For example, sentence (28a') expresses that Jan is involved in a 5-kilometer long skating race/participates in the famous Frisian skating marathon that goes through 11 Frisian cities. Example (28b') provides similar examples with the verb *lopen* 'to walk'.

- (28) a. Jan schaatst op de vijver.
 Jan skates on the lake
 'Jan is skating on the lake'
- a'. Jan schaatst de vijf kilometer/de Elfstedentocht.
 Jan skates the five kilometers/the Elfstedentocht
 'Jan is skating the five kilometers/Frisian skating marathon.'
- b. Jan loopt buiten.
 Jan walks outside
 'Jan is walking outside.'
- b'. Jan loopt de 100 meter/de Amsterdam marathon.
 Jan runs the 100 meters/the Amsterdam marathon
 'Jan is running the 100 meters/the annual marathon held in Amsterdam.'

The discussion of the examples above suggests that it may not be necessary to distinguish between intransitive and transitive verbs: the crucial factor is not whether the verb takes a direct object but whether this object can express non-redundant information. Although we do not want to take a stand on the idea that intransitive and transitive verbs constitute a single verb class (and will continue to use these two notions), we believe that the fact that the issue can be raised supports the claim that the classification of verbs should not primarily focus on the $\text{^}o$ adivity of the verb; the basic question is not how many arguments a certain verb takes, but what types of arguments.

II. Distinguishing intransitive from unaccusative verbs

Transitive verbs can normally be distinguished easily from intransitive and unaccusative verbs for the simple reason that the former selects two arguments, whereas the latter two select only a single argument. The fact that intransitive and unaccusative verbs are both monadic, on the other hand, makes it harder to distinguish between these two types. This subsection shows, however, that various properties of verbs depend on whether the verb in question takes an external and/or an internal argument. These properties can therefore be used as tests in order to establish whether we are dealing with an intransitive or an unaccusative verb.

A. Thematic role of the subject

In the prototypical case, transitive and intransitive verbs denote activities; subjects of such verbs are agents that are performing these activities. For this reason the

subject of an intransitive or transitive verb typically refers to a [+ANIMATE] participant (or an instrument that is especially designed to perform a specific task).

- (29) • Intransitive/transitive verbs
- a. Jan_{Agent}/*het boek lacht.
Jan/the book laughs
 - b. Jan_{Agent}/*de kachel rookt een sigaar.
Jan/the heater smokes a cigar

Unaccusative verbs, on the other hand, generally denote processes; subjects of such verbs are themes, that is, participants undergoing these processes. The fact that the subject of an unaccusative verb is not an agent accounts for the fact that, like the direct object of a transitive verb, it can readily refer to a [-ANIMATE] participant in the event. This is shown in (30).

- (30) • Unaccusative verbs
- a. De jongens_{Theme}/boeken_{Theme} arriveren morgen.
the boys/books arrive tomorrow
'The boys will arrive tomorrow.'
 - b. Jan_{Theme}/het boek_{Theme} viel.
Jan/the book fell

If we assume that agents are typically external arguments and themes are typically internal arguments, this contrast between intransitive and unaccusative verbs follows from the claim that subjects of the former are external, whereas subjects of the latter are internal arguments. We refer the reader to Subsection III for a discussion of a set of apparently intransitive verbs like *branden* 'to burn' and *smeulen* 'to smolder' that may take inanimate subjects.

B. ER-nominalization

Subsection A has shown that intransitive and transitive verbs normally denote activities and that the external arguments of such verbs refer to agents, that is, entities performing those activities. It is therefore not surprising that many of these verbs can be the input of ER-nominalization, that is, the morphological process that derives agentive nouns by means of suffixation of the verbal stem with the affix *-er* (or one of its allomorphs); cf. Sections N.1.3.1.5 and N.2.2.3.1. The resulting noun refers to an entity performing the action denoted by the input verb. In (31a&b), we give some examples involving transitive verbs. It should be noted, however, that there are also many transitive verbs like *groeten* 'to greet' in (31c) that, for unclear reasons, do not readily allow ER-nominalization (although it is possible to find examples of *de groeter* in humorous contexts; cf. *pasopaardig.nl*).

- (31) • Transitive verbs
- a. De man_{Agent} achtervolgt de jongens_{Theme}.
the man chases the boys
 - a'. de achtervolger_{Agent} van de jongens_{Theme}
the chaser of the boys

- b. De meisjes_{Agent} lezen de krant_{Theme}.
 the girls read the newspaper
- b'. de lezers_{Agent} van de krant_{Theme}
 the readers of the newspapers
- c. Jan_{Agent} groette de buurman_{Theme}.
 Jan greeted the neighbor
- c'. *[?]de groeter van de buurman
 the greeter of the neighbor

Observe that the direct object of the verb can be expressed by means of a post-nominal *van*-PP. Occasionally, the postnominal *van*-PP is dropped, in which case the habitual or occupational reading of the pseudo-intransitive verbs in (21) is likely to arise.

- (32) a. Jan rookt.
 Jan smokes
- a'. een roker
 a smoker
- b. Jan schildert.
 Jan paints
- b'. een schilder
 a painter

The vast majority of intransitive verbs also allow ER-nominalization. Some examples are given in (33).

- (33) • Intransitive verbs
- a. Jan_{Agent} lacht.
 Jan laughs
- a'. een lacher
 a laugh-er
- b. Jan_{Agent} droomt.
 Jan dreams
- b'. een dromer
 a dream-er

The unaccusative verbs, on the other hand, never allow ER-nominalization, as is illustrated in the examples in (34). Apparently, having an external (agentive) argument is a necessary condition for ER-nominalization, and the unaccusative verbs fail to satisfy this condition.

- (34) • Unaccusative verbs
- a. De gast_{Theme} arriveert.
 the guest arrives
- a'. *een arriveerder
 an arrive-er
- b. De jongen_{Theme} viel.
 the boy fell
- b'. *een valler
 a fall-er

The conclusion that we can draw from the discussion above is given in (35). Recall from Section 1.2.2, sub IIC, that the term unergative verb is a cover term for all verbs with an external argument, that is, intransitive and (di-)transitive verbs.

- (35) **Generalization I:** ER-nominalization is a sufficient (but not a necessary) condition for assuming unergative status for a verb: unaccusative verbs cannot be the input of ER-nominalization.

The examples in (36) seem to be exceptions to the generalization in (35): The verbs *stijgen* 'to ascend' and *dalen* 'to descend' in (36a), for example, are unaccusative but still allow ER-nominalization. It should be noted, however, that these ER-nouns

have a lexicalized meaning; they are only used in the context of a listing or a competition (as in sports, charts or financial indexes) and can refer to, e.g., a share that has increased/decreased in value but not to the subject in an example such as *Het vliegtuig/De piloot stijgt* ‘the airplane/pilot goes up’. Something similar holds for the noun *groeier* in (36c), which refers to a plant (and nowadays also companies) that grow fast, not just to anything that grows, or the noun *blijvertje* in (36b), which refers to something that is of a more lasting nature, not just to any entity that stays in a specific place. It seems that we are dealing with jargon here, or more or less idiomatic expressions.

- (36) a. de stijgers/dalers van vandaag [jargon]
 the ascend-ers/descend-ers of today
 ‘the shares that increased/decreased in value today’
- b. Loofbomen zijn vaak langzame groeiers. [jargon]
 deciduous.trees are often slow growers
 ‘Deciduous trees often grow slowly.’
- c. De CD-speler is een blijvertje. [idiomatic]
 the CD-player is a stay-er
 ‘The CD-player is here to stay.’

For a more extensive discussion of agentive ER-nouns, see Section N.1.3.1.5, where apparent counterexamples such as (36) are also discussed; for the moment we will ignore such cases and simply assume that generalization I in (35) holds in full.

C. Auxiliary selection

Despite the fact that in Dutch the perfect tense can be formed by means of either *hebben* ‘to have’ or *zijn* ‘to be’, transitive verbs seem to take *hebben* only.

- (37) • Transitive verbs
- a. De man heeft/*is de jongens achtervolgd.
 the man has/is the boys chased
- b. De meisjes hebben/*zijn gisteren de krant gelezen.
 the girls have/are yesterday the newspaper read

The monadic verbs, on the other hand, differ with respect to the auxiliary verb they take. The intransitive verbs always take *hebben*, whereas the unaccusative ones instead take *zijn*.

- (38) • Intransitive verbs
- a. Het kind heeft/*is gehuild.
 the child has/is cried
 ‘The child has cried.’
- b. Marie heeft/is geslapen.
 Marie has/is slept
- (39) • Unaccusative verbs
- a. De post is/*heeft gearriveerd.
 the post is/has arrived
- b. Het glas is/*heeft gebroken.
 the glass is/has broken

The conclusion we can draw from the examples in (37) and (38) is that unergative verbs, that is, verbs selecting an external argument, must take the auxiliary *hebben* in the perfect tense. The data in (39) suggest that unaccusative verbs, that is, verbs that do not select an external argument, must take the auxiliary *zijn* in the perfect tense. We will see in Subsection III, however, that the latter probably cannot be upheld in full. The correct generalization therefore seems to be as given in (40).

- (40) **Generalization II:** Selection of the auxiliary *zijn* is a sufficient (but not a necessary) condition for assuming unaccusative status for a verb; unergative verbs take the auxiliary *hebben*.

D. Attributive use of the participle

Past/passive and present participles can often be used in prenominal attributive position as modifiers of a noun. This subsection shows that, at least in the case of the past/passive participle, the unergative/unaccusative status of the base verb determines the nature of the modification relation between the participle and the °head noun.

1. Past/passive participles

Past/passive participles of transitive verbs can be used attributively. The singly-primed examples in (41) show that the noun that is modified by the participle corresponds to the internal argument (direct object) of the verb. The doubly-primed examples show that modification of a noun that corresponds to the external argument (subject) of the verb leads to an unacceptable result or an unintended reading; the noun phrase *de achtervolgde man* in (41a''), for example, cannot refer to the agent (the person who is doing the chasing), but only to the theme (the person who is being chased).

- (41)
- Transitive verbs
 - a. De man_{Agent} achtervolgt de jongens_{Theme}.
the man chases the boys
 - a'. de (door de man_{Agent}) achtervolgde jongens_{Theme}
the by the man chased boys
'the boys who are chased by the man'
 - a''. #de achtervolgde man_{Agent}
the chased man
 - b. De meisjes_{Agent} lezen de krant_{Theme}.
the girls read the newspaper
 - b'. de (door de meisjes_{Agent}) gelezen krant_{Theme}
the by the girls read newspaper
'the newspaper that has been read by the girls'
 - b''. *de gelezen meisjes_{Agent}
the read girls

The examples in (42) show that nouns that correspond to subjects of intransitive verbs are like nouns that correspond to subjects of transitive verbs in that they cannot be modified by means of a past/passive participle.

- (42) • Intransitive verbs
- | | | | |
|-----|-------------------------------------|-----|------------------------------------|
| a. | Het kind _{Agent} huilt. | b. | De baby _{Agent} slaapt. |
| | the child cries | | the baby sleeps |
| a'. | *het gehuilde kind _{Agent} | b'. | *de geslapen baby _{Agent} |
| | the cried child | | the slept baby |

Nouns that correspond to subjects of unaccusative verbs, on the other hand, can be modified by a past/passive participle, just like nouns that correspond to internal arguments (direct objects) of transitive verbs. This is illustrated in (43).

- (43) • Unaccusative verbs
- | | | | |
|-----|---------------------------------------|-----|------------------------------------|
| a. | De post _{Theme} arriveert. | b. | Het glas _{Theme} brak. |
| | the post arrives | | the glass broke |
| a'. | de gearriveerde post _{Theme} | b'. | het gebroken glas _{Theme} |
| | the arrived post | | the broken glass |

From the examples in (41) to (43) we can conclude that only nouns corresponding to an internal argument of a verb can be modified by an attributively used past/passive participle. We will see in Subsection III, however, that not all unaccusative verbs allow attributive use of their past participle. The proper generalization therefore seems to be as given in (44).

- (44) **Generalization III:** The possibility of using the perfect/past participle attributively is a sufficient (but not a necessary) condition for assuming unaccusative status for a monadic verb; the perfect/past participle of an intransitive verb cannot be used attributively.

Recall from Section 2.1.2, sub I, that intransitive verbs may sometimes have a so-called cognate object; the verb *dromen* ‘to dream’, for example, can be combined with the object *een nachtmerrie* ‘a nightmare’. Sometimes intransitive verbs like *dromen* can also be used in the sense of “creating by means of dreaming”. In such cases, the verb of course patterns with the transitive verbs.

- (45) a. Jan droomt een nachtmerrie/een reis.
 Jan dreams a nightmare/a journey
 ‘Jan has a nightmare/Jan creates a journey by means of dreaming.’
 b. de gedroomde nachtmerrie/reis

2. *Present participles*

The attributive use of the present participle does not seem to be sensitive to whether the modified noun corresponds to an external or an internal argument of the verb. Rather, it is sensitive to the *syntactic function* of the phrase that corresponds to the modified noun. The noun modified by the present participle always corresponds to the subject (the nominative argument) of the clause.

- (46) • Transitive verbs
- a. De meisjes lezen de krant.
the girls read the newspaper
 - b. de lezende meisjes
the reading girls
 - c. *de lezende krant
the reading newspaper
- (47) • Intransitive verbs
- a. De baby slaapt.
the baby sleeps
 - b. de slapende baby
the sleeping baby
- (48) • Unaccusative verbs
- a. Het glas brak.
the glass broke
 - b. het brekende glas
the breaking glass

3. Attributive modification and aspect

The previous subsections have shown that a noun corresponding to the subject of an unaccusative construction can be modified both by a past and by a present participle. Some additional examples are given in (49). The difference between the two forms is aspectual in nature: the past/passive participles in the singly-primed examples present the events as completed (perfective aspect), whereas the present participles in the doubly-primed examples present the events as ongoing (durative or imperfective aspect).

- | | |
|---|--|
| (49) a. De gasten arriveren.
the guests arrive | b. De bladeren vallen.
the leaves fall |
| a'. de gearriveerde gasten
the arrived guests
'the guests who have arrived' | b'. de gevallen bladeren
the fallen leaves
'the leaves that have fallen' |
| a''. de arriverende gasten
the arriving guests
the guests who are arriving | b''. de vallende bladeren
the falling leaves
'the leaves that are falling' |

The perfective meaning aspect of the past/passive participle is also present if the input verb is transitive, as in *de gelezen krant* 'the newspaper that has been read' in (41b'), and the durative meaning aspect of the present participle is also present if the input verb is transitive or intransitive, as *de lezende meisjes* 'the reading girls' in (46b) and *de slapende baby* 'the sleeping baby' in (47b).

E. (Impersonal) passive

Passivization is typically associated with (di-)transitive verbs. Although it is certainly not true that all transitive verbs can be passivized (cf. 3.2.1.1, sub III), many indeed allow this option; some examples are given in (50).

- (50) • Transitive verbs
- a. De man achtervolgt de jongens.
the man chases the boys
 - a'. De jongens worden (door de man) achtervolgd.
the boys are by the man chased
'The boys are chased (by the man).'
 - b. De meisjes lezen de krant.
the girls read the newspaper
 - b'. De krant wordt (door de meisjes) gelezen.
the newspaper is by the girls read
'The newspaper is read (by the girls).'

It is, however, by no means true that passivization is restricted to (di-)transitive verbs; the examples in (51) show that intransitive verbs can also be passivized. Because the passive constructions in the primed examples do not have a subject (nominative argument), they are normally referred to as IMPERSONAL PASSIVES. Observe that the regular subject position in these impersonal passives is occupied by the °expletive element *er* 'there'.

- (51) • Intransitive verbs
- a. Het kind huult.
the child cries
 - a'. Er wordt gehuild (door het kind).
there is cried by the child
 - b. De baby slaapt.
the baby sleeps
 - b'. Er wordt geslapen (door de baby).
there is slept by the baby

Unaccusative verbs differ from intransitive verbs in that they do not allow impersonal passivization. Some examples illustrating this are given in (52). Observe that we took examples with human subjects, since it is often claimed that there is an animateness restriction on passivization in the sense that clauses that contain a [-ANIMATE] subject cannot be passivized.

- (52) • Unaccusative verbs
- a. De gasten arriveren.
the guests arrive
 - a'. *Er wordt (door de gasten) gearriveerd.
there is by the guests arrived
 - b. De jongen viel.
the boy fell
 - b'. *Er werd (door de jongen) gevallen.
there was by the boy fallen

The data in this subsection therefore suggest that having an external argument is a necessary condition for passivization of a verb. If no external argument is present, as in the case of unaccusative verbs, passivization is blocked.

- (53) **Generalization IV:** The possibility of passivization is a sufficient (but not a necessary) condition for assuming unergative status for a verb; unaccusative verbs cannot be passivized.

For a more extensive discussion of the restrictions on passivization, we refer the reader to Section 3.2.1.

F. *Wat voor split*

The so-called *wat voor split* has played a prominent role in the literature on unaccusative verbs. A *wat voor*-phrase is an interrogative noun phrase consisting of the sequence *wat voor (een)* ‘what for a’ followed by a noun. Like all interrogative phrases, the complete noun phrase can be placed in clause-initial position, as is shown in (54a). The notion *wat voor split* refers to the fact that it is also possible to split the *wat voor*-phrase and to place the interrogative element *wat* in clause-initial position while °stranding the remainder of the phrase, as in (54b). We refer the reader to Section N.4.2.2 for a more extensive discussion of *wat voor*-phrases.

- (54) a. *Wat voor (een) krant hebben die meisjes gelezen?*
 what for a newspaper have those girls read
 ‘What kind of newspaper have those girls read?’
 b. *Wat hebben die meisjes voor (een) krant gelezen?*
 what have those girls for a newspaper read
 ‘What kind of newspaper did those girls read?’

What is relevant here is that it has been claimed that the *wat voor split* is only possible if the split noun phrase is an internal argument (direct object), as in (54b). If the split applies to an external argument, the result indeed seems severely degraded. This is shown in (55b).

- (55) • Transitive verbs
 a. *Wat voor een meisjes hebben een krant gelezen?*
 what for a girls have a newspaper read
 ‘What kind of girls have read a newspaper?’
 b. **Wat hebben voor een meisjes een krant gelezen?*
 what have for a girls a newspaper read
 ‘What kind of girls have read a newspaper?’

If the generalization that the *wat voor split* is only possible with internal arguments is correct, it is predicted that the subject of an unaccusative verb can undergo it, whereas it is blocked in the case of an intransitive verb. Things are not so simple, however, since it has been suggested that the degraded status of (55b) is not due to the fact that the *wat voor*-phrase is an external argument, but to the fact that it is an indefinite noun phrase; in many cases, indefinite subjects require the presence of the expletive element *er* ‘there’. And, although the judgments of native speakers vary, example (55b) seems to improve considerably if this expletive is added, as in (56).

- (56) %*Wat hebben er voor een meisjes een krant gelezen?*
 what have there for a girls a newspaper read
 ‘What kind of girls have read a newspaper?’

Although this observation makes it rather dubious that taking recourse to the *wat voor* split can help us to make a distinction between intransitive and unaccusative verbs, let us see how these verbs behave in this respect. As is shown in (57), unaccusative verbs do indeed allow the *wat voor* split. Note that if expletive *er* is dropped the examples become unacceptable.

- (57) • Unaccusative verbs
- a. Wat voor gasten zijn ^{??}(er) gearriveerd?
what for guests are there arrived
 - a'. Wat zijn *(er) voor een gasten gearriveerd?
what are there for a guests arrived
 - b. Wat voor een spullen zijn ^{*?}(er) gevallen?
what for a things are there fallen
 - b'. Wat zijn *(er) voor een spullen gevallen?
what are there for a things fallen

Applying the *wat voor* split to intransitive verbs gives rise to a perhaps somewhat marked result, but it seems an exaggeration to declare them ungrammatical. The examples in (58) also become unacceptable if *er* is dropped, but we did not indicate this for the sake of clarity of presentation.

- (58) • Intransitive verbs
- a. Wat voor jongens hebben er gehuild?
what for boys have there cried
 - a'. %Wat hebben er voor jongens gehuild?
what have there for boys cried
 - b. Wat voor mensen hebben er gedroomd?
what for people have there dreamed
 - b'. %Wat hebben er voor mensen gedroomd?
what have there for people dreamed

The hypothesis that intransitive and unaccusative verbs differ in that the former take an external and the latter an internal argument is supported by the data in this subsection only insofar as example (56) and the primed examples in (58) are marked.

G. Summary

Table 2 summarizes the discussion in the previous subsections. Row 1 indicates whether the verb takes an external and/or an internal argument, and relates this to the semantic role the referent of the argument in question plays in the event denoted by the verb. Row 2 shows that verbs can only function as the input of the formation of an agentive ER-noun if they take an external argument; the derived noun refers to the entity performing the action denoted by the verbal stem. Row 3 indicates whether the verb selects the auxiliary *hebben* or *zijn* in the perfect tense. Row 4 indicates whether the past/passive participle can be used attributively and, for the transitive verbs, what argument the modified noun corresponds to. Row 5 indicates whether or not the verb allows (impersonal) passivization and row 6, finally, indicates whether the argument(s) of the verb allow a *wat voor* split.

Table 2: Properties of transitive, intransitive and unaccusative verbs (to be revised)

1.	ARGUMENT(S)	TRANSITIVE		INTRANSITIVE	UNACCUSATIVE
		external (agent)	internal (theme)	external (agent)	internal (theme)
2.	ER-NOMINALIZATION	+	—	+	—
3.	AUXILIARY SELECTION	<i>hebben</i>		<i>hebben</i>	<i>zijn</i>
4.	ATTRIBUTIVE USE OF PAST/PASSIVE PARTICIPLE	—	+	—	+
5.	(IMPERSONAL) PASSIVE	+		+	—
6.	WAT VOOR SPLIT	%	+	%	+

This table nicely demonstrates the relation between the type(s) of argument that the verb takes and the properties discussed. At least the °material implications in (59) seem to hold. Note that we do not include the *wat voor* split in this list, because it is not obvious that it really determines whether we are dealing with an internal argument; the data is simply not clear enough for claiming that.

- (59) a. ER-nominalization → external argument (unergative verb)
 b. auxiliary *zijn* → no external argument (unaccusative verb)
 c. attributive use of the past/passive participle → internal argument (unaccusative verb, if monadic)
 d. (impersonal) passive → external argument (unergative verb)

The material implications in (59) are given in their present form on purpose; they express that the consequence (= the part after the arrow) is a sufficient but possibly not a necessary condition for the antecedent (= the part before the arrow) to hold: the formulation in (59b), for example, expresses that a verb selecting *zijn* may not have an external argument, but it does not exclude the possibility that additional conditions must be met in order to license *zijn*. Or, to say it differently, (59b) expresses that we may conclude from the fact that a verb takes *zijn* in the perfect tense that no external argument is present, but not that all verbs without an external argument take *zijn*. The material implications in (59) therefore correspond to the generalizations I-IV formulated in the previous subsections, repeated here as (60).

- (60) a. **Generalization I:** ER-nominalization is a sufficient (but not a necessary) condition for assuming unergative status for a verb: unaccusative verbs cannot be the input of ER-nominalization.
 b. **Generalization II:** Selection of the auxiliary *zijn* is a sufficient (but not a necessary) condition for assuming unaccusative status for a verb; unergative verbs take the auxiliary *hebben*.
 c. **Generalization III:** The possibility of using the perfect/past participle attributively is a sufficient (but not a necessary) condition for assuming unaccusative status for a monadic verb; perfect/past participles of intransitive verbs cannot be used attributively.
 d. **Generalization IV:** The possibility of passivization is a sufficient (but not a necessary) condition for assuming unergative status for a verb; unaccusative verbs cannot be passivized.

III. A second class of unaccusative verbs?

The discussion in Subsections I and II summarizes the results of the generative research over the last two or three decades, and is representative of what can be assumed to be the “standard” view (which does not mean that the distinction between intransitive and unaccusative verbs has not been challenged). There is, however, a group of monadic verbs that seem to have escaped attention. Consider the examples in (61).

- (61) a. Jan bloedt heftig.
 Jan bleeds fiercely
 b. Jan drijft op het water.
 Jan floats on the water

Below we will see that the verbs in (61) have some properties in common with the unaccusative verbs discussed in Subsection II. There are also, however, several differences, which we will argue to be related to an aspectual difference between the two classes of unaccusative verbs. Example (62) provides a small sample of verbs behaving similarly to the verbs in (61).

- (62) **Unaccusative verbs (class II):** *bloeden* ‘to bleed’, *branden* ‘to burn’, *drijven* ‘to float’, *flakkeren/flikkeren* ‘to flicker’, *lekken* ‘to leak’, *rotten* ‘to rot’, *schuimen* ‘to foam’, *smeulen* ‘to smolder’, *stinken* ‘to stink’, *vlammen* ‘to flame’, etc.

A. Thematic role of the subject

Subsection IIA has shown that intransitive and transitive verbs typically involve actions, and that the subjects of these verbs are therefore typically agentive in nature. This is, however, not the case with the examples in (62); the verbs instead seem to refer to a process and their subject functions as a theme, that is, refers to the participant that is undergoing the process. The examples in (63) show that, concomitant to this, the subject need not refer to a [+ANIMATE] participant in the event. This supports the hypothesis that the verbs in (62) are unaccusative in nature.

- (63) a. De jongen/wond bloedt heftig.
 the boy/wound bleeds fiercely
 b. De jongen/band drijft op het water.
 the boy/tire floats on the water

Another fact that seems to support the hypothesis that verbs like these do not take an external/agentive argument is that they normally do not occur in imperatives. This is illustrated in (64) by means of success imperatives. Section 1.4.2 has shown that whereas (pseudo-)intransitive verbs can readily occur in this construction, unaccusative verbs cannot; the verbs in (62) pattern in this respect with the unaccusative verbs.

- (64) a. Slaap ze! [intransitive]
 sleep ZE
 ‘Sleep well!’

- b. *Vertrek ze! [unaccusative (class I)]
 leave ZE
- c. *Bloed ze! [unaccusative (class II)]
 bleed ZE

B. *Er-nominalization*

Since ER-nominalization requires as input a verb selecting an agentive (hence external) argument, we predict that the verbs in (62) cannot undergo this process. The examples in (65) show that this expectation is indeed borne out; the intended interpretations of the ER-nouns are given in square brackets.

- (65) a. #bloeder [someone/thing that is bleeding]
 bleed-er
- b. #brander [someone/thing that is burning]
 burn-er
- c. #drijver [someone/thing that is floating]
 float-er
- d. *lekker [something that is leaking]
 leak-er
- e. *rotter [something that is rotting]
 rot-er
- f. *schuimer [something that is foaming]
 foam-er

The fact that the forms in (65) are not acceptable under the intended reading does not imply that they do not occur at all. *Bloeder*, for example, is a somewhat outdated noun referring to a person suffering from hemophilia. *Brander* is possible, too, but it denotes an instrument with which, e.g., paint can be removed (and may in fact be derived from the causative counterpart of the verb we are discussing here). *Drijver* is possible on more or less the intended reading (for example, it can be used for a quill used in fishing), but it is not the case that anything that is floating can be denoted by it. The conclusion must therefore be that the verbs in (62) cannot be the input for the otherwise fairly productive morphological rule that derives agentive ER-nouns from intransitive and transitive verbs. This is again an argument in favor of assuming unaccusative status for these verbs.

C. *Auxiliary selection*

At first sight, auxiliary selection seems to provide evidence against the hypothesis that we are dealing with unaccusative verbs in (62); the examples in (66) show that these verbs select *hebben*, just like intransitive verbs.

- (66) a. De jongen/wond heeft/*is hevig gebloed.
 the boy/wound has/is heavily bled
 'The boy/wound has bled heavily.'
- b. De jongen/band heeft/*is op het water gedreven.
 the boy/tire has/is on the water floated
 'The boy/tire has floated on the water.'

However, There is reason for assuming that this difference in auxiliary selection between unaccusative verbs like *arriveren* ‘to arrive’ and *vallen* ‘to fall’, on the one hand, and verbs like *bloeden* ‘to bleed’ and *drijven* ‘to float’, on the other, is aspectual in nature. Processes denoted by the former type of unaccusative verbs are normally construed as being inherently bounded in time; verbs like *arriveren* and *vallen* are TELIC (from Greek *telos* ‘goal’), that is, construed as involving some endpoint at which a specific resulting state is obtained. The processes denoted by the latter type, on the other hand, are normally construed as unbounded; verbs like *bloeden* and *drijven* are ATELIC in the sense that no inherent endpoint is implied.

The contrast between the two classes of unaccusative verbs will therefore follow if we assume that the selection of *zijn* is a special property of *telic* unaccusative verbs; all other verbs select *hebben*. The suggestion that telicity is involved in auxiliary selection is supported by the fact that making the events denoted by *bloeden* and *drijven* telic by adding a resultative predicate like *dood* ‘dead’ or a particle like *weg* ‘away’ forces the use of *zijn* in the perfect tense. This is shown in (67).

- (67) a. De jongen bloedt dood. b. De band drijft weg.
 the boy bleeds dead the tire floats away
 a'. De jongen is/*heeft dood gebloed. b'. De band is/*heeft weg gedreven.
 the boy is/has dead bled the tire is/has away floated
 ‘The boy has bled to death.’ ‘The tire has floated away.’

The fact that the examples in (67) are grammatical at all is actually a second argument in favor of assuming unaccusative status for verbs like *bloeden* and *drijven*. With intransitive verbs, the addition of a resultative predicate goes hand in hand with the addition of a second participant in the event structure; example (68a), which involves the intransitive verb *huilen* ‘to cry’, is ungrammatical without the noun phrase *zijn ogen* ‘his eyes’. With unaccusative verbs, on the other hand, the addition of a second noun phrase is excluded, as is shown in (68b); See Levin and Rappaport Hovav (1995:ch.2) for extensive discussion.

- (68) a. Jan huilt *(zijn ogen) rood.
 Jan cries his eyes red
 b. Jan valt (*zijn vriend) dood.
 Jan falls his friend dead

If verbs like *branden* and *drijven* are indeed unaccusative, we correctly predict that introducing a second participant also gives rise to an ungrammatical result in (69). We will return to examples like these in Section 2.2.

- (69) a. Jan bloedt (*zijn zusje) dood.
 Jan bleeds his sister dead
 b. De band drijft (*het kind) weg.
 the tire floats the child away

This subsection has argued that selection of the perfect auxiliary *zijn* is not a necessary but a sufficient condition for assuming unaccusative status for a verb; atelic unaccusative verbs select *hebben*, just like the unergative verbs. Section 2.1.3

will further support this conclusion by showing that the so-called NOM-DAT verbs, which are generally considered dyadic unaccusative verbs, may also take *hebben* in the perfect tense if they are atelic. The claim that selection of *zijn* is not necessary for assuming unaccusative status was first put forward in Mulder & Wehrmann (1989) on the basis of independent evidence involving locational verbs, which will be reviewed in Section 2.2.3, sub IIC1.

D. Attributive use of the past participle

Subsection IID has shown that intransitive and unaccusative verbs differ with respect to whether the past/passive participle of the verb can be used attributively; past/passive participles of unaccusatives can be used in this way, but those of intransitives cannot. With respect to this test, the verbs in (62) again pattern with the intransitive verbs instead of with the unaccusative ones.

- (70) a. *de gebloede jongen/wond
 the bled boy/wound
 b. *de gedreven jongen/band
 the floated boy/tire

What we would like to suggest here is that the ungrammaticality of the examples in (70) is again related to the difference in telicity. An example such as *de gearriveerde gasten* suggests that the guests have reached the endpoint implied by the verb *arriveren* ‘to arrive’. Since verbs like *bloeden* and *drijven* do not have such an implied endpoint, the examples in (70) are semantically anomalous. As expected under this proposal, the telic examples in (67) do allow the attributive use of the participles (provided that the secondary predicate or particle is present as well):

- (71) a. de dood gebloede jongen
 the dead bled boy
 b. de weg gedreven band
 the away floated tire

The claim that the attributive use of past participles of unaccusative verbs is sensitive to the telicity of the verb is supported by the discussion in Section 2.1.3, where it will be shown that NOM-DAT verbs allow attributive use of their past participles if they are telic but not if they are atelic.

E. Impersonal passive

Subsection IIE concluded that the presence of an external argument is a necessary condition for passivization. If the verbs in (62) are indeed unaccusatives, they do not have an external argument and therefore we expect passivization to be excluded. The examples in (72) show that this expectation is indeed borne out. Observe that we took examples with human subjects, since it is often claimed that there is an animacy restriction on passivization; clauses that contain a [-ANIMATE] subject cannot be passivized.

- (72) • Impersonal passive
- a. *Er wordt hevig (door Jan) gebloed.
there is heavily by Jan bled
 - b. *Er wordt (door die jongen) op het water gedreven.
there is by that boy on the water floated

It should be noted, however, that just in the case of regular unaccusative verbs, there are stage contexts in which impersonal passivization of the verbs in (62) improves; an example is (73a), in which it is clear that the bleeding events are willful acts of some agent (the actors). A similar example is (73b), which passes the responsibility for the nasty smell in the loo to some unnamed person who is answering nature's call and which is less concerned with the actual cause of the smell. The passive constructions in (73) thus have agentive aspects that are lacking in active sentences such as *De acteurs bloeden* 'The actors are bleeding' or *De uitwerpselen stinken* 'The excrements are stinking'.

- (73) a. Er wordt in deze film weer flink gebloed.
there is in this movies again a.lot bled
'This is another bloody movie.'
- b. Er wordt weer eens gestonken op de plee.
there is again once stunk in the loo
'Someone is once again stinking up the loo.'

F. Wat voor *split*

Although we have seen that the *wat voor split* is not a very reliable test for distinguishing between intransitive and unaccusative verbs, we will give the relevant data here for completeness' sake. The data in (74) show that a *wat voor split* is possible with the subject of the verbs under discussion, provided that the expletive *er* is present.

- (74) a. Wat hebben *(er) voor patiënten gebloed?
what have there for patients bled
'What kind of patients bled?'
- b. Wat hebben *(er) voor banden in het water gedreven?
what have there for tires in the water floated
'What kind of tires floated in the water?'

G. Conclusion

The data in this subsection strongly suggest that the verbs in (62) are a separate class of unaccusative verbs, which differ in their aspectual properties from the unaccusative verbs discussed in Subsection II: whereas the latter are telic, the verbs in (62) are all atelic. The fact that the verbs in (62) do not select *zijn* in the perfect tense is probably related to their atelicity and the same thing may hold for the fact that the past participle of these verbs cannot be used attributively. More support for the claim that the verbs in (62) are unaccusative can be found in Section 2.2.3, sub IIB2.

IV. More on auxiliary selection and unaccusativity

Subsection IIIC, has shown that the selection of the auxiliary *zijn* is a sufficient but not a necessary condition for assuming unaccusative status in the sense that the verb must be telic in addition; atelic unaccusative verbs select *hebben*. The term telicity has been defined in terms of the implied endpoint of an °eventuality: telic unaccusative verbs denote eventualities that imply a transition of one state into another. For example, the verb *sterven* ‘to die’ refers to an eventuality that involves the transition of some entity from the state “alive” to the state “dead”; a present-tense example such as (75a) indicates that the entity referred to by the subject is undergoing this transition, and the perfect-tense example in (75b) indicates that this transition is completed.

- (75) a. De oude man sterft.
 the old man dies
 ‘The old man is dying.’
 b. De oude man is gestorven.
 the old man is died
 ‘The old man has died.’

It has been known for a long time that prototypical telic unaccusative verbs like *sterven* are sometimes also used with the perfect auxiliary *hebben*. For example, in order to refer to the completed activity of an actor preparing Hamlet’s death scene, we may use the sentence in (76a). An important question is whether the verb *sterven* in (76a) is still an unaccusative verb (with a theme argument) or whether it is used as an intransitive verb (with an agent). The fact that the verb *sterven* can be passivized in the given context suggests the latter.

- (76) a. %Jan heeft de hele dag gestorven.
 Jan has the whole day died
 ‘He has died the whole day.’
 b. %Er werd de hele dag gestorven.
 here was the whole day died

The percentage signs in (76) are used to indicate that some speakers may consider examples like these as rather forced even within the context sketched. There are, however, more natural cases. Honselaar (1987), for example, provides the examples in (77a&b); we marked the (b)-example with a dollar sign in order to indicate that this is the more special case, as is clear from the fact that the 14th edition of the *Van Dale* dictionary does not mention the possibility of monadic *keren* to select *hebben*.

- (77) a. Toen zijn we gekeerd.
 then are we turned
 ‘We’ve turned there.’
 b. \$Toen hebben we gekeerd.
 then have we turned
 ‘We’ve turned there.’

Honselaar relates the two alternative realizations to interpretation; whereas (77a) denotes an eventuality that results in a different state (here: a different orientation of

movement), (77b) emphasizes the action itself. This difference in interpretation can be accounted for in different ways. One possibility, not discussed by Honselaar, is based on the fact that the unaccusative verb *keren* ‘to turn’ has the transitive, causative counterpart shown in (78a); see Section 3.2.3 for a discussion of this type of verb frame alternation. This opens up the possibility of analyzing (78b) not as an unaccusative verb, but as the pseudo-intransitive counterpart of causative *keren* in (78a). Such an analysis would immediately account for the fact that (78b) focuses on the action itself given that Jan functions as an agent (and not as a theme) in this example, as well as the fact that impersonal passivization is possible.

- (78) a. Jan heeft de auto gekeerd. [transitive]
 Jan has the car turned
 ‘Jan has turned the car.’
 a’. De auto werd gekeerd.
 the car was turned
 b. Jan heeft gekeerd. [pseudo-intransitive?]
 Jan has turned
 b’. Er werd gekeerd.
 there was turned

There are, however, cases in which such a solution is not available. Consider, for instance, the examples in (79) that combine motion verbs with a directional PP. Example (79b) provides the unmarked case, in which the perfect tense is formed with the auxiliary *zijn*. However, Honselaar correctly claims that in examples like (79b&c) the auxiliary *hebben* can also be used.

- (79) a. Jan is/*heeft naar Groningen gewandeld.
 Jan is/has to Groningen walked
 ‘Jan has walked to Groningen.’
 b. Jan is/heeft naar Groningen gewandeld (niet gefietst).
 Jan is/has to Groningen walked not cycled
 ‘Jan has walked to Groningen (he didn’t cycle).’
 c. Jan is/heeft zijn hele leven naar Groningen gewandeld.
 Jan is/has his whole live to Groningen walked
 ‘Jan has walked to Groningen all his life.’

Honselaar attributes this to the fact that the examples in (79b&c) do not focus on the resulting state but on the activity itself: in (79b) this is the result of assigning exhaustive °focus on the verb and in (79c) by means of the adverbial phrase *zijn hele leven* ‘his whole life’, which much favors a generic interpretation. The auxiliary *hebben* becomes possible because placing emphasis on the action denoted by the verb sufficiently suppresses (in our terms) the telicity of these sentences; see Honselaar (1987) and Beliën (2008/2012) for more examples and discussion.

V. Conclusion

The previous subsections have compared transitive, intransitive and unaccusative verbs. The main focus has been on the distinction between intransitive and unaccusative verbs; cf. Perlmutter (1978) and Burzio (1986). Subsection II

reviewed a number of unaccusativity tests proposed for Dutch by Hoekstra (1984a). The discussion in Subsection III has shown, however, that there seems to be a special class of atelic unaccusative verbs that has been overlooked in the literature so far and that does not satisfy a number of the standard tests. More specifically, these verbs differ from the unaccusative verbs discussed in Subsection II in that they select the perfect auxiliary *hebben* instead of *zijn*, and that their past/passive participles cannot be used attributively. We argued that these tests are not only sensitive to the unaccusativity of the verbs but also to their telicity; this claim will also be supported by the discussion of the NOM-DAT verbs in Section 2.1.3. If we accept the conclusion that there are two types of unaccusative verbs, Table 2 from Subsection IIG, must be revised as in Table 3.

Table 3: Properties of transitive, intransitive and unaccusative verbs (revised)

		TRANSITIVE		INTRANSITIVE	UNACCUSATIVE	
		external (agent)	internal (theme)	external (agent)	telic	atelic
1.	ARGUMENT(S)				internal (theme)	
2.	AUXILIARY SELECTION	<i>hebben</i>		<i>hebben</i>	<i>zijn</i>	<i>hebben</i>
4.	ATTRIBUTIVE USE OF PAST/PASSIVE PARTICIPLE	—	+	—	+	—
3.	(IMPERSONAL) PASSIVE	+		+	—	
5.	ER-NOMINALIZATION	+	—	+	—	
6.	WAT VOOR SPLIT	%	+	%	+	

2.1.3. Ditransitive and dyadic unaccusative (NOM-DAT) verbs

Sections 2.1.1 and 2.1.2 discussed verbs with at most one internal nominal argument: (i) impersonal and intransitive verbs without an internal argument, and (ii) monadic unaccusative and transitive verbs with an internal theme argument. These verbs can be further divided into unergative and unaccusative verbs, that is, verbs with and verbs without an external argument. This section continues by discussing verbs with two internal nominal arguments, and we will show that such verbs must likewise be divided into two groups: unergative verbs like *aanbieden* ‘to offer’ in (80a) are normally called DITRANSITIVE or DOUBLE OBJECT verbs because their internal arguments both surface as objects; unaccusative verbs like *bevallen* ‘to please’ in (80b) are called NOM-DAT VERBS because their internal theme argument surfaces as (nominative) subject, whereas their second internal argument is realized as a °dative phrase; see Subsection I for a more detailed discussion.

- (80) a. Jan biedt Marie het boek aan. [ditransitive verb]
 Jan offers Marie the book prt.
 ‘Jan is offering Marie the book.’
- b. dat jouw verhalen mijn broer niet bevielen. [NOM-DAT verbs]
 that your stories my brother not pleased
 ‘that your stories didn’t please my brother.’

If subjects of NOM-DAT verbs are indeed internal arguments, we end up with the classification of verbs given in Table 4, which seems to be the one normally assumed in current versions of generative grammar.

Table 4: Classification of verbs according to the nominal arguments they take (prefinal)

	NAME	EXTERNAL ARGUMENT	INTERNAL ARGUMENT(S)
NO INTERNAL ARGUMENT	intransitive	nominative (subject)	—
	impersonal	—	—
ONE INTERNAL ARGUMENT	transitive	nominative (subject)	accusative (direct object)
	unaccusative	—	nominative (DO-subject)
TWO INTERNAL ARGUMENTS	ditransitive	nominative (subject)	dative (indirect object) accusative (direct object)
	NOM-DAT	—	dative (indirect object) nominative (DO-subject)

Table 4 shows that transitive verbs can be confused with NOM-DAT verbs given that they both take a subject and an object. In languages like German, the two verb types can readily be distinguished by means of case-assignment: transitive verbs assign °accusative case to their object, whereas NOM-DAT verbs assign dative case. Since Dutch does not distinguish these two cases morphologically, Subsection II will introduce a number of other tests that can help to distinguish the two verb types. But Subsection I will first provide a brief general introduction to the ditransitive and NOM-DAT verbs.

I. General introduction

This subsection briefly introduces two verb classes that take two internal arguments: ditransitive and NOM-DAT verbs. The latter verb class is unaccusative and the standard unaccusativity tests therefore predict that they will take the auxiliary *zijn* ‘to be’ in the perfect tense. We will see, however, that there are in fact two types of NOM-DAT verbs: one type that takes the auxiliary *zijn* and another type that takes the auxiliary *hebben* ‘to have’. This supports our finding in Section 2.1.2, sub III, that selection of the auxiliary *zijn* is a sufficient but not a necessary condition for assuming unaccusativity.

A. Ditransitive (double object) verbs

Ditransitive verbs take an external argument, which is realized as the subject of the clause, and two internal arguments, which are realized as, respectively, an indirect object (the goal/source argument) and a direct object (the theme argument). Examples of such ditransitive verbs are *aanbieden* ‘to offer’ and *afpakken* ‘to take away’ in (81).

- (81) a. Jan biedt Marie_{IO} het boek_{DO} aan.
 Jan offers Marie the book prt.
 ‘Jan is offering Marie the book.’
 b. Marie pakt Jan_{IO} het boek_{DO} af.
 Marie takes Jan the book away
 ‘Marie takes away the book from Jan.’

Example (82) provides a small sample of such double object verbs.

- (82) Ditransitive verbs: *aanbieden* ‘to offer’, *aanbevelen* ‘to recommend’, *afpakken* ‘to take away’, *beloven* ‘to promise’, *bevelen* ‘to order’, *geven* ‘to give’, *nalaten* ‘to bequeath’, *onthouden* ‘to withhold’, *ontnemen* ‘to take away’, *opbiechten* ‘to confess’, *schenken* ‘to give’, *sturen* ‘to send’, *toesturen* ‘to send’, *toeroepen* ‘to call’, *toezeggen* ‘to promise’, *verbieden* ‘to forbid’, *verkopen* ‘to sell’, *vragen* ‘to ask’, *verhuren* ‘to rent’, *zenden* ‘to send’, etc.

Although Dutch has no morphologically realized cases on non-pronominal noun phrases, it is generally assumed on the basis of comparable constructions in German that the two objects are assigned different cases: the indirect object is assigned dative, whereas the direct object is assigned accusative case. In many cases, the indirect object need not be overtly realized, but if it is not present, it is normally semantically implied: if we drop the dative noun phrase in the examples in (83), for example, the goal of the event is assumed to be some salient entity in the domain of discourse.

- (83) a. Jan biedt (Marie/haar_{dat}) het boek_{acc} aan.
 Jan offers Marie/her the book prt.
 ‘Jan offers (Marie/her) the book.’
 b. Marie beloofde (Jan/hem_{dat}) een mooi cadeau_{acc}.
 Marie promised Jan/him a beautiful present
 ‘Marie promised (Jan) a beautiful present.’

B. NOM-DAT verbs

Monadic unaccusative verbs are characterized by having an internal theme argument that surfaces as the °DO-subject of the clause. We would therefore also expect there to be a class of unaccusative verbs with two internal arguments, one of which surfaces as a derived subject. Den Besten (1985) has argued that such dyadic unaccusative verbs do indeed exist, and are instantiated by the so-called NOM-DAT verbs. The name of these verbs is due to the fact that they take a theme argument, which is assigned *nominative* case, as well as an experiencer argument, which is assigned *dative* case. This is not directly observable in Dutch, because, as noted in the previous subsection, the difference between dative and accusative case is not morphologically expressed in this language, but it is in German examples such as (84a); (84b) provides the Dutch translation of this example.

- (84) a. dass deine Geschichten_{nom} meinem Bruder_{dat} nicht gefielen. [German]
 that your stories my brother not liked
 b. dat jouw verhalen mijn broer niet bevielen. [Dutch]
 that your stories my brother not liked
 ‘that my brother didn’t like your stories.’

The experiencer argument (indirect object) is normally obligatorily expressed or at least semantically implied. In the latter case, the implicit experiencer is often construed as referring to the speaker, but it can also be interpreted generically.

- (85) a. Deze tekstverwerker bevalt in het algemeen goed.
 this word processor pleases in general well
 ‘Generally speaking, I’m/people are pleased with this word processor.’
- b. Het lezen van dit boek valt mee.
 the reading of this book falls prt.
 ‘Reading this book is less difficult than I expected/one may expect.’

Subsection II will show that subjects of NOM-DAT verbs differ from subjects of transitive verbs in that they are internal arguments; they behave in various respects like the DO-subjects of monadic unaccusative verbs discussed in Section 2.1.2, and also exhibit behavior similar to that of the derived subjects of the passivized ditransitive verbs in (86).

- (86) a. Het boek_{nom} wordt Marie (door Jan) aangeboden.
 the book is Marie by Jan prt.-offered
 ‘The book is offered to Marie (by Jan).’
- b. Het boek_{nom} wordt Jan (door Marie) af gepakt.
 the book is Jan by Marie away taken
 ‘The book is taken away from Jan (by Marie).’

C. Two types of NOM-DAT verbs

Section 2.1.2, sub III, suggested that there are two classes of monadic unaccusative verbs, one taking the auxiliary *zijn* and another taking the auxiliary *hebben* in the perfect tense, and Subsection IIC, will support this claim by showing that the same thing holds for NOM-DAT, that is, dyadic unaccusative verbs. Two examples are given in (87) in which the order nominative-dative clearly indicates that we are dealing with NOM-DAT verbs.

- (87) a. dat Peter/hem die fout niet is opgevallen.
 that Peter/him that error not is stand.out
 ‘that Peter/he didn’t notice that error.’
- b. dat Peter/hem die maaltijd goed smaakte.
 that Peter/him that meal good tasted
 ‘that the meal tasted good to Peter/him.’

Example (88) provides small samples of both types of verbs, which are taken from a more general list from Den Besten (1985:fn.7). Since Dutch does not express case by morphological means, it cannot immediately be established that the verbs in (88) are indeed NOM-DAT verbs, but this is possible for the German counterparts of these verbs; see Drosdowski (1995) for an extensive list and Lenerz (1977) for a more extensive discussion of the behavior of such German verbs.

- (88) a. NOM-DAT verbs selecting *zijn* ‘to be’: (e.g., *gemakkelijk*) *afgaan* ‘to come easy to’, (e.g., *goed*) *bekomen* ‘to agree with’, *bevallen* ‘to please’, *lukken* ‘to succeed’, *invallen* ‘to occur to’, *meevallen* ‘to turn out better/less difficult than expected’, *ontgaan* ‘to escape’, *ontschieten* ‘to slip one’s mind’, *ontvallen* ‘to elude’, *opvallen* ‘to stand out/catch the eye’, *overkomen* ‘to happen to’, *tegenlopen* ‘to go wrong’, *tegenvallen* ‘to disappoint’, (*goed*) *uitkomen* ‘to suit well’, *verschijnen* ‘to appear’, etc.

- b NOM-DAT verbs selecting *hebben* ‘to have’: *aanspreken* ‘to appeal’, *aanstaan* ‘to please’, *behagen* ‘to please’, *berouwen* ‘to regret’, *betamen* ‘to benefit’, *bevreemden* ‘to surprise’, *bijstaan* ‘to dimly recollect’, *duizelen* ‘to make someone’s head swim’, *heugen* ‘to remember’, (e.g., *goed*) *liggen* ‘to appeal to’, *ontbreken* ‘to fail to’, *passen* ‘to fit’, *schaden* ‘to do damage to’, *schikken* ‘to suit’, *smaken* ‘to taste’, *spijten* ‘to regret’, *tegenstaan* ‘to pall on’, *tegenzitten* ‘be out of luck’, *voldoen* ‘to satisfy’, (*niet*) *zinnen* ‘to please’, etc.

Native speakers sometimes have different judgments on auxiliary selection; for some speakers, the verb *bevallen* ‘to please’ is (also) compatible with the auxiliary *hebben*, as is clear from the fact that such cases can readily be found on the internet. To our knowledge, it has not been investigated whether this shift in auxiliary selection affects the other properties of the verb that will be discussed in Subsection II.

- (89) Dat boek is/[%] heeft Marie/haar goed bevallen.
 that book is/has Marie/her well pleased
 ‘Mary liked that book a lot.’

Further note that it is sometimes difficult to give satisfactory English renderings of the verbs in (88), due to the fact that English normally expresses the same meaning by using completely different syntactic frames; in English, the experiencer is often realized as the subject and not as the object of the clause (which perhaps need not surprise us, given that in English passivization of ditransitive constructions normally requires that the goal, and not the theme, argument be promoted to subject).

D. Some miscellaneous remarks on NOM-DAT verbs

In German objects of NOM-DAT verbs are assigned dative case, just like indirect objects of double object constructions. This may give rise to the expectation that these objects exhibit similar syntactic behavior. There is, however, at least one conspicuous difference between them; the examples in (90) show that whereas dative objects of ditransitive verbs often alternate with prepositional phrases, objects of NOM-DAT verbs do not have this option. This fact might be related to a difference in ^othematic roles carried by the respective dative objects; prototypical cases of dative/PP alternation involve recipient/goal arguments, not experiencers. The alternation in the (a)-examples will be discussed in detail in Section 3.3.1.

- (90) a. Jan heeft Marie/haar het boek aangeboden.
 Jan has Marie/her the book prt.-offered
 ‘Jan offered Marie/her the book.’
 a’. Jan heeft het boek aan Marie/haar aangeboden.
 Jan has the book to Marie/her prt.-offered
 b. Dat boek is Marie/haar goed bevallen.
 that book is Marie/her well pleased
 ‘Mary liked that book a lot.’
 b’. *Dat boek is aan Marie/haar goed bevallen.
 that book is to Marie/her well pleased

Some NOM-DAT verbs seem to be undergoing a reanalysis process in the direction of regular transitive verbs. This is clearly the case with the verb *passen* 'to fit' in (91); besides (91a), in which the experiencer is realized as a dative object, the construction in (91b) is judged acceptable by many speakers. Perhaps this reanalysis goes hand in hand with a change of meaning; although example (91b) can be used in the same sense as (91a), with the subject functioning as an experiencer, it can also be used to express that someone is trying on the shoes, in which case the subject is construed as an agent (an alternative option is that the latter reading is related to the particle verb *aanpassen* 'to fit on', which cannot be used as a NOM-DAT verb).

- (91) a. Die schoenen passen mij.
 those shoes fit me
 'Those shoes fit me.'
- b. Ik pas die schoenen.
 I fit those shoes
 'Those shoes fit me.' or 'I'm trying on those shoes.'

Closer inspection of the individual NOM-DAT verbs in (88) reveals that many of these verbs are either morphologically complex in the sense that they are prefixed by the morpheme *be-* or *ont-*, or obligatorily accompanied by a verbal particle. Although this has been noted before, it has not been thoroughly investigated whether this is theoretically significant. In this connection, it has been suggested that prefixes like *be-* and *ont-* and particles can both be considered secondary predicates; cf. Section 2.2.3, sub IIIB, for discussion.

II. Properties of ditransitive and NOM-DAT verbs

Transitive and NOM-DAT verbs both take a subject and an object. Given that Dutch does not make a morphological distinction between accusative and dative case, the two classes cannot be immediately recognized on the basis of their form. The following subsections will therefore investigate a number of properties of ditransitive and NOM-DAT verbs; we will show that the subjects of the latter behave in various respects like the theme arguments of the former. This means that NOM-DAT verbs and transitive verbs differ in ways similar to the intransitive and unaccusative verbs discussed in Section 2.1.2.

A. Thematic role of the subject

Section 2.1.2, sub IIIA, has shown that intransitive and transitive verbs generally denote actions. The subject of the clause normally functions as an agent and therefore typically refers to a [+ANIMATE] entity. Examples (92a&b) show that the same thing holds for ditransitive verbs; the subject of the double object construction is normally an agent performing the action denoted by the verb, and for this reason it is typically a [+ANIMATE] participant or an institution (which is then seen as a collection of individuals). Although there are some exceptional cases such as (92c), the overall pattern seems consistent with the idea that the subjects of double object constructions are external arguments.

- (92) • Ditransitive verbs
- a. Jan/*De gelegenheid bood Marie het boek aan.
Jan/the occasion offered Marie the book prt.
'Jan/The occasion offered Marie/her a book.'
 - b. Marie/*De gelegenheid beloofde Jan een mooi cadeau.
Marie/the occasion promised Jan a beautiful present
'Marie/the occasion promised Jan a beautiful present.'
 - c. Jan/Deze gelegenheid bood haar een kans om zich te bewijzen.
Jan/this occasion offered her a chance COMP REFL to prove
'This occasion offered her an opportunity to prove herself.'

NOM-DAT verbs, on the other hand, denote processes or states. The subject of such verbs functions as a theme, that is, the participant that undergoes the process or is in the state denoted by the verb. That the subject is not an agent also accounts for the fact that the subject of a NOM-DAT verb often refers to a [-ANIMATE] participant in the state of affairs. This is consistent with the hypothesis that the subject of a NOM-DAT verb is an internal argument, just like the subject of the unaccusative verbs discussed in 2.1.2. Two examples are given in (93).

- (93) • NOM-DAT verbs
- a. Deze vakantie beviel de jongen/hem goed.
these holidays pleased the boy/him well
'These holidays pleased the boy well.'
 - b. Deze laffe daad stond Els/haar erg tegen.
this cowardly deed palled Els/her much on
'This cowardly deed disgusted Els/her very much.'

External arguments are normally noun phrases; see the introduction to Chapter 2. The fact that the subject of a NOM-DAT verb may be a clause also suggests that it is an internal argument. Note in passing that the subject clause may appear either in sentence-initial or sentence-final position; if it is in final position the regular subject position is occupied by the °anticipatory pronoun *het* 'it'.

- (94) a. [Dat de vakantie zo lang duurt], bevalt de jongen prima.
that the vacation so long lasts pleases the boy much
'that the vacation lasts so long pleases the boy.'
- a'. Het bevalt de jongen prima [dat de vakantie zo lang duurt].
- b. [Dat hij zo'n laffe daad gepleegd heeft], stond Els erg tegen.
that he such.a cowardly deed committed has pall Els much on
'that he committed such a cowardly disgusted Els/her.'
- b'. Het staat Els tegen [dat hij zo'n laffe daad gepleegd heeft].

B. ER-nominalization

Section 2.1.2, sub IIIB, has shown that agentive ER-nouns refer to entities that are performing the action denoted by the input verb. Since ditransitive verbs have an external argument, we correctly predict that they can be the input of ER-nominalization. Some examples are given in (95).

- (95) a. een gever/schenker van dure cadeaus
 a giv-er of expensive presents
 b. een verkoper van tweedehands auto's
 a sell-er of second.hand cars
 c. de zender van het bericht
 the send-er of the message

For unclear reasons, however, ER-nominalization gives rise to a marginal or even impossible result in several other cases. Some examples are given in (96).

- (96) a. ?een aanbieder van boeken
 a offer-er of books
 b. *een belover van dure cadeaus
 a promis-er of expensive presents
 c. *een ontnemer van eer
 a take-away-er of honor

Since the NOM-DAT verbs do not have an external argument it is predicted that they cannot be the input for the formation of agentive ER-nouns. As is shown in (97), this seems indeed to be borne out. The examples in (97a) and (97b) correspond to some of the NOM-DAT verbs in (88a) and (88b), respectively.

- (97) a. *een bevaller, *een lukker, *een ontganer, *een ontschieter, *een ontvaller,
 *een opvaller, *een overkomer
 b. *een aanstaner, *een behager, *een berouwer, *een bevreemder, *een smaker

Note that, as in the case of the monadic unaccusative verbs, there seem to be a number of lexicalized exceptions. That these forms are not the result of a productive process is clear from the fact that, e.g., the derived form in (98b) cannot be used to refer to the referent of the subject in an example such as *Dat boek/Jan viel me tegen* 'that book/Jan disappointed me'.

- (98) a. meevaller
 better.than.expect-er
 'stroke of luck/unexpected budget credit'
 b. tegenvaller
 disappoint-er
 'disappointment/unexpected budget deficit'

C. Auxiliary selection

Section 2.1.2, sub IIIC, has argued that all an external argument take the auxiliary *hebben* in the perfect tense. The examples in (99) show that ditransitive verbs also select this auxiliary.

- (99) • Ditransitive verbs
 a. Jan heeft/*is Marie het boek aangeboden.
 Jan has/is Marie the book prt.-offered
 'Jan has offered Marie the book.'
 b. Marie heeft/*is Jan een mooi cadeau beloofd.
 Marie has/is Jan a beautiful present promised
 'Marie has promised Jan a beautiful present.'

Section 2.1.2, sub III, on the other hand, has argued that, depending on their aspectual properties, monadic unaccusative verbs can take either *hebben* or *zijn* in the perfect tense. The same thing holds for dyadic unaccusative verbs. In (100), examples are given of NOM-DAT verbs taking the auxiliary *zijn*. In (101), we give some examples of NOM-DAT verbs taking the auxiliary *hebben*.

- (100) • NOM-DAT verbs selecting *zijn*
- a. De ergste rampen zijn/*hebben het meisje/haar_{dat} overkomen.
the worst disasters are/have the girl/her happened
'The worst disasters have happened to the girl/her.'
 - b. Dit boek is/*heeft de jongen/hem_{dat} goed bevallen.
this book is/has the boy/him well pleased
'The boy/he was very pleased by this book.'
- (101) • NOM-DAT verbs selecting *hebben*
- a. Deze laffe daad heeft/*is het meisje/haar_{dat} erg tegengestaan.
this cowardly deed has/is the girl/her much on-pall
'This cowardly deed disgusted the girl/her.'
 - b. De soep heeft/*is de gast/hem_{dat} goed gesmaakt.
the soup has/is the guest/him good tasted
'The guest/He enjoyed the soup.'

The fact that the verbs in (100) take the auxiliary *zijn* is sufficient to conclude that they are unaccusative and, consequently, that the subject is a DO-subject. The fact that the verbs in (101) do not take *zijn* but *hebben* is due to the fact that they are °atelic; they denote a state of affairs without an implied endpoint.

D. Attributive use of the past/passive participle

Section 2.1.2, sub IIID, has shown that past/passive participles of transitive verbs can be used attributively to modify nouns corresponding to the direct object of the corresponding active verbs. As is shown in (102a&b), the same thing holds for the past/passive participles of ditransitive verbs. The indirect object normally remains implicit in these cases, but it can also be overtly expressed if it is a pronoun; if it is a non-pronominal noun phrase, the result seems somewhat marked.

- (102) • Attributive use of past/passive participle of ditransitive verb
- a. het (haar/[?]Marie) aangeboden boek_{Theme}
the her/Marie prt.-offered book
'the book offered (to her/Marie)'
 - b. het (hem/[?]Jan) beloofde cadeau_{Theme}
the him/Jan promised present
'the present promised (to him/Jan)'

The examples in (103) show that, as in the case of transitive verbs, past/passive participles of ditransitive verbs cannot be used to modify a noun corresponding to the subject of the corresponding active verb.

- (103) a. *de haar/Marie_{dat} het boek_{acc} aangeboden jongen_{Agent}
 the her/Marie the book prt.-offered boy
 Intended reading: ‘the boy who promised the book to Mary/her’
- b. *de de jongens/hen_{dat} het cadeau_{acc} beloofde meisje_{Agent}
 the the boys/them the present promised girl
 Intended reading: ‘the girl who promised the present to the boys/them’

Using the past/passive participle to modify the indirect object is unacceptable for some speakers but at least marginally acceptable to others. Note that the theme argument must be overtly expressed in these cases; if it is dropped, the examples in (104) become totally unacceptable for all speakers.

- (104) a. het *([?]dit boek) aangeboden meisje_{goal}
 the this book prt.-offered girl
 ‘the girl who was offered this book’
- b. de *([?]dit cadeau) beloofde jongen_{goal}
 the this present promised boy
 ‘the boy who was promised the present’

Section 2.1.2, sub III, has shown that past/passive participles of monadic unaccusative verbs selecting *zijn* can be used attributively to modify a noun corresponding to the subject of the corresponding active verb, whereas the past/passive participle of a monadic unaccusative verbs selecting *hebben* cannot. The same correlation arises in the case of the dyadic unaccusative verbs; in (105) we give two examples with the past participles of NOM-DAT verbs selecting *zijn*, and in (106) two examples with NOM-DAT verbs selecting *hebben*.

- (105) •Attributive use of past/passive participle of NOM-DAT verbs selecting *zijn*
- a. de haar/[?]het meisje_{dat} overkomen rampen_{Theme}
 the her/the girl happened disasters
 ‘the disasters that happened to her/the girl’
- b. de hem/[?]deze jongen_{dat} goed bevallen vakantie_{Theme}
 the him/this boy well pleased holiday
 ‘the holiday that pleased this boy much’
- (106) •Attributive use of past/passive participle of NOM-DAT verbs selecting *hebben*
- a. *de haar/het meisje_{dat} tegengestane laffe daad_{Theme}
 the her/the girl on-pall cowardly deed
 Intended reading: ‘the cowardly deed that disgusted her/the girl.’
- b. *de hem/de gast_{dat} gesmaakte soep_{Theme}
 the him/the guest tasted soup
 Intended reading: ‘the soup he/the guest enjoyed’

The fact that the past participles in (105) are able to modify the nouns that correspond to the subjects of the corresponding active verbs is sufficient to conclude that the verb is unaccusative. The fact that the past participles in (106) are not able to modify the noun that corresponds to the subject of the corresponding active verb is due to the fact that these verbs are atelic; they denote a state of affairs without an implied endpoint.

E. (Impersonal) passive

Section 2.1.2, sub III E, has shown that whereas intransitive and transitive verbs can be passivized, unaccusative verbs like *arriveren* ‘to arrive’ cannot. From this we concluded that having an external argument is a necessary condition for passivization. From this, it correctly follows that ditransitive verbs can normally be passivized, as is illustrated in (107). Observe that the agent can be optionally expressed by means of an agentive *door*-phrase.

- (107) • Ditransitive verbs
- a. Het boek werd Marie/haar_{dat} (door Jan) aangeboden.
the book was Marie/her by Jan prt.-offered
‘The book was given to Marie/her (by Jan).’
 - b. Het cadeau werd Jan/hem_{dat} (door Marie) beloofd.
the present was Jan/him by Marie promised
‘The present was promised to Jan/him (by Marie).’

If the NOM-DAT verbs are indeed dyadic unaccusative verbs, we would expect that they cannot be passivized. The examples in (108) and (109) show that this expectation is indeed borne out; impersonal passivization is excluded.

- (108) • Impersonal passive of NOM-DAT verbs selecting *zijn*
- a. Die jongen viel haar op.
that boy stand her out
‘That boy caught her eye.’
 - b. *Er werd haar opgevalen (door die jongen).
there was her out-caught by that boy
- (109) • Impersonal passive of NOM-DAT verbs selecting *hebben*
- a. Die jongen bevreedde haar.
that boy surprised her
‘that boy surprised/puzzled her.’
 - b. *Er werd haar bevreed (door die jongen).
there was her surprised by that boy

The examples in (110) show that the dative object of an active sentence cannot function as the subject of a passive sentence either. This provides additional evidence that NOM-DAT verbs cannot be considered regular transitive verbs.

- (110) a. *Zij_{nom} werd (door die jongen) opgevalen.
she was by that boy out-stood
- b. *Zij_{nom} wordt (door die jongen) bevreed.
she was by that boy surprised

Observe that we took examples with human subjects, since it is often claimed that there is an animacy restriction on passivization; clauses that contain a [-ANIMATE] subject cannot be passivized.

F. Argument order (nominative-dative inversion)

Although word order in the °middle field is relatively free in Dutch, the relative order of the arguments of the verb is more or less fixed. As is shown in (111), the subject of a transitive verb normally must precede the direct object.

- (111) • Argument order with active transitive verbs
- a. dat de meisjes_{nom} de krant_{acc} lezen.
that the girls the newspaper read
 - b. *dat de krant de meisjes lezen.

The same thing holds for the arguments of a ditransitive verb. Under neutral intonation, the subject must precede the indirect object, which in turn precedes the direct object. All other orders are excluded.

- (112) • Argument order with active ditransitive verbs
- a. dat Jan_{nom} de meisjes_{dat} de krant_{acc} aanbood.
that Jan the girls the newspaper prt.-offered
'that Jan offered the girls the newspaper.'
 - b. *dat Jan_{nom} de krant_{acc} de meisjes_{dat} aanbood.
 - c. *dat de krant_{acc} Jan_{nom} de meisjes_{dat} aanbood.
 - d. *dat de krant_{acc} de meisjes_{dat} Jan_{nom} aanbood.
 - e. *dat de meisjes_{dat} Jan_{nom} de krant_{acc} aanbood.
 - f. *dat de meisjes_{dat} de krant_{acc} Jan_{nom} aanbood.

The NOM-DAT verbs, however, differ in this respect from the (di-)transitive verbs. The examples in (113) and (114) show that two orders are possible; the subject can either precede or the dative object. This provides direct evidence for the claim that these verbs are not regular transitive verbs.

- (113) • Argument order with NOM-DAT verbs selecting *zijn*
- a. dat het meisje_{dat} de ergste rampen_{nom} overkomen zijn.
that the girl the worst disasters happened are
'that the worst disasters happened to the girl.'
 - a'. dat de ergste rampen_{nom} het meisje_{dat} overkomen zijn.
 - b. dat de jongens_{dat} de vakantie_{nom} niet erg bevallen is.
that the boys the holidays not much pleased is
'that the boys aren't very pleased by the holidays.'
 - b'. dat de vakantie_{nom} de jongens_{dat} niet erg bevallen is.
- (114) • Argument order with NOM-DAT verbs selecting *hebben*
- a. dat het meisje_{dat} deze laffe daad_{nom} erg tegengestaan heeft.
that the girl this cowardly deed much on.-pall has
'that this cowardly deed disgusted the girl.'
 - a'. dat deze laffe daad_{nom} het meisje_{dat} erg tegengestaan heeft.
 - b. dat de gasten_{dat} de soep_{nom} uitstekend gesmaakt heeft.
that the guest the soup very well tasted has
'that the soup pleased the guests very much.'
 - b'. dat de soep_{nom} de gasten_{dat} uitstekend gesmaakt heeft.

Interestingly, the examples in (115) show that the same freedom of word order is also allowed in the case of passive constructions with ditransitive verbs. This provides evidence for the claim that the subject of a NOM-DAT verb is an internal argument comparable to the direct object of a ditransitive verb.

- (115) • Argument order in passive constructions with ditransitive verbs
- a. dat de meisjes_{dat} de krant_{nom} aangeboden werd.
that the girls the newspaper prt.-offered was
'that the newspaper was offered to the girls.'
 - b. dat de krant_{nom} de meisjes_{dat} aangeboden werd.

The data in (113) to (115) actually also provide evidence for the claim that the base position of the DO-subject of a NOM-DAT verb is the same as the direct object of a transitive verb. These positions follow the base position of the indirect object, that is, the primed examples of the NOM-DAT and passive constructions in (113) to (115) are derived by moving the derived subject into the regular subject position of the clause. In other words, the structure of the primeless examples in (113) to (115) is as schematically indicated in (116a), in which *e* represents the empty subject position, and those of the primed examples is as in (116b), in which the nominative noun phrase has been moved into this subject position.

- (116) a. dat *e* ... NP_{dat} NP_{nom} ...
b. dat NP_{nom-i} ... NP_{dat} *t*_i ...

The difference between the structures in (116a) and (116b) seems to be related to the information structure of the clause. If the nominative argument occupies the position in (116a), it is interpreted as belonging to the °focus (new information) of the clause. If it occupies the position in (116b) it belongs to the °presupposition (old information) of the clause. This is clear from the fact that existentially quantified subject pronouns, which typically belong to the focus of the clause, must follow the dative noun phrase.

- (117) a. dat de meisjes wat overkomen is. [NOM-DAT verb]
that the girls something happened is
'that something has happened to the girls.'
- a'. *dat wat de meisjes overkomen is.
 - b. dat de patiënt eindelijk weer wat smaakt. [NOM-DAT verb]
that the patient finally again something tastes
'that, finally, something tastes good to the patient again.'
 - b'. *dat wat de patiënt eindelijk weer smaakt.
 - c. dat de meisjes wat aangeboden werd. [passive ditransitive verb]
that the girls something prt.-offered was
'that the girls were offered something.'
 - c'. *dat wat de meisjes aangeboden werd.

The same thing is shown by fact that definite subject pronouns, which typically belong to the presupposition of the clause, must be placed in the regular subject position. We refer the reader to Section N8.1.3 for more information about the relation between word order and information structure.

- (118) a. *dat het meisje ze overkomen zijn. [NOM-DAT verb]
 a'. dat ze het meisje overkomen zijn.
 that they the girl happened are
 'that they (e.g., the disasters) have happened to the girl.'
- b. *dat de gast ze gesmaakt hebben. [NOM-DAT verb]
 b'. dat ze de gast gesmaakt hebben.
 that they the guest tasted have
 'that they (e.g., the apples) have pleased the guest.'
- c. *dat het meisje ze aangeboden werden. [passive ditransitive verb]
 c'. dat ze het meisje aangeboden werden.
 that they the girl prt.-offered were
 'that they (e.g., the books) were offered to the girl.'

G. Wat voor *split*

Although Section 2.1.2, sub III F, has shown that the *wat voor split* is not a very reliable test for distinguishing between external and internal arguments, we will show that, in the case of the NOM-DAT verbs, it *can* be used to show that the subject is a DO-subject. But let us first consider some data. Example (119) shows that the *wat voor split* seems to be possible with all arguments of ditransitive verbs, although some speakers may have some difficulty with extraction of *wat* from the subject and the indirect object. Just as in the case of intransitive and transitive verbs, a *wat voor split* of the subject is possible only if the °expletive *er* is present; if it is dropped in (119a), the sentence becomes ungrammatical.

- (119) • *Wat voor split* from arguments of active ditransitive verbs
- a. %Wat heeft er voor een jongen Marie die boeken aangeboden?
 what has there for a boy Marie those books prt.-offered
 'What kind of boy offered those books to Marie?'
- b. %Wat heeft hij voor een meisjes die boeken aangeboden?
 what has he for a girls those books prt.-offered
 'To what kind of girls did he give those books?'
- c. Wat heeft hij Marie voor een boeken aangeboden?
 what has he Marie for a books prt.-offered
 'What kind books did he offer to Marie?'

As is shown in (120a), a *wat voor split* is also possible from the derived subject in a passive construction headed by a ditransitive verb; the expletive *er* is optional, which is probably due to the fact that the indirect object *Marie* can be interpreted as belonging to the presupposition of the clause. See N.8.1.4 for a discussion of the restrictions on the occurrence of expletive *er*. Example (120b) shows, however, that a *wat voor split* is only possible if the indirect object precedes the derived subject.

- (120) • *Wat voor split* from the DO-subject of passive ditransitive verbs
- a. Wat worden (er) Marie voor een boeken aangeboden?
 what are there Marie for a books prt.-offered
 'What kind of books are offered to Marie?'
- b. *Wat worden (er) voor een boeken Marie aangeboden?
 what are there for a books Marie prt.-offered

The ungrammaticality of (120b) can be made to follow from the assumption that the DO-subject has been moved from its base position following the indirect object into the regular subject position if we assume that this movement causes °freezing; a moved phrase is assumed to be an °island for *wh*-extraction, that is, one cannot move an element from a phrase that has moved itself. This provides support for the hypothesis that example (120b) has the structure in (116b).

Since we have claimed that clauses with a NOM-DAT verb also have the structures in (116), we expect a similar contrast as in (120) to arise with these verbs: if the nominative noun phrase follows the dative noun phrase, a *wat voor* split is expected to be possible, whereas it is expected to be excluded if it precedes the dative noun phrase. The examples in (121) show that these expectations are borne out with NOM-DAT verbs selecting *zijn*.

- (121) • *Wat voor* split from the DO-subject of NOM-DAT verbs taking *zijn*
- a. Wat zijn (er) het meisje voor een rampen overkomen?
 what are there the girl for a disasters happened
 ‘What kind of disasters have happened to the girl?’
 - b. *Wat zijn (er) voor een rampen het meisje overkomen?
 what are there for a disasters the girl happened

NOM-DAT verbs taking *hebben*, on the other hand, do not meet this expectation; in (122), a *wat voor* split gives rise to a degraded result in both orders.

- (122) • *Wat voor* split from the DO-subject of NOM-DAT verbs taking *hebben*
- a. ??Wat hebben (er) de gasten voor een gerechten goed gesmaakt?
 what have there the guests for a dishes well tasted
 ‘What kind of dishes pleased the guests?’
 - b. *Wat hebben (er) voor een gerechten de gasten goed gesmaakt?
 what have there for a dishes the guests well tasted

In conclusion, we can therefore say that the *wat voor* split provides evidence for the derived status of the subject of NOM-DAT verbs taking *zijn*; since the split is only possible if the nominative noun phrase follows the dative noun phrase, the subject must be generated in the same position as the direct object of a transitive verb. The *wat voor* split is inconclusive in the case of NOM-DAT verbs selecting *hebben*, because it is impossible in both orders (for reasons that are still unclear).

Let us conclude this subsection with a brief discussion of the *wat voor* split of dative noun phrases in passive ditransitive and NOM-DAT constructions. Consider the examples in (123). Example (123a) shows that a *wat voor* split from an indirect object seems possible, although native speakers’ judgments differ on the precise status of these examples. In order to license the split, the subject must be indefinite; if it is definite, as in (123b), the acceptability of the construction degrades. The split is completely prohibited if the subject is moved into the regular subject position, as in (123c).

- (123) • *Wat voor* split from the indirect object of a passive ditransitive verb
- a. [%]Wat worden er voor (een) meisje boeken aangeboden?
 what are there for a girl books prt.-offered
 ‘To what kind of girls are books offered?’
 - b. ^{??}Wat worden voor (een) meisje de boeken aangeboden?
 what are for a girl the books prt.-offered
 - c. ^{*}Wat worden de boeken voor (een) meisje aangeboden?
 what are the books for a girl prt.-offered

The ungrammaticality of (123c) can be accounted for in the following way. In order to license the *wat voor* split, the indirect object must occupy its base position. It has been argued, however, that movement of a theme argument (a direct object or a DO-subject) across an indirect object in its base position is blocked. In order to move the theme argument, the indirect object must be °scrambled to some more leftward position; cf. Haegeman (1991) and Den Dikken (1995). This is easy to show in the case of a ditransitive verb. The examples in (124b&c) show that the indirect and direct object can be scrambled to a position in front of the °clausal adverb *zeker* ‘certainly’. However, whereas the indirect object can be scrambled on its own, as in (124b), scrambling of the direct object is possible only if the indirect object has scrambled as well, as is clear from the ungrammaticality of (124d). Note that the judgments only hold under neutral intonation—example (124c) improves if the adverbial phrases or indirect object receive contrastive focus).

- (124) a. dat Jan dan zeker Marie het boek zal aanbieden.
 that Jan then certainly Marie the book will prt.-offer
 ‘that Jan will certainly offer Marie the book then.’
- b. dat Jan Marie dan zeker het boek zal aanbieden.
 - c. dat Jan Marie het boek dan zeker zal aanbieden.
 - d. ^{*}dat Jan het boek dan zeker Marie zal aanbieden.

The examples in (125) show that something similar holds in the passive construction; movement of the DO-subject into the regular subject position requires scrambling of the indirect object. Again this only holds under neutral intonation—example (125c) improves if the adverbial phrases or indirect object receive contrastive focus.

- (125) a. dat dan zeker Marie het boek aangeboden zal worden.
 that then certainly Marie the book prt.-offered will be
 ‘that the book will certainly be offered to Marie then.’
- b. dat het boek Marie dan zeker aangeboden zal worden.
 - c. ^{**?}dat het boek dan zeker Marie aangeboden zal worden.

The discussion of (124) and (125) strongly suggests that in (123c) the indirect object has been scrambled, and that the impossibility of the *wat voor* split is therefore due to a freezing effect. The intermediate status of (123b) may also be due

to a freezing effect, since the definite noun phrase *de boeken* ‘the books’ is more likely to scramble than the indefinite noun phrase *boeken* ‘books’.

A pattern similar to that in (123) arises in the case of the NOM-DAT verbs. This again provides evidence for the claim that the base-position of the DO-subject is to the right of the indirect object and that its placement in the regular subject position is the result of movement, as depicted in example (116b) from Subsection F. It should be kept in mind, however, that this evidence is weak since many people also object to the *wat voor* split of the dative object in the (a)-examples.

- (126) • *Wat voor* split from the indirect object of NOM-DAT verbs taking *zijn*
- a. [%]Wat zijn er voor (een) meisje ernstige rampen overkomen?
what are there for a girl serious disasters happen
‘To what kind of girl did serious disasters happen?’
 - b. ^{??}Wat zijn voor (een) meisje de ergste rampen overkomen?
what are for a girl the worst disasters happened
 - c. ^{*}Wat zijn de ergste rampen voor (een) meisje overkomen?
what are the worst disasters for a girl happened
- (127) • *Wat voor* split from the DO-subject of NOM-DAT verbs taking *hebben*
- a. [%]Wat hebben er voor (een) gasten maar weinig schotels gesmaakt?
what have there for a guests only few dishes tasted
‘What kind of guests were pleased with only a few dishes?’
 - b. ^{??}Wat hebben voor (een) gasten de voorgerechten gesmaakt?
what have for a guests the starters tasted
 - c. ^{*}Wat hebben de voorgerechten voor een gasten gesmaakt?
what have the starters for a guests tasted

H. Summary

This previous subsections have discussed ditransitive and dyadic unaccusative (NOM-DAT) verbs. We have seen that the latter come in two types, just like the monadic unaccusative verbs: the first type selects the auxiliary *zijn* in the perfect tense, whereas the second type takes *hebben*. Ditransitive verbs are easy to distinguish from transitive and NOM-DAT verbs, because they take three nominal arguments instead of two. Transitive and NOM-DAT verbs are harder to distinguish because they select the same number of arguments. They differ, however, in that the former can undergo ER-nominalization and can be passivized, whereas NOM-DAT verbs cannot. Furthermore, ditransitive verbs require the word order SUBJECT-OBJECT, whereas NOM-DAT verbs also allow the OBJECT-SUBJECT order under the right information-structural conditions. The properties of transitive and NOM-DAT verbs are summarized in Table 5. The first six columns should be read in the same way as in Table 3; Column 7 indicates whether it is possible for the (in)direct object to precede the subject (nominative argument).

Table 5: *Properties of transitive and NOM-DAT verbs*

		TRANSITIVE VERBS		NOM-DAT VERBS			
1.	AUXILIARY	<i>hebben</i>		<i>zijn</i>		<i>hebben</i>	
2.	ARGUMENTS	external agent	internal theme	internal		internal	
				exp.	theme	exp.	theme
3.	ER-NOMINALIZATION	+	—	—		—	
4.	ATTRIBUTIVE USE OF PAST/PASSIVE PARTICIPLE	—	+	—	+	—	—
5.	(IMPERSONAL) PASSIVE	+		—		—	
6.	WAT VOOR SPLIT	%	+	%	+	%	?
7.	OBJECT-SUBJECT ORDER	—		+		+	

2.1.4. *Undative verbs*

Sections 2.1.2 and 2.1.3 discussed the so-called unaccusative verbs, that is, verbs taking an internal theme argument that surfaces as the subject of the clause. The derived subjects of these verbs have a °thematic role similar to that of the direct object of a (di-)transitive clause, and behave in several respects like the subjects of passive constructions. One may wonder, however, whether there are also what we will call undative constructions, in which the derived subject is a recipient and hence corresponds to an indirect object in a ditransitive clause. Although this question has hardly been discussed in the literature, there are reasons for assuming that it should be answered in the affirmative.

1. *The verb krijgen ‘to get’*

We begin with the verb *krijgen*, which we will consider to be a prototypical instantiation of the undative verbs. Consider the examples in (128).

- (128) a. Jan gaf Marie een boek.
 Jan gave Marie a book
 b. Marie kreeg een boek (van Jan).
 Marie got a book of Jan
 ‘Marie received a book from Jan.’

In (128b) the subject has a role similar to that of the indirect object of *geven* ‘to give’ in (128a): in both cases we seem to be dealing with a recipient argument. This suggests that the verb *krijgen* ‘to get’ does not have an external argument (although the agent/cause can be expressed in a *van*-PP) and that the subject in (128b) is a derived one, which we will refer to an IO-subject. We will provide evidence in favor of this suggestion in the next subsections, but before we do that we want to note that the alternation in (128) also holds for particle verbs with *geven* and *krijgen* like *teruggeven/terugkrijgen* ‘to give/get back’ or *opgeven/opkrijgen* in (129).

- (129) a. De leraar gaf de leerlingen te veel huiswerk op.
 the teacher gave the pupils too much homework prt.
 ‘The teacher gave his pupils too much homework.’

- b. De leerlingen kregen te veel huiswerk op.
 the pupils got too much homework prt.
 'The pupils got too much homework.'

A. ER-nominalization and imperative

If the subject in (128b) is indeed an internal recipient argument, we predict that ER-nominalization of *krijgen* is excluded, since this process requires an external argument; cf. the generalization in (59a). Example (130a) shows that this prediction is indeed borne out. Note that *krijgen* differs in this respect from the verb *ontvangen* 'to receive' which seems semantically close, but which has a subject that is more agent-like, that is, more actively involved in the event.

- (130) a. *de krijger van dit boek
 the get-er of this book
 b. de ontvanger van dit boek
 the receiver of this book

Similarly, we expect the two verbs to behave differently in imperatives. The examples in (131) show that this expectation is indeed borne out.

- (131) a. We krijgen/ontvangen morgen gasten.
 we get/receive tomorrow guests
 'We'll get/receive guests tomorrow.'
 b. Ontvang/*krijg ze (gastvrij)!
 receive/get them hospitably
 'Receive them hospitably.'

B. Passive

According to the generalization in (59d), the presence of an external argument is also a necessary condition for passivization, and this correctly predicts that passivization of (128b) is excluded. Again, *krijgen* differs from the verb *ontvangen*, which (contrary to what is claimed by Haeseryn et al. 1997) does allow passivization and must therefore be considered a regular transitive verb.

- (132) a. *Het boek werd (door Marie) gekregen.
 the book was by Marie gotten
 b. Het boek werd (door Marie) ontvangen.
 the book was by Marie received

Although the facts in (130) and (132) are suggestive, they are not conclusive, since we know that not all unergative verbs allow ER-nominalization and that there are several additional restrictions on passivization; cf. Section 3.2.1. There is, however, additional evidence that supports the idea that the subject of *krijgen* is a derived subject.

C. Idioms

The idea that the subject of *krijgen* is a derived subject may also account for the fact that example (133a), which contains the more or less idiomatic double object construction *iemand de koude rillingen bezorgen* 'to give someone the creeps', has

the counterpart in (133b) with *krijgen*. This would be entirely coincidental if *Jan* would be an external argument of the verb *krijgen*, but follows immediately if it originates in the same position as the indirect object in (133a). For completeness' sake, observe that the more agentive-like verb *ontvangen* cannot be used in this context.

- (133) a. De heks bezorgt Jan de koude rillingen.
 the witch gives Jan the cold shivers
 'The witch gives Jan the creeps.'
 b. Jan kreeg/*ontving de koude rillingen (van de heks).
 Jan got/received the cold shivers from the witch

D. Possessive phrases

The most convincing argument in favor of the assumption that *krijgen* has an IO-subject is that it is possible for *krijgen* to enter inalienable possession constructions. In Standard Dutch, inalienable possession constructions require the presence of a locative PP like *op de vingers* in (134a). The nominal part of the PP refers to some body part and the possessor is normally expressed by a dative noun phrase: (134a) expresses the same meaning as (134b), in which the possessive relation is made explicit by means of the possessive pronoun *haar* 'her'. We refer the reader for a more detailed discussion of this construction to Section 3.3.1.4.

- (134) a. Jan gaf Marie een tik op de vingers.
 Jan gave Marie a slap on the fingers
 'Jan gave Marie a slap on her fingers.'
 b. Jan gaf Marie een tik op haar vingers.
 Jan gave Marie a slap on her fingers
 'Jan gave Marie a slap on her fingers.'

Subjects of active constructions normally do not function as inalienable possessors: an example such as (135a) cannot express a possessive relationship between the underlying subject *Jan* and the nominal part of the PP, as a result of which the example is pragmatically weird (unless the context provides more information about the possessor of the body part). In order to express inalienable possession the simplex reflexive object pronoun *zich* must be added, as in (135b).

- (135) a. ??Jan sloeg op de borst.
 Jan hit on the chest
 b. Jan sloeg zich op de borst.
 Jan hit REFL on the chest
 'Jan tapped his chest.'

Note that the reflexive pronoun in (135b) is most likely assigned dative case (and not accusative). Of course, this cannot be seen by inspecting the form of the invariant reflexive in (135b) but it can be made plausible by inspecting the structurally parallel German examples in (136) where the possessor appears as a dative pronoun; see Broekhuis et al. (1996) for detailed discussion.

- (136) a. Ich boxe ihm_{dat} in den Magen.
I hit him in the stomach
'I hit him in the stomach.'
- b. Ich klopfe ihm_{dat} auf die Schulter.
I pat him on the shoulder
'I patted his shoulder.'

The subject of the verb *krijgen* is an exception to the general rule that subjects of active constructions do not function as inalienable possessors, as is clear from the fact that the subject *Marie* in (137a) is interpreted as the inalienable possessor of the noun phrase *de vingers*. This would again follow immediately if we assume (i) that inalienable possessors must be internal recipient arguments, and (ii) that subject *Marie* (137a) is not an underlying subject but a derived IO-subject. Example (137b) is added to show that, just as in (134), the inalienable possession relation can be made explicit by means of the possessive pronoun *haar* 'her'.

- (137) a. Marie kreeg een tik op de vingers.
Marie got a slap on the fingers
- b. Marie kreeg een tik op haar vingers.
Marie got a slap on her fingers

A Google search shows that the verb *krijgen* again differs from the more agentive-like verb *ontvangen*. The number of hits for the string [*V een tik op de vingers*], with one of the present or past-tense forms of the verb *krijgen* resulted in numerous hits, whereas there was not a single hit for the same string with one of the present or past forms of the verb *ontvangen*.

To conclude, it may be useful to observe that the possessive dative examples in (134) and (137) all allow an idiomatic reading comparable to English *to give someone/to get a rap on the knuckles*, that is, "to reprimand/be reprimanded"; compare the discussion of the examples in (133).

E. *Krijgen*-passive construction

The idea that *krijgen* is an undative verb is interesting in view of the fact that it is also used as the auxiliary in the so-called *krijgen*-passive, in which it is not the direct but the indirect object that is promoted to subject. Consider the examples in (138): example (138b) is the regular passive counterpart of (138a), in which the direct object is promoted to subject; example (138c) is the *krijgen*-passive counterpart of (138a), and involves promotion of the indirect object to subject.

- (138) a. Jan bood Marie het boek aan.
Jan offered Marie the book prt.
- b. Het boek werd Marie aangeboden.
the book was Marie prt.-offered
'The book was offered to Marie.'
- c. Marie kreeg het boek aangeboden.
Marie got the book prt.-offered
'Marie was offered the book.'

The obvious question that the passive constructions in (138b&c) raise is what determines which of the two internal arguments is promoted to subject. Given the fact that *worden* is clearly an unaccusative verb (for example, it takes the auxiliary *zijn* in the perfect tense), the hypothesis that *krijgen* is an undative verb suggests that it is the auxiliary verb that is responsible for that: if the auxiliary is an unaccusative verb, the direct object of the corresponding active construction cannot be assigned \circ accusative case and must hence be promoted to subject; if the auxiliary is an undative verb, on the other hand, the indirect object cannot be assigned dative case and must therefore be promoted to subject. If we assume that passive participles are not able to assign case (see Section 3.2.1), case assignment in the two types of passive construction will take place, as indicated in Figure 1.

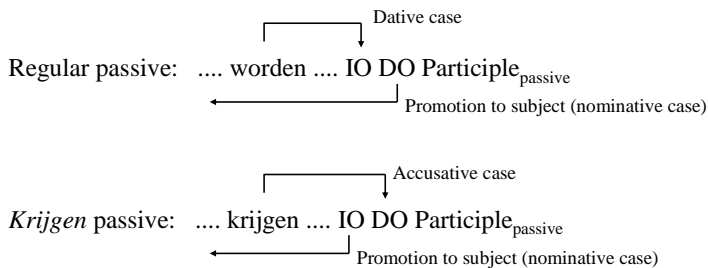


Figure 1: Case assignment in passive constructions

II. The verbs *hebben* ‘to have’ and *houden* ‘to keep’

The discussion in the previous subsection strongly suggests that main verb *krijgen* is a representative of a verb type that can be characterized as undative. This subsection shows that the verbs *hebben* ‘to have’ and *houden* ‘to keep’ exhibit very similar syntactic behavior to *krijgen*, and are thus likely to belong to the same verb class. But before we do this, we want to discuss one important difference between *krijgen*, on the one hand, and *hebben* and *houden*, on the other.

A. The use of agentive *van*-PPs

The contrast between (139a) and (139b-c) shows that *krijgen* but not *hebben* and *houden*, may take a *van*-PP that seems to express an agent. Note that we have added a percentage mark to (139b) in order to express that some speakers do accept this example with the *van*-PP, albeit that in that case the meaning of *hebben* shifts in the direction of *krijgen*; a more or less idiomatic example of this type is *Marie heeft dat trekje van haar vader* ‘Marie has inherited this trait from her father’.

- (139) a. Marie kreeg het boek (van Jan_{Agent}).
 Marie got the book from Jan
 b. Marie heeft het boek (%van Jan_{Agent}).
 Marie has the book from Jan
 c. Marie houdt het boek (*van Jan_{Agent}).
 Marie keeps the book from Jan

The contrasts in (139) may be related to the meanings expressed by the three verbs: the construction with *krijgen* in (139a) expresses that the theme *het boek* has

changed position with the referent of the \circ complement of the *van*-PP referring to its original, and the subject of the clause referring to its new location. This suggests that the *van*-PPs express not only the agent but also the source. If so, the fact that the agentive *van*-PP is not possible in the construction with *hebben* in (139b) may be due to the fact that this verb does not denote transfer, but expresses possession. Something similar holds for the construction with *houden* ‘to keep’ in (139c), which explicitly expresses that transfer of the theme is not in order.

B. The verb hebben ‘to have’

This subsection discusses data that suggest that *hebben* is an undative verb on a par with *krijgen*. The first thing to note is that *hebben* does not allow ER-nominalization. In this respect, *hebben* differs from the verb *bezitten*, which is semantically very close to it. The contrast between (140a) and (140b) may again be related to the fact that the subject of the latter is more agent-like. For example, whereas the verb *hebben* can be used in \circ individual-level predicates like *grijs haar hebben* ‘to have grey hair’ or in non-control predicates like *de griep hebben* ‘to have flu’, the verb *bezitten* cannot: *Jan heeft/*bezit grijs haar* ‘Jan has grey hair’; *Jan heeft/*bezit de griep* ‘Jan is having flu’.

- (140) a. *een hebbber van boeken
 a have-er of books
 b. een bezitter van boeken
 an owner of books
 ‘an owner of books’

For completeness’ sake, note that there is a noun *hebbberd*, which is used to refer to greedy persons. This noun is probably lexicalized, which is clear not only from the meaning specialization but also from the facts that it is derived by means of the unproductive suffix *-erd* and that it does not inherit the theme argument of the input verb: *een hebbberd* (**van boeken*).

Second, *hebben* is like *krijgen* in that it cannot be passivized. Note that this also holds for the verb *bezitten*, which was shown in (140b) to be a regular transitive verb. This shows that passivization is not a necessary condition for assuming transitive status for a verb.

- (141) a. *Het boek werd (door Marie) gehad.
 the book was by Marie had
 b. ??Het boek werd (door Marie) bezeten.
 the book was by Marie owned

Third, alongside the idiomatic example in (133), we find example (142) with a similar meaning. This would be coincidental if the subject were an external argument of the verb *hebben*, but is expected if it is an IO-subject.

- (142) Jan heeft de koude rillingen (??van de heks).
 Jan has the cold shivers from the witch
 ‘Jan’s got the creeps.’

Finally, like the subject of *krijgen*, the subject of *hebben* can be used as an inalienable possessor of the nominal part of a locative PP. This would again follow if we assume (i) that inalienable possessors must be recipient arguments and (ii) that subject *Peter* in (143b) is an IO-subject.

- (143) a. Jan stopt Peter een euro in de hand.
 Jan puts Peter a euro in the hand
 'Jan is putting a euro in Peter's hand.'
 b. Peter heeft een euro in de hand.
 Peter has a euro in the hand
 'Peter has a euro in his hand.'

C. The verb *houden* 'to keep'

The verb *houden* 'to keep' in (144a) seems to belong to the same semantic field as *hebben* 'to have' and *krijgen* 'to get', but expresses that transmission of the theme argument does not take place. Examples (144b) and (144c) show, respectively, that ER-nominalization and passivization are excluded, and (144d) shows that the subject of this verb may act as an inalienable possessor.

- (144) a. Marie houdt de boeken.
 Marie keeps the books
 b. *een houder van boeken
 a keeper of books
 c. *De boeken worden gehouden.
 the books are kept
 d. Mao hield een rood boekje in de hand.
 Mao kept a red book_{diminutive} in the hand
 'Mao held a little red book in his hand.'

There are, however, several problems with the assumption that *houden* is an undative verb. First, there are cases of ER-nominalization such as (145b). These cases are special, however, because the corresponding verbal construction does not occur, and we therefore conclude that we are dealing with (commonly used) jargon.

- (145) a. *Jan houdt een OV-jaarkaart van de NS.
 Jan keeps an annual commutation ticket
 Intended meaning: 'Jan has an annual commutation ticket.'
 b. houders van een OV-jaarkaart van de NS
 keepers of an annual commutation ticket

Second, the (a)-examples in (146) show that there are constructions with *houden* that do allow passivization; this deviant behavior of these examples may be due to the fact that we are dealing with an idiomatic expression with more or less the same meaning as the transitive verb *bespieden* 'to spy on', which likewise allows passivization. Note in passing that the corresponding construction with *krijgen* behaves as expected and does not allow passivization.

- (146) a. De politie hield de man in de gaten.
 the police kept the man in the GATEN [gaten probably refers to eyes]
 'The police were keeping an eye on the man.'
- a'. De man werd door de politie in de gaten gehouden.
 the man was by the police in de GATEN kept
 'The man was being watched by the police.'
- b. De politie kreeg de man in de gaten.
 the police got the man in the GATEN
 'The police noticed the man.'
- b'. *De man werd door de politie in de gaten gekregen.
 the man was by the police in the GATEN got

Third, ER-nominalization and passivization are possible with the verb *houden* when this verb is used in reference to livestock, as in (147). The fact that the object in (147a) can be a bare plural (or a mass noun) suggests, however, that we are dealing in this case with a semantic (that is, syntactically separable) compound verb comparable to particle verbs (although it should be noted that the bare noun can be replaced by quantified indefinite noun phrases like *veel schapen* 'many sheep').

- (147) a. Jan houdt schapen/*een schaap.
 Jan keeps sheep/a sheep
 'Jan is keeping sheep'
- b. *schapenhouder* 'sheep breeder'
- c. Er worden schapen gehouden.
 there are sheep kept

III. Verbs of cognition

The class of undative verbs has not been extensively studied so far, and it is therefore hard to say anything with certainty about the extent of this verb class. Although this is certainly a topic for future research, we will briefly argue that verbs of cognition like *weten* 'to know' and *kennen* 'to know' in (148a), in which the subject of the clause acts not as an agent but as an experiencer, may also belong to this class. One argument in favor of assuming that these verbs are undative is that the thematic role of experiencer is normally assigned to internal arguments; see the discussion of the NOM-DAT verbs in Section 2.1.3. A second argument is that these verbs normally do not allow passivization, as is shown in (148b).

- (148) a. Jan weet/kent het antwoord.
 Jan knows the answer
 'Jan knows the answer.'
- b. *Het antwoord wordt (door Jan) geweten/gekend.
 the answer is by Jan known

Note in passing that passives like these do occur in more or less formal contexts, in which case the subject is most likely a human being: *Jezus kan uitsluitend echt gekend worden door iemand die de juiste geesteshouding heeft* 'Jesus can only be known by someone who has the right spiritual attitude'. It also occurs in

collocations like *gekend worden als* ‘to be known as’ and *gekend worden in* ‘to be consulted’.

ER-nominalizations also seem to suggest that cognitive verbs are undative. Although the ER-noun *kenner* in (149a) does exist, it does not exhibit the characteristic property of productively formed ER-nouns that they inherit the internal argument of the input verb. Furthermore, it has the highly specialized meaning ‘expert’. The ER-noun *weter* in (149b) does not exist at all (although it does occur as the second member in the compounds *allesweter* ‘someone who knows everything’ and *betweter* ‘know-it-all’). The fact that these verbs normally do not occur in the imperative shows that the input verbs do not have an agentive argument and therefore point in the same direction as well; see Section 1.4.2, sub IA for a discussion of the counterexample *Ken uzelf!* ‘Know yourself!’.

- (149) a. de kenner (*van het antwoord) a'. *Ken het antwoord!
 the know-er of the answer know the answer
 ‘the expert’
- b. *de weter (van het antwoord) b'. *Weet het antwoord!
 the know-er of the answer know the answer

Finally, the examples in (150) show that the subjects of these verbs may enter into a possessive relationship with the nominal part of a locative PP, which is probably the strongest evidence in favor of assuming undative status for these verbs. It further suggests that, like the thematic role recipient, the thematic role experiencer cannot be assigned to an external argument, but must be assigned to an internal argument that corresponds to the dative argument of a ditransitive verb.

- (150) a. Jan kent het gedicht uit het/zijn hoofd.
 Jan knows the poem from the/his head
 ‘Jan knows the poem by heart.’
- b. Jan weet het uit het/zijn hoofd.
 Jan knows it from the/his head
 ‘Jan knows it like that.’

IV. Other potential cases

Other potential examples of undative verbs are *behelzen* ‘to contain/include’, *bevatten* ‘to contain’, *inhouden* ‘to imply’, and *omvatten* ‘to comprise’. These verbs may belong to the same semantic field as *hebben* and Haeseryn et al. (1997:54) note that these verbs are similar to *hebben* in rejecting passivization. It is, however, not clear whether the impossibility of passivization is very telling in these cases given that many of these verbs take inanimate subjects, for which reason they of course also resist the formation of person nouns by means of ER-nominalization.

2.1.5. A potential problem: transitive verbs taking the auxiliary *zijn*

We want to conclude the discussion of the classification of verbs on the basis of the number and type of nominal complements they take by pointing out a potential problem for one of the unaccusativity tests used in the preceding discussion: the claim that selection of the auxiliary *zijn* is a *sufficient* condition for assuming

unaccusative status for a verb. If this test is indeed valid, we predict that there are no transitive verbs selecting *zijn*. This indeed seems to be true in the general case but there are a small number of potential counterexamples, which we will discuss in this section.

We will begin with a number of apparent counterexamples: verbs like *bijspringen* ‘to help out’, *ontkomen* ‘to escape’, *ontlopen* ‘to escape’, *ontvluchten* ‘to flee’, *tegemoet gaan/komen* ‘to meet’, *volgen* ‘to follow’ all take an object although they form their perfect tense with *zijn*. This is not really surprising given that these verbs all take a °dative object in German. However, the verb *volgen* still may be a potential problem given that it can be passivized, which was taken to be a sufficient test for assuming ergativity (which implies transitivity in this specific case).

- (151) a. De politieagent is de verdachte gevolgd.
 the police officer is the suspect followed
 ‘The police officer has followed the suspect.’
 b. De verdachte werd gevolgd door de politieagent.
 the suspect was followed by the police agent

The seeming contradiction is resolved once we realize that the verb *volgen* exhibits ambiguous behavior with respect to the auxiliary test; it combines not only with *zijn* but also with *hebben*: *De politieagent is/heeft de verdachte gevolgd* ‘The police officer has followed the suspect’. This suggests that *volgen* is undergoing a process of reanalysis; it develops from a verb with a dative object into a verb with an accusative object. A reanalysis of this sort has applied in other cases as well; the German verb *helfen* ‘to help’, for example, takes a dative argument and cannot be passivized, whereas its Standard Dutch counterpart *helpen* exhibits prototypical transitive behavior in that it can undergo regular passivization: *Het slachtoffer werd door een voorbijganger geholpen* ‘the victim was helped by a passer-by’.

Even if we ignore those cases that are susceptible to a dative object analysis, we at least have to deal with the following two (notorious) problems: the transitive verbs *vergeten* ‘to forget’ and *verliezen* ‘to lose’, which can take either *hebben* or *zijn* in the perfect.

- (152) a. Jan heeft/is zijn paraplu verloren.
 Jan has/is his umbrella lost
 ‘Jan has lost his umbrella.’
 b. Ik heb/ben mijn paraplu vergeten.
 I have/am my umbrella forgotten
 ‘I’ve forgotten my umbrella.’

Perhaps we may set the case of *verliezen* aside as being part of the formal register given that Haeseryn et al. (1997: 79) claim that the use of *zijn* is not generally accepted and more commonly found in written language than in speech. The case of *vergeten* is harder to account for. Perhaps we can understand the acceptability of *zijn* in (152b) better by relating this example to examples such as (153), in which the noun phrase *mijn paraplu* does not function as a complement of the verb *vergeten* but of as an argument of the embedded infinitival predicate *meenemen* ‘to

take along'. One may therefore assume that (152b) has some phonetically empty embedded predicate.

- (153) Ik heb/ben mijn paraplu vergeten mee te nemen.
 I have my umbrella forgotten with.me to take
 'I've forgotten to bring my umbrella with me.'

But even if this were viable, it would leave us with cases such as (154), in which *vergeten* is more specifically interpreted as "to not remember": although Haeseryn et al. (1997: 79) claim that *zijn* is much preferred in this case, postulation of a phonetically empty embedded predicate seems less tenable. We will therefore not speculate any further on this issue, and simply leave it for future research.

- (154) Jan is/[?]heeft zijn telefoonnummer vergeten.
 Jan has his phone.number forgotten
 'Jan has forgotten his phone number.'

2.1.6. Summary

This previous sections have discussed the syntactic classification of verbs with nominal arguments. We argued that the traditional classification, which takes the °adicity of the verb as its point of departure, results in grouping verbs together which actually have very little in common, and that it is better to base the classification on the type of arguments the verb takes. This has led to the classification in Table 6. The unaccusative verbs in this table can be subdivided further into verbs selecting the perfect auxiliary *hebben* and verbs selecting the perfect auxiliary *zijn*. The class of undative verbs is normally not distinguished, but we have given some arguments in favor of its existence. Observe that Table 6 is virtually identical to the one given as Table 1 in the introduction to Section 2.1, the only difference being that the latter refers to °thematic roles instead of (derived) syntactic functions.

Table 6: Classification of verbs according to the nominal arguments they take (final)

	NAME	EXTERNAL ARGUMENT	INTERNAL ARGUMENT(S)
NO INTERNAL ARGUMENT	intransitive	nominative (subject)	—
	impersonal	—	—
ONE INTERNAL ARGUMENT	transitive	nominative (subject)	accusative (direct object)
	unaccusative	—	nominative (DO-subject)
TWO INTERNAL ARGUMENTS	ditransitive	nominative (subject)	dative (indirect object) accusative (direct object)
	dyadic unaccusative (NOM-DAT)	—	dative (indirect object) nominative (DO-subject)
	undative	—	nominative (IO-subject) accusative (direct object)

For completeness' sake, we want to note that the classification in Table 6 is based on the so far silent assumption that the presence of recipient/experiencer requires a

theme argument to be present as well. This is, of course, related to meaning; in order for a goal or an experiencer to be present there must be some other argument that can be located/experienced; an external argument cannot subsume this role since, if present, it functions as the originator of the event (see Section 1.2.3, sub II, for this notion), and this implies that the located/experienced argument must be realized as a theme.

2.2. Complementives (secondary predicates)

Section 2.1 has discussed nominal $^{\circ}$ complementation of verbs, which has resulted in the identification of the basic verb types in Table 6. This section discusses the behavior of these verbs with respect to secondary predication. The basic patterns are given in the examples in (155) to (157). In (155), we find an intransitive and an impersonal verb, that is, verbs without an internal argument. The primed examples show that the addition of a $^{\circ}$ complementive is possible in such cases, but requires the addition of an extra argument that functions as the subject of the complementive; *wakker* 'awake' and *nat* 'wet' are predicated of, respectively, the noun phrases *zijn baas* 'his master' and *Jan*. The construction as a whole receives a resultative interpretation: it is claimed that the referent of the added noun phrase becomes part of the set denoted by the complementive as the result of the action/process denoted by the verb.

- (155) • Verbs without an internal argument
- | | | | |
|----|----------------|-----|---------------------------------|
| a. | De hond blaft. | a'. | De hond blaft zijn baas wakker. |
| | the dog barks | | the dog barks his boss awake |
| b. | Het regent. | b'. | Jan regent nat. |
| | it rains | | Jan rains wet |

In (156), we find a transitive and a $^{\circ}$ monadic unaccusative verb, that is, verbs with one internal argument. The primed examples show that it is possible to add a complementive, which, in the cases at hand at least, is predicated of the original theme argument. The construction as a whole receives a resultative interpretation: it is claimed that the referent of the theme argument becomes part of the set denoted by the complementive as the result of the action/process denoted by the verb.

- (156) • Verbs with one internal argument (theme)
- | | | | |
|----|------------------|-----|-----------------------|
| a. | Jan slaat Peter. | a'. | Jan slaat Peter dood. |
| | Jan hits Peter | | Jan hits Peter dead |
| b. | Jan viel. | b'. | Jan viel dood. |
| | Jan fell | | Jan fell dead |

In (157), we find a ditransitive, a NOM-DAT, and an undative verb, that is, verbs with two internal arguments. The primed examples are all unacceptable under the intended, resultative, reading. The examples marked with a number sign are at least marginally possible, but then the adjective *kapot* does not function as a complementive but as a $^{\circ}$ supplementive, that is, a predicative phrase that provides additional information about the theme.

- (157) •Verbs with two internal arguments (theme and goal/experiencer)
- | | | | |
|----|--------------------------------|-----|----------------------------------|
| a. | Jan geeft Marie het boek. | a'. | #Jan geeft Marie het boek kapot. |
| | Jan gives Marie the book | | Jan gives Marie the book broken |
| b. | De vaas viel Marie op. | b'. | *De vaas viel Marie kapot op. |
| | the vase fell Marie prt. | | the vase fell Marie broken prt. |
| | 'The vase caught Marie's eye.' | | |
| c. | Marie kreeg het boek. | c'. | #Marie kreeg het boek kapot. |
| | Marie received the book | | Marie received the book broken |

When we return to the examples in (155) and (156), we see that the two sets differ in that the addition of a complementive in (155) goes hand in hand with the introduction of an additional argument which is not selected by the verb itself, as is clear from the fact that dropping the complementives in the primed examples in (155) results in ungrammaticality.

- (158) a. De hond blaft zijn baas *(wakker).
 the dog barks his boss awake
- b. Jan regent *(nat).
 Jan rains wet

This strongly suggests that the noun phrase the complementive is predicated of is not selected by the verb but an external argument of the complementive. We will therefore refer to such noun phrases as the °logical SUBJECT of the complementive. We will use small capitals for this notion in order to distinguish it from the traditional notion of subject (in lower case), which refers to the °nominative argument of the clause.

In the primed examples in (156) the SUBJECT of the complementive also seems to entertain a thematic relation with the verb; if the complementive is dropped, as in the primeless examples, the resulting structure is still grammatical. Many proposals have been given to account for this dual thematic relationship in the primed examples, which generally amounts to saying that the SUBJECT relation between the noun phrase and the complementive is primary compared to the semantic relationship between the noun phrase and the verb; we will return to this issue in Section 2.2.3, sub II.

This section is organized as follows. Section 2.2.1 starts with a more general discussion on the use of complementives. Section 2.2.2 continues with a discussion of two non-resultative constructions involving a complementive: the copular construction and the so-called *vinden*-construction. Section 2.2.3 is concerned with resultative constructions of the type illustrated above. Section 2.2.4 concludes with a very brief discussion of two types of analyses of complementive constructions proposed within generative grammar.

2.2.1. General restrictions on complementives

This section discusses some general properties of complementives. We will start by reviewing the construction types that contain a complementive in Subsection I. This is followed in Subsection II by a discussion of the categories that the complementives may have. Subsection III continues with the positions that the

complementives may occupy within the sentence, that is, whether they can be scrambled, topicalized, etc. Subsection IV concludes with a discussion of the co-occurrence restrictions between complementives.

I. Construction types

There are three constructions in which complementives are found. The first is the copular construction, illustrated by (159a), in which the complementive is predicated of the subject of the clause. The second is the so-called *vinden*-construction, illustrated by (159b), in which the complementive is predicated of the accusative argument of the clause: this construction conveys a subjective evaluation of the object by the subject of the clause. The third construction is the resultative construction: if this construction contains an accusative object, as in (159c), it is this object that the complementive is predicated of; if the construction does not contain an accusative noun phrase, as in (159c'), the complementive is predicated of the subject of the clause.

- | | | |
|----------|-----------------------|--------------------------------|
| (159) a. | Jan is aardig. | [copular construction] |
| | Jan is nice | |
| b. | Ik vind Jan aardig. | [<i>vinden</i> -construction] |
| | I consider Jan nice | |
| c. | Jan slaat Peter dood. | [resultative construction] |
| | Jan hits Peter dead | |
| c'. | Jan valt dood. | [resultative construction] |
| | Jan falls dead | |

II. The category of the complementive

The examples in (159) all involve a complementive AP. The complementive can, however, also be a PP or a noun phrase. This is illustrated in (160) for the copular construction. Note that traditional grammar strongly opposes the idea that the PP in (160b) is a complementive, and analyzes this PP as an adverbial phrase. We will see in Subsection III, however, that PPs of this type have all the distributional properties of a complementive.

- | | | |
|-------|------------------------|--------------------|
| (160) | • Copular construction | |
| a. | Jan is ziek. | [AP-complementive] |
| | Jan is ill | |
| b. | Jan is naar Utrecht. | [PP-complementive] |
| | Jan is to Utrecht | |
| c. | Jan is een schurk. | [NP-complementive] |
| | Jan is a villain | |

Example (161a) shows that so-called modal infinitives can also be used as complementives: such infinitives, which behave like adjectival complementives in the relevant respects, are more extensively discussed in A9. The (b)-examples in (161) show that we occasionally also find *om* + *te*-infinitives; such infinitival clause often receive an idiomatic interpretation.

- (161) a. Dat boek is gemakkelijk te lezen.
 that book is easy to read
 ‘That book is easy to read.’
- b. De wedstrijd is niet [om over naar huis te schrijven].
 the game is not COMP to home to write
 ‘The game was disappointing.’
- b’. De baby was [om op te vreten].
 the baby was COMP down to gobble
 ‘The baby was lovely.’
- b’’. Het geluid is [om gek van te worden].
 the sound is COMP crazy to become of
 ‘The sound is driving me crazy.’

The examples in (162) and (163) show that the same types of complementives may occur in the *vinden*-construction.

- (162) • *Vinden*-construction
- a. Marie vindt Jan aardig. [AP-complementive]
 Marie considers Jan nice
- b. [§]Marie vindt Jan onder de maat. [PP-complementive]
 Marie considers Jan under the measure
 ‘Marie considers Jan not up to the mark/inadequate.’
- c. Marie vindt Jan een schurk. [NP-complementive]
 Marie considers Jan a villain
- (163) a. Ik vind dat boek gemakkelijk te lezen.
 I consider that book easy to read
 ‘I consider that book easy to read.’
- b. Ik vind de wedstrijd niet [om over naar huis te schrijven].
 I consider the game not COMP to home to write
 ‘I consider the game disappointing.’

It should be noted, however, that *vinden*-constructions with a complementive PP are rare and often more or less idiomatic in nature. Examples such as (164a) are possible but not under the intended reading: the verb *vinden* is instead construed with the meaning “to find”, and the PP functions as an adverbial phrase of place: the garden is the place in which Marie found the golden coin. Examples with a directional PP are outright ungrammatical.

- (164) a. [#]Marie vond de gouden munt in de tuin.
 Marie found the golden coin in the garden
- b. [§]Marie vindt Jan naar Utrecht.
 Marie considers Jan to Utrecht

The reason for the unacceptability of the *vinden*-constructions in (164) does not seem to be syntactic in nature. We noted earlier that the *vinden*-construction expresses a subjective evaluation of the accusative noun phrase by the subject of the clause, and as a result of this, the complementive must be evaluative in nature: if it denotes a property that can be objectively established, the result is semantically

anomalous. The restriction accounts, for example, for the unacceptability of an example such as (165a) and for the fact that (165) is only possible if construed with an added evaluative meaning aspect. Given that the PPs in the examples in (164) also lack the required subjective contents, the unacceptability of these examples under the intended reading does not come as a surprise.

- (165) a. *Marie vindt Jan dood.
 Marie considers Jan dead
 b. Marie vindt Jan een man.
 Marie considers Jan a man
 ‘Marie considers Jan a true/prototypical/... man.’

In (166), finally, we give some examples of the resultative construction. Example (166c) shows that, for some unclear reason, complementives cannot be nominal in this construction; see Section 2.2.3, sub IA.

- (166) • Resultative construction
- | | |
|-----------------------------------|--------------------|
| a. Marie slaat Jan dood. | [AP-complementive] |
| Marie beats Jan dead | |
| b. Marie gooit Jan uit de trein. | [PP-complementive] |
| Marie throws Jan out.of the train | |
| c. *Marie slaat Jan een invalide. | [NP-complementive] |
| Marie beats Jan an invalid | |

Although noun phrases cannot be used as a complementive in the resultative construction, it is often possible to express the intended meaning by making use of an adpositional phrase introduced by *tot*; example (167a) expresses that the spinach changes into a pulp as a result of the cutting event and (167b) expresses that Jan is becoming a knight as the result of the action of the king. This construction is discussed more extensively in Section P4.2.1.2.2.

- (167) a. Jan hakt de spinazie tot moes.
 Jan cuts the spinach to pulp
 b. De koning slaat Jan tot ridder.
 the king hits Jan to knight
 ‘The king raises Jan to the peerage.’

It is often claimed that verbal particles are also complementives; cf. Den Dikken (1995). These particles are then analyzed as intransitive adpositions, that is, instances of PP-complementives. Some examples with the particle *weg* ‘away’ are given in (168). As expected on the basis of the findings in (164), the particle *weg* cannot be used in the *vinden*-construction: again this is due to the lack of subjective content. Since we will not extensively discuss verbal particles here, we refer the reader to Section P1.2.4 for a more detailed discussion.

- (168) a. Jan is weg.
 Jan is away
 b. ^sMarie vindt Jan weg.
 Marie considers Jan away
 c. Marie stuurt Jan weg.
 Marie sends Jan away

III. The position of the complementive

Although Dutch has a relatively free word order, this subsection shows that the position of the complementive is relatively fixed; complementives occur left-adjacent to the verb(s) in clause-final position, unless they are topicalized or *wh*-moved.

A. Position relative to the verb(s) in clause-final position

The examples in (169) show that complementives normally occupy a position to the left of the verb(s) in clause-final position; placement of the complement in postverbal position leads to ungrammaticality. Recall from Subsection II that traditional grammar strongly opposes the idea that the PP in (169b) is a complementive, and analyzes it as an adverbial phrase. The fact that it must precede the clause-final verb shows, however, that it behaves as a complementive; cf. Mulder and Wehrmann (1989).

- (169) a. dat Marie Jan waarschijnlijk <dood> slaat <*dood>.
 that Marie Jan probably dead beat
 'that Marie probably hits Jan to death.'
- b. dat Peter de hond met de auto <naar Utrecht> brengt <?*naar Utrecht>.
 that Peter the dog with the car to Utrecht brings
 'that Peter brings the dog to Utrecht by car.'
- c. dat Marie Peter nog steeds <een schurk> vindt <*een schurk>.
 that Marie Peter PRT still a villain considers
 'that Marie still considers Peter a villain.'

The examples in (170) show that something similar holds for embedded clauses with two (or more) verbs. The complementive is normally placed to the left of the clause-final °verb cluster, although the percentage signs indicate that some speakers also allow the complementive to permeate the verb cluster. Placement of the complementive after the verb cluster is unacceptable for all speakers.

- (170) a. dat Marie Jan waarschijnlijk <dood> zal <°dood> slaan <*dood>.
 that Marie Jan probably dead will beat
- b. dat P. de hond met de auto <naar Utrecht> zal <°naar U> brengen <*naar U>.
 that P. the dog with the car to Utrecht will bring
- c. dat M. P. altijd <een schurk> heeft <°een schurk> gevonden <*een schurk>.
 that M. P. always a villain has considered

Permeation of the verb cluster is especially common for speakers of various southern varieties of Dutch, although this is also a marginally acceptable option for some northern speakers if the complementive consists of a single word; such speakers do allow (170a) while rejecting (170b&c). If the complementive is a verbal particle like *weg*, all speakers allow the complementive in between the verbs.

- (171) dat Marie Jan <weg> heeft <weg> gestuurd <*weg>.
 that Marie Jan away has sent
 'that Marie has sent away Jan.'

B. Scrambling

The examples in (169) have shown that complementives normally precede the verb(s) in clause-final position. The examples in (172) show that this statement must be made more precise: the complementive must normally be immediately left-adjacent to the verb(s) in clause-final position. In other words, complementives cannot be scrambled across the adverbial phrases in the °middle field of the clause.

- (172) a. dat Marie Jan <*dood> waarschijnlijk <dood> slaat.
 that Marie Jan dead probably beats
 ‘that Marie probably hits Jan to death.’
- b. dat Peter de hond <*naar Utrecht> met de auto <naar Utrecht> brengt.
 that Peter the dog to Utrecht with the car brings
 ‘that Peter brings the dog to Utrecht by car.’
- c. dat Marie Peter <*een schurk> nog steeds <een schurk> vindt.
 that Marie Peter a villain PRT still considers
 ‘that Marie still considers Peter a villain.’

When the complementive competes with some other element for the position left-adjacent to the verb(s) in clause-final position, however, a limited amount of word order variation may arise. This especially holds for resultative constructions like (173a&b), in which the complementive is in competition with a °stranded preposition, which normally also occupies the position left-adjacent to the verb(s); we refer the reader to Section A6.2.4.3 for a more extensive discussion of some factors that may affect the outcome of this competition. Note that we have not been able to construct examples with a nominal complementive, which is due to the fact that these do not appear in the resultative construction. Example (173c) shows that particles behave like full PPs.

- (173) a. dat Marie Jan met een knuppel dood slaat.
 that Marie Jan with a bat dead beats
 ‘that Marie is beating Jan to death with a bat.’
- a'. dat Marie *er* Jan <*mee*> dood <*mee*> slaat.
- b. dat Peter de hond met de auto naar Utrecht brengt.
 that Peter the dog with the car to Utrecht brings
 ‘that Peter brings the dog to Utrecht by car.’
- b'. dat Jan *er* de hond <*mee*> naar Utrecht <*mee*> brengt.
- c. dat Marie Jan met een knuppel weg jaagde.
 that Marie Jan with a bat away chased
 ‘that Marie chased Jan away with a bat.’
- c'. dat Marie *er* Jan <*mee*> weg <*mee*> jaagde.

C. Topicalization and *wh*-movement

Although complementives are normally placed left-adjacent to the verb(s) in clause-final position, they can also occur in sentence-initial position as the result of topicalization or *wh*-movement. Some examples are given in (174) and (175).

- (174) a. Dood_i heeft Marie hem t_i geslagen.
 dead has Marie him beaten
 b. [Naar Utrecht]_i heeft Jan de hond t_i gebracht.
 to Utrecht has Jan the dog brought
 c. [Een schurk]_i vindt Marie Peter nog steeds t_i.
 a villain considers Marie Peter PRT still
- (175) a. Hoe aardig vindt Marie hem?
 how kind considers Marie him
 b. In welke la heeft Jan het mes gelegd?
 into which drawer has Jan the knife put
 'Into which drawer did Jan put the knife?'
 c. Wat voor type mens vind je Peter?
 what kind of person consider you Peter
 'What kind of person do you think Peter is?'

IV. Co-occurrence restrictions on complementives

Examples (176a&b) show that the verb *zetten* 'to put' can take either an adjectival or an adpositional complementive. Example (176c) cannot, however, be interpreted in such a way that both *op straat* and *klaar* act as complementives; it is only the adjective that is interpreted in that way. The PP *op straat* must be interpreted as a locational adverbial phrase, which can be made clear by means of the adverbial *°en doet dat test*: the fact that (176b) cannot be paraphrased by means of (176b') shows that the PP *op straat* does not function as an adverbial phrase in contrast to what is the case with the same PP in (176c).

- (176) a. Jan zet de vuilnisemmer klaar.
 Jan puts the garbage can ready
 b. Jan zet de vuilnisemmer op straat.
 Jan puts the garbage can in the street
 b'. *Jan zet de vuilnisemmer en hij doet dat op straat.
 Jan puts the garbage can and he does that in the street
 c. #Jan zet de vuilnisemmer op straat klaar.
 c'. Jan zet de vuilnisemmer klaar en hij doet dat op straat.

The discussion of the examples in (176) suggests that a clause can contain at most one complementive. If the suggestion from Subsection II that particles of particle verbs like *opbellen* 'to phone' are complementives is on the right track, this constraint on the number of complementives immediately accounts for the fact that particle verbs are incompatible with complementives.

- (177) a. Jan belt zijn ouders op.
 Jan phones his parents prt.
 'Jan phones his parents.'
 b. Jan belt zijn ouders arm.
 Jan phones his parents poor
 'Jan phones so much that he makes his parents poor.'
 c. *Jan belt zijn ouders arm op/op arm.

Examples like those in (178) seem to be a problem for the claim that a clause can contain at most one complementive; examples (178a&b) show that the verb *leggen* ‘to put’ can take either a particle or an adpositional phrase as a complementive, and example (178c) shows that both can appear simultaneously. It should be noted, however, that the prepositional phrases in (178a) and (178c) exhibit different behavior when it comes to their placement in the clause. Subsection III has established that complementives can never follow the verb(s) in clause-final position, and example (178a) shows that the PP *op de tafel* is a well-behaved complementive in this respect. The PP in (178c), on the other hand, can readily follow the verb in clause-final position, and we should therefore conclude that it does *not* function as a complementive if the particle is present. This conclusion is also supported by the fact illustrated in (178d) that the PP can also scramble across the object if the particle is present. See Broekhuis (1992) and Den Dikken (1995) for two competing analyses of such examples.

- (178) a. dat Jan het boek <op de tafel> legde <*op de tafel>.
 that Jan the book on the table put
 ‘that Jan put the book on the table.’
- b. dat Jan het boek neer legde.
 that Jan the book down put
 ‘that Jan put the book down.’
- c. dat Jan het boek <op de tafel> neer legde <op de tafel>.
 that Jan the book on the table down put
 ‘that Jan put the book down on the table.’
- d. dat Jan op de tafel het boek ^{??}(neer) legde.
 that Jan on the table the book down put
 ‘that Jan put the book down on the table.’

The examples in (179) show that we can find a similar phenomenon with verbs prefixed with *be-*. The resultative example in (179a) shows that complementive *tot*-phrases normally precede the verb in clause-final position. However, if the *tot*-phrase is selected by a verb prefixed with *be-*, it can either precede or follow the verb. This suggests that prefixes like *be-*, *ver-* and *ont-* resemble particles like *neer* in (178) in that they also function syntactically as complementives; see Section 3.3.2, sub B, for a discussion of a proposal of this sort.

- (179) a. dat de koning Jan <tot ridder> heeft geslagen <*tot ridder>.
 that the king Jan to knight has hit
 ‘that the king made Jan a knight.’
- b. dat de koning Jan <tot adviseur> heeft benoemd <tot adviseur>.
 that the king Jan to advisor has appointed
 ‘that the king has appointed Jan as advisor.’

V. Conclusion

Subsection I has shown that there are three types of complementive constructions: the copula, *vinden-* and resultative constructions. Subsection II has further shown that complementives can be adjectival, prepositional or nominal in nature, although it should be noted that nominal complementives are not possible in resultative

constructions; their place is taken by *tot*-PPs. Subsection III has shown that complementives are normally left-adjacent to the verb(s) in clause-final position, although speakers of certain southern varieties of Dutch also allow them in verb clusters; placement of the complementive after the verb cluster is always impossible. Scrambling of complementives is normally not possible but they can readily undergo *wh*-movement and topicalization. Subsection IV, finally, has shown that a clause can contain at most one complementive.

2.2.2. *Non-resultative constructions*

This section gives some examples of two non-resultative constructions involving a complementive: the copular construction and the *vinden*-construction. The discussion will be brief as these two constructions are more extensively discussed in, respectively, Section A6.2.1 and Section A6.2.3.

1. *The regular copular construction*

The prototypical construction with a complementive is the regular copular construction, some examples of which are given in (180). In all these examples, it is expressed that the set denoted by *de jongens* ‘the boys’ is a subset of the set denoted by the adjective; see Section A1.3.2.1 for an extensive discussion of the set-theoretic treatment of copular constructions. The copular verbs may add some meaning aspect to the core meaning. This meaning aspect may be aspectual in nature: the copula *zijn* ‘to be’ is neutral in this respect and expresses a purely “N is A” relation, while the copula *worden* ‘to become’ adds an inchoative aspect and the copula *blijven* ‘to stay’ indicates that some state remains the same.

- (180) a. De jongens zijn groot.
 the boys are big
 b. De jongens werden kwaad.
 the boys became angry
 c. De jongens bleven kwaad.
 the boys stayed angry

Other meaning aspects are possible as well: the copulas *lijken* ‘to appear’ and *schijnen* ‘to seem’, for example, indicate that the assertion is based on the subjective perception of the speaker, whereas the copula *blijken* ‘to turn out’ suggests that the assertion can be objectively established.

- (181) a. De jongens leken/schenen moe.
 the boys appeared/seemed tired
 ‘The boys seemed to be tired.’
 b. De jongens bleken moe.
 the boys turned.out tired
 ‘The boys turned out to be tired.’

The complementive need not be an AP, but may have another categorial status as well. The examples in (182) provide cases with a noun phrase, a PP, a particle and an adjectival participle in (182d). These examples show that the “N is A” relation can be extended to an “N is PRED” relation.

- (182) a. Marie is dokter. [nominal]
 Marie is doctor
- b. Deze borden zijn van koper. [adpositional]
 these plates are of copper
 ‘These plates are made of copper.’
- c. Het werk is af. [particle]
 the work is prt.
 ‘The work is done.’
- d. Jan is (on)getrouwd/woedend. [adjectival past/present participle]
 Jan is (un)married/furious
 ‘Jan is (un)married/furious.’

Pronouns occasionally also occur as predicates in copular constructions, when these express (lack of) identity. Case marking on the predicatively used pronoun is complicated in such cases. In examples such as (183a) it seems that use of the nominative is much preferred; the object form is considered unacceptable by most speakers. In examples such as (183b), on the other hand, it is the object form that is preferred, although the nominative form *jij* is regularly used on the internet (hence the percentage sign).

- (183) a. omdat ik nu eenmaal ik/*mij ben.
 because I NU EENMAAL I/me am
 ‘because I’m simply me.’
- b. omdat ik nu eenmaal jou_{acc}/[%]jij_{nom} niet ben.
 because I NU EENMAAL you/you not am
 ‘because I’m simply not you.’

This predicative use of first person pronouns is very restricted, as will be clear from the examples in (184), in which the demonstrative is used as a resumptive pronoun referring to the left-dislocated noun phrase *die jongen op de foto*. The (a)-examples show that the nominative pronoun must precede the resumptive pronoun in the °middle field of the clause, from which we may conclude that the former functions as subject and the latter as predicate. The (b)-example with an object pronoun is accepted by some speakers but judged as marked compared to example (184a) by others.

- (184) Die jongen op de foto, ...
 that boy on the picture
- a. ... ik denk dat ik dat ben/is. [ik = subject]
 I think that I that am/is
- a'. *... ik denk dat dat ik ben/is. [ik = predicate]
 I think that that I am/is
- b. %... ik denk dat dat mij is. [mij = predicate]
 I think that that me is

Second person pronouns like *jij/jou* ‘you/you’ exhibit more or less the same behavior as the first person pronouns in (184), but judgments on third person pronouns are different: example (185b) is fully acceptable if the pronoun refers to some previously mentioned individual, e.g., the one who is identified by the speaker

as the person in the picture. The difference is plausibly related to the fact that first/second person pronouns cannot refer to individuals in the discourse domain that are not fully identified.

- (185) Die jongen op de foto, ...
 that boy on the picture
- a. ... ik denk dat hij dat is. [hij = subject]
 I think that he that is
- a'. *... ik denk dat dat hij is. [hij = predicate]
 I think that that he is
- b. ... ik denk dat dat 'm is. ['m = predicate]
 I think that that him is

II. The vinden-construction

A second type of complementive construction, in which the adjective is predicated of an accusative object, is the *vinden*-construction in (186): verbs occurring in this construction are *vinden* 'to consider', *achten* 'to consider' and *noemen* 'to call'. The constructions in (186a&b) express that the subject of the clause has a subjective opinion about the accusative object; Marie is of the opinion that the proposition "Jan is unfit for that job" is true. The example in (186c) asserts that Marie has expressed this opinion.

- (186) • *Vinden*-construction
- a. Marie vindt Jan ongeschikt voor die baan.
 Marie considers Jan unfit for that job
- b. Marie acht Jan ongeschikt voor die baan.
 Marie considers Jan unfit for that job
- c. Marie noemt Jan ongeschikt voor die baan.
 Marie calls Jan unfit for that job

That these verbs take some kind of proposition as their complement is very clear in the case of the verb *vinden*; example (186a), for instance, can be paraphrased as in (187a), in which the noun phrase *Jan* and the adjective are part of a subordinate clause. This paraphrase also shows that the noun phrase *Jan* is thematically dependent on the adjective only. The examples in (187b&c) show, however, that similar paraphrases are not possible in the case of *achten* and *noemen*.

- (187) a. Marie vindt dat Jan aardig is.
 Marie believes that Jan nice is
- b. *Marie acht dat Jan ongeschikt is.
 Marie considers that Jan unsuitable is
- c. *Marie noemt dat Jan aardig is.
 Marie calls that Jan nice is

This shows that not all verbs occurring in the *vinden*-construction can take a propositional object. Similarly, it is not the case that all verbs taking a finite propositional object can occur in the *vinden*-construction. Verbs of saying such as *zeggen* 'to say' and *beweren* 'to claim' are excluded from this construction. This is illustrated in (188).

- (188) a. Marie zegt dat Jan aardig is.
 Marie says that Jan nice is
 a'. *Marie zegt Jan aardig.
 Marie says Jan nice
 b. Marie beweert dat Jan aardig is.
 Marie claims that Jan nice is
 b'. *Marie beweert Jan aardig.
 Marie claims Jan nice

In contrast to the resultative construction, the *vinden*-construction requires two arguments to be present in the structure. But what they have in common is that the accusative argument, i.e. the SUBJECT of the adjective, may take the form of either a complex or a simplex reflexive. This is illustrated in (189), in which the reflexive could in principle be replaced by a regular referential noun phrase, just as in (186b).

- (189) a. Marie vindt zichzelf/zich ongeschikt voor die baan.
 Marie considers herself/REFL unsuitable for that job
 b. Marie acht zichzelf/zich te goed voor dat werk.
 Marie considers herself/REFL too good for that work

2.2.3. Resultative constructions

This section provides an extensive discussion of the resultative construction. Our focus will be on the verb types that enter this construction. It will be shown that the absence or presence of an internal argument (theme) determines the resulting pattern. The examples in (190) show that if a verb lacks an internal argument, an additional argument functioning as the °logical SUBJECT of the predicate must be introduced.

- (190) a. Jan loopt (*het gras).
 Jan walks the grass
 b. Jan loopt *(het gras) plat.
 Jan walks the grass flat

If the verb already has an internal argument, this internal argument may but need not surface as the SUBJECT of the resultative predicate; the dollar sign indicates that under normal circumstances the use of the marked adjective would not be expected.

- (191) a. Jan veegt de vloer/\$bezem.
 Jan sweeps the floor/broom
 b. Jan veegt de vloer schoon/\$kapot.
 Jan sweeps the floor clean/broken
 b'. Jan veegt de bezem kapot/\$schoon.
 Jan sweeps the broom broken/clean

Verbs with more than one internal argument do not seem to be possible in the resultative construction, but we will show that this may be due to independent reasons. The discussion in this section essentially adopts the analysis given in Hoekstra (1988). Levin & Rappaport Hovav (1995:ch.2) provide a number of problems for this proposal based on English, which are, in turn, for a large part

countered in Hoekstra (2004:399ff.). We also refer the reader to Levin & Rappaport Hovav (1995) for a discussion of a number of semantic approaches to the resultative construction.

I. Verbs without an internal argument

This subsection discusses resultative constructions based on main verbs without an internal argument, that is, the intransitive and impersonal verbs from Table 6. The addition of a complementive to such verbs requires that we also add an extra argument that will function as the SUBJECT of a complementive. In the case of impersonal verbs the non-referential subject pronoun *het* 'it' must be dropped. The general pattern is therefore as given in (192).

- (192) a. Intransitive verbs: NP V \Rightarrow NP V NP Predicate
 b. Impersonal verbs: *het* V \Rightarrow NP V Predicate

A. Intransitive verbs

Example (193) provides some cases of intransitive verbs with a complementive. The complementive can be adjectival or adpositional in nature. Despite the fact that the object is not an internal argument of the verb, which is clear from the fact that it is only licensed if the complementive is present, it is assigned \circ accusative case by it. This is clear from the fact illustrated by the primed examples that passivization is possible.

- (193) • Adjectival and adpositional complementives
- a. Jan huilde zijn ogen helemaal *(rood).
 Jan cried his eyes completely red
- a'. Zijn ogen zijn helemaal rood gehuild.
 his eyes are completely red cried
- b. Jan blies de kruimels *(van de tafel af).
 Jan blew the crumbs from the table
- b'. De kruimels werden van de tafel af geblazen.
 the crumbs were from the table blown
 'The crumbs were blown from the table.'

In order to enter the construction, the accusative object should not only be able to be part of the set denoted by the complementive, but it should also be plausible that the activity denoted by the verb can have the expressed effect of changing the state this object is in. Although one can imagine that Jan causes his eyes to become red by performing the act of crying, it is much less plausible that he causes another person to become red by performing this activity. Other effects on another person may be conceivable, however, and this accounts for the contrast between the examples in (194a) and (194b).

- (194) a. ^sJan huilde Marie helemaal rood.
 Jan cried Marie completely red
- b. Jan huilde Marie helemaal nat.
 Jan cried Marie completely wet

Particle verbs are often analyzed in a way similar to the resultative constructions in (193). Example (195), for instance, shows that the accusative object requires the particle to be present as well; if the particle is dropped, the object must be dropped as well. It should be noted, however, that it is often not obvious that the particle is predicated of the accusative object given that verb + particle collocations often have a non-compositional meaning. We refer the reader to Section P1.2.4.2 for a more detailed discussion of this.

- (195) • Verbal particles
- a. De menigte jouwde de spreker *(uit).
the crowd jeered the speaker prt.
'The crowd jeered at the speaker.'
 - b. De hond blafte de postbode *(na).
the dog barked the postman after
 - c. Peter werkt de zaak verder *(af).
Peter works the case further prt.
'Peter finishes the remainder of the case.'

Combinations that are more or less idiomatically fixed also occur in the case of APs and PPs. Some examples are given in (196) and (197).

- (196) a. Zij praten die beslissing goed.
they talk that decision good
'They justify that decision.'
- b. De rechter spreekt de verdachte vrij.
the judge speaks the suspect free
'The judge acquits the suspect.'
 - c. Zij zwegen die man dood.
they kept.silent that man dead
'They ignored that man completely.'
- (197) a. Jan werkte Peter [pp de kamer uit].
Jan worked Peter the room out.of
'Jan got rid of Peter.'
- b. Ze gooide hun geld [pp over de brug].
they threw their money over the bridge
'They wasted their money.'

Special are cases such as (198), in which the additional argument takes the form of a simplex reflexive pronoun that is interpreted co-referentially with the subject of the clause.

- (198) a. Jan schreeuwt zich schor.
Jan shouts REFL hoarse
- b. Jan werkt zich suf.
Jan works REFL dull

Although the examples in (198) can be taken literally (Jan is getting hoarse/dull as the result of the activity he is performing), they also allow an interpretation in

which they mainly bring about an amplifying effect; example (198a) may express that Jan is shouting very loudly or for a long time, and (198b) that Jan is working very hard or even above his powers. Many cases exist that cannot readily be interpreted literally and whose function is thus limited to inducing this amplifying effect, and people are in fact continuously inventing new combinations; some more or less conventional examples are given in (199).

- (199) a. Jan lacht zich rot/slap. [AP]
 Jan laughs REFL rotten/weak
 'Jan is laughing himself silly.'
- b. Jan werkt zich te pletter/uit de naad. [PP]
 Jan works REFL to pieces/out of the seam
 'Jan is working terribly hard.'

Example (200) suggests that it is possible in this amplifying reading to use a wide range of nominal phrases, which is normally impossible in resultative constructions; cf. Section 2.2.1, sub II.

- (200) Hij lacht zich een aap/breuk/ongeluk/kriek.
 he laughs REFL a monkey/fracture/accident/KRIEK
 'He laughs himself silly.'

It seems doubtful, however, that we are dealing with nominal complementives in (200). Whereas the examples in (199) imply that the reflexive accusative object (and hence the subject of the clause) becomes part of the set denoted by the AP or PP (albeit that the property is more or less metaphorically construed), this is not the case in (200a); it is not claimed that the subject of the clause is becoming a monkey, a fracture, an accident or whatever *kriek* may denote, but rather that a monkey, fracture, an accident or a *kriek* comes into existence as the result of performing the act of laughing; in this respect, (200) is just like the regular transitive construction *Jan bouwde een huis*, which expresses that the house is coming into existence as the result of performing the act of building. In short, the nominal construction in (200) resembles double object constructions like *Marie sloeg Jan een blauw oog* 'Marie punched Jan and thus gave him a black eye', in which the noun phrase *een blauw oog* again does not function as a complementive but as a direct object that refers to an entity that comes into existence as the result of the activity denoted by the verb *slaan* 'to hit'.

Another structurally similar example, which lacks the amplification effect, is given in (201a). That the noun phrase *een kasteel* in this example does not function as a complementive but as a direct object is clear from the fact that the past/passive participle can at least marginally be used attributively in the (b)-example; Section 2.1.2, sub IIID, has shown that attributive use of past participles is only possible if the modified noun corresponds to the internal argument of the input verb of the participles. We will return to the use of the simplex reflexive in (200a) in Section 2.5.2, sub II.

- (201) a. Peter droomde zich een kasteel.
 Peter dreamed REFL a castle
 b. [?]het gedroomde kasteel
 the dreamed castle

Observe further that the double object construction in (200) should not be confused with those in (202). In these constructions the simplex reflexive *zich* functions as an inalienable possessor of the nominal complement and not as the SUBJECT of the predicatively used PP; cf. Section 3.3.1.4. These cases are therefore regular resultative constructions. Confusingly, these examples are also most naturally interpreted with an amplifying reading, but this also holds for the synonymous resultative construction in (202b'), which does not involve a reflexive possessor but a possessive personal pronoun.

- (202) a. Hij lacht zich de tranen in de ogen.
 he laughs REFL the tears in the eyes
 'He laughs like mad.'
 b. Hij schreeuwde *(zich) de longen uit het lijf.
 he shouted REFL the lungs out.of the body
 'He shouted extremely loud.'
 b'. Hij schreeuwde de longen uit zijn lijf.
 he shouted the lungs out.of his body
 'He shouted extremely loud.'

We conclude this subsection with a brief discussion of motion verbs like *lopen* 'to walk' and *rennen* 'to run'. Subsection IIB3 will show that these verbs pattern like unaccusative verbs if they take a spatial complementive. Here we want to show, however, that they may also behave like regular intransitive verbs. The examples in (203a-c) show that the addition of a complementive requires the presence of an additional argument. Example (203c') shows that the PP can readily be replaced by a particle (provided that the object is inanimate).

- (203) a. Jan loopt zijn schoenen *(kapot).
 Jan walks his shoes broken
 b. Marie reed het kind *(dood).
 Marie drove the child dead
 c. Jan reed Marie *(naar huis).
 Jan drove Marie to home
 c'. Jan reed de auto/[?]Marie *(weg).
 Jan drove the car/Marie away

As in the case of the other intransitive verbs, the construction with a simplex reflexive can be used to amplify the activity denoted by the verb. Example (204a) is again ambiguous between a resultative and an amplifying reading, whereas (204b) is most naturally construed with an amplifying reading. For completeness' sake, (204c) provides an example of the non-resultative nominal construction of the type in (200).

- (204) a. Jan rent zich suf/te pletter. [AP/PP]
 Jan runs REFL dull/to smithereens
- b. Jan rent zich rot/uit de naad. [AP/PP]
 Jan runs REFL rotten/out of the seam
- c. Jan loopt zich een ongeluk/het apelazarus.
 Jan walks REFL an accident/the APELAZARUS
 ‘Jan walks his legs off.’

The examples in (205) are again resultative constructions in which the simplex reflexive acts as the inalienable possessor of the complement of the PP. These examples are again most naturally interpreted with an amplifying reading, but this also holds for the synonymous resultative constructions in the primed examples with a prenominal possessive pronoun.

- (205) a. Jan loopt zich de benen uit het lijf.
 Jan walks REFL the legs out.of the body
 ‘Jan is walking his legs off.’
- a'. Jan loopt de benen uit zijn lijf.
 Jan walks the legs out.of his body
- b. Jan loopt zich het vuur uit de sloffen.
 Jan walks REFL the fire out.of his mules
 ‘Jan is wearing himself out.’
- b'. Jan loopt het vuur uit zijn sloffen.
 Jan walks the fire out.of his mules

B. Impersonal (weather) verbs

Weather verbs typically occur with the non-referential subject pronoun *het* ‘it’; the primeless examples in (206) show that referential subjects like *de jongen* ‘the boy’ or *zijn vingers* ‘his fingers’ are normally excluded. The primed examples show, however, that a referential subject becomes possible if a complementive is added. The complementive can be either an adjectival or an adpositional phrase.

- (206) a. Het/*De jongen regent.
 it/the boy rains
- a'. De jongen regent nat.
 the boy rains wet
- b. Het vriest/*Zijn vingers vriezen.
 it freezes/his fingers freeze
- b'. Zijn vingers vriezen van zijn handen af.
 his fingers freeze from his hand AF

If weather verbs were regular intransitive verbs, the findings of Subsection A would lead us to expect that the logical SUBJECT of the complementive surfaces as an accusative noun phrase, as in (207). The ungrammaticality of these examples can therefore be taken as evidence in favor of the idea that the pronoun *het* is not an external argument of the weather verb but just an °expletive filling the subject position.

(210b) is unacceptable because the noun phrase *Jan* is not licensed; it neither functions as an argument of the verb nor as an argument of the complementive (which takes *zich* as its SUBJECT). And example (210b'), in which *Jan* and *zich* could in principle be licensed as SUBJECTS of, respectively, *suf* 'dull' and *nat* 'wet', is ungrammatical because a clause may contain one complementive at the most; see Section 2.2.1, sub IV.

- (210) a. *Het regent zich suf/te pletter.
 it rains REFL dull/to smithereens
 b. *Jan regent zich suf/te pletter.
 Jan rains REFL dull/to smithereens
 b'. *Jan regent zich suf nat.
 Jan rains REFL dull wet

For completeness' sake, we want to mention the resultative construction in (211a). This example is exceptional in that the verb *vriezen* 'to freeze' seems to take an external (agentive) subject; this suggestion is confirmed by the fact that passivization, as in (211b), is possible. Given that the subject pronoun *ze* 'they' in (211a) functions as an external argument, we correctly predict that this examples must contain an additional accusative argument that functions as the SUBJECT of the complementive.

- (211) a. In deze fabriek vriezen ze groente droog.
 in this factory freeze they vegetables dry
 'In this factory, they are freeze-drying vegetables.'
 b. In deze fabriek wordt groente droog gevoren.
 in this factory is vegetables dry freeze

II. Verbs with one internal argument

This subsection discusses resultative constructions with verbs that normally take an internal argument, that is, the transitive and monadic unaccusative verbs in Table 6 from Section 2.1.6. In contrast to what is the case with verbs without an internal argument, the addition of a complementive does not have the result that an additional noun phrase is added; see Levin & Rappaport Hovav (1995: Section 2.1). The SUBJECT of the complementive often corresponds to the internal argument of the transitive verb but this is not necessarily the case. The general pattern is therefore as given in (212), in which the indexes on the NPs indicate that the subject of the complementive can be either identical to the one that we find in the non-resultative construction or different.

- (212) a. transitive verbs: NP V NP_i ⇒ NP V NP_{i,j} Predicate
 b. unaccusative verbs: NP_i V ⇒ NP_{i,j} V Predicate

The fact that the noun phrase that the complementive is predicated of may but need not correspond to the internal argument of the main verb raises the question what the relation between the verb and that noun phrase is.

A. Transitive verbs

This subsection discusses resultative constructions based on transitive verbs. We will begin by showing that the verbs entering this construction cannot denote achievements. Subsections 2 to 4 will investigate the relation between the verb and the direct object in more detail and will show that despite the fact that the verb assigns accusative case to the object, the latter cannot be considered an argument of the former: the object is semantically selected by the complementive. We conclude with a discussion of resultative constructions in which the object has the form of a weak reflexive and a number of other more special cases.

1. The verb cannot be an accomplishment

Transitive verbs may enter the resultative construction if they denote an activity, as in (213), but not if they denote an accomplishment, as in (214). This contrast is due to the fact that complementives introduce a unique point of termination of the event, namely, the point at which the object reaches the state denoted by the complementive. Since activities and accomplishments differ by definition with respect to whether they inherently express such a point of termination, the contrast between (213) and (214) can be accounted for by assuming that complementives can only be added if the verb itself does not inherently express a point of termination, that is, if the verb denotes an activity.

- (213) • Activities
- a. De soldaten bombarderen de stad (plat).
the soldiers bomb the city flat
 - b. Marie sloeg de hond (dood).
Marie beat the dog dead
 - c. Jan verft zijn haar (zwart).
Jan dyes his hair black
- (214) • Accomplishments
- a. De soldaten vernietigen de stad (*plat).
the soldiers destroy the city flat
 - b. De illusionist hypnotiseert de vrijwilliger (*stil).
the magician hypnotizes the volunteer silent

The generalization that accomplishment verbs cannot occur in resultative constructions can be unified with our earlier generalization in Section 2.2.1, sub IV, that clauses cannot contain more than one complementive by adopting the following natural assumption: clauses include at most one point of termination of the event.

2. The accusative object is not an argument of the verb

This subsection argues that the accusative object of the resultative construction is not an argument of the verb, but of the complementive. That this is not at all evident will be clear from the examples in (215) and (216). The examples in (215) show that transitive verbs like *malen* ‘to grind’, *prakken* ‘to mash’ and *vegen* ‘to sweep’ select a direct object that denotes the theme of the activity; if the direct object refers

to, e.g., an instrument that is used in performing the activity, the examples become unacceptable.

- (215) a. Jan maalt het meel_{Theme}/*de molensteen_{Instrument}.
 Jan grinds the flour/the millstone
 b. Jan prakt zijn aardappels_{Theme}/*zijn vork_{Instrument}.
 Jan mashes his potatoes/his fork
 c. Jan veegt de vloer_{Theme}/*de bezem_{Instrument}.
 Jan sweeps the floor/the broom

The same restriction holds for the resultative constructions in (216). Note that the judgments only hold for the interpretations indicated by the subscripts; each of the noun phrases marked by an asterisk can also be interpreted as a theme, which gives rise to a marked result in (215a&b) for reasons related to our knowledge of the world but which is easily possible in (215c).

- (216) a. Jan maalt het meel_{Theme}/*de molensteen_{Instrument} fijn.
 Jan grinds the flour/the millstone fine
 b. Jan prakt zijn aardappels_{Theme}/*zijn vork_{Instrument} door de groente.
 Jan mashes his potatoes/his fork through the vegetables
 c. Jan veegt de vloer_{Theme}/*de bezem_{Instrument} schoon.
 Jan sweeps the floor/the broom clean

The correspondence between the examples in (215) and (216) thus seems to suggest that the verb also imposes semantic selection restrictions on the accusative noun phrase that functions as the SUBJECT of the complementive. This hypothesis is refuted, however, by the examples in (217), in which the accusative object corresponds to the instrument rather than the theme of the verb; this will be clear from the fact that the acceptability judgments on these examples are reversed if the complementive is omitted; cf. (215).

- (217) a. Jan maalt de molensteen/*het meel kapot.
 Jan grinds the millstone/the flour broken
 b. Jan prakt zijn vork/*zijn aardappels krom.
 Jan mashes his fork/his potatoes crooked
 c. Jan veegt de bezem/*de vloer aan flarden.
 Jan sweeps the broom/the floor in rags

The data in (217) strongly suggest that it is just the complementive that imposes selection restrictions on the accusative object. Note that as a result it is sometimes not easy to determine whether the resultative construction is based on a transitive verb. This holds especially if the transitive verb can be used as a pseudo-intransitive verb like *eten* 'to eat' or *roken* 'to smoke'. The primeless examples in (218) are acceptable both with and without the direct object, and as a result we may claim either that the accusative noun phrase replaces the internal argument of the transitive verb or is added to the pseudo-intransitive verb.

- (218) a. Jan eet (brood).
 Jan eats bread
 a'. Jan eet zijn ouders arm.
 Jan eats his parents poor
 b. Jan rookt (sigaretten).
 Jan smokes cigarettes
 b'. Jan rookt zijn longen zwart.
 Jan smokes his lungs black

3. *The role of our knowledge of the world*

Since the referents of the instruments in (216) cannot normally be assigned the properties denoted by the complementives as a result of the activity denoted by the verb, these examples are semantically deviant. Since the properties denoted by the complementives in (217) are not applicable to the referents of the theme arguments, the latter cannot be used for the same reason. But since the instruments can have these properties, and since it is plausible that they get these properties by being used as an instrument for the activity denoted by the verb, they give rise to a fully acceptable result. This shows that our acceptability judgments on the examples in (216) and (217) depend not only on argument selection but also on our knowledge of the world; see Subsection IA, where we reached the same conclusion on the basis of the examples in (219), which likewise show that the activity denoted by the verb must be able to affect the object such that it will get the property denoted by the adjective.

- (219) a. ^sJan huilde Marie helemaal rood.
 Jan cried Marie completely red
 b. Jan huilde Marie helemaal nat.
 Jan cried Marie completely wet

That knowledge of the world may be involved is also clear from the fact that the SUBJECT of the complementive may have other semantic functions than theme or instrument. We illustrate this by means of the examples in (220) and (221). The examples in (220) provide cases in which the SUBJECTS of the complementives correspond to the theme of the verb (the thing being cleaned).

- (220) a. Peter wast zijn handen schoon.
 Peter washes his hands clean
 'Peter washes his hands clean.'
 b. Peter veegt de vloer schoon.
 Peter sweeps the floor clean

The examples in (221), however, are cases in which the noun phrase corresponding to the theme of the verb appears as part of a prepositional complementive and the SUBJECT of that complementive corresponds to something that is located on the object that is being cleaned. Since the relation between the direct object and the verb is indirect, defined in terms of the noun phrase that corresponds to the internal argument of the verb, it seems implausible that this relation can be defined in terms of selection restrictions directly imposed by the verb.

- (221) a. Peter wast de verf van zijn handen.
 Peter washes the paint from his hands
 b. Peter veegt het stof van de vloer.
 Peter wipes the dust from the floor

Example (222) provides another case that shows that knowledge of the world may be involved in our acceptability judgments. Example (222a) shows that the verb *slaan* ‘to beat’ may take an animate noun phrase like *Jan* as its direct object, whereas an inanimate noun phrase like *de tanden* gives rise to a pragmatically odd result. In the resultative construction in (222b), however, the noun phrase *de tanden* gives rise to a fully grammatical result, whereas the noun phrase *Jan* cannot be used since this would again give rise to an implausible interpretation.

- (222) a. Peter sloeg Jan/*de tanden.
 Peter beat Jan/the teeth
 b. Peter sloeg de tanden/*Jan uit zijn mond.
 Peter beat the teeth/Jan out.of his mouth

For completeness’ sake, note that it is possible to say *Peter sloeg Jan de tanden uit de mond*, but in this example *Jan* does not function as the SUBJECT of the predicatively used PP, but as the °dative possessor of the nominal complement of this PP: “Peter hit the teeth out of Jan’s mouth”.

4. Case assignment

Although Subsection 2 has shown that accusative objects of resultative constructions do not function as internal arguments of the transitive verbs heading these constructions, but as SUBJECTS of the complementives, they are assigned accusative case by the verbs. This is clear from the fact that they become the subjects of the clause if the verbs are passivized.

- (223) a. De stad wordt (door de soldaten) plat gebombardeerd.
 the city is by the soldiers flat bombed
 b. De hond wordt (door Marie) dood geslagen.
 the dog is by Marie dead beaten
 c. Zijn haar wordt (door Jan) zwart geverfd.
 his hair is by Jan black dyed

5. Resultative constructions with the weak reflexive *zich*

As in the case of intransitive verbs, the simplex reflexive *zich* may occur as the SUBJECT of the complementive, and again the resulting construction can often be interpreted in such a way that the resultative has an amplifying effect. First consider the examples in (224), which are most naturally understood in a literal way; the referent of the reflexive (and hence of the subject of the clause) is understood as becoming part of the set denoted by the complementive as a result of the activity denoted by the verb. Interestingly, the theme argument of the transitive verb can often be optionally expressed by means of an additional PP, provided that the simplex reflexive is not construed as the theme itself. In (224a), the reflexive is not only the SUBJECT of the complementive, but is also understood as the theme of the

activity, and hence the addition of the theme-PP gives rise to an unacceptable result; the number sign indicates that the PP can only be used as an adverbial phrase of place. In (224b), on the other hand, the simplex reflexive is not understood as the theme of the event and the addition of the PP *aan die taartjes* ‘on those cakes’ is fully acceptable.

- (224) a. Peter veegt zich schoon ([#]op die vloer_{Theme}).
 Peter wipes REFL clean on that floor
 b. Jan eet zich vol (aan die taartjes_{Theme}).
 Jan eats REFL full on those cakes

The examples in (225) are most naturally interpreted as involving amplification, and it is interesting to note that in such examples the theme argument can always be expressed by means of an additional PP.

- (225) a. Peter veegt zich suf/te pletter (op die vloer_{Theme}).
 Peter sweeps REFL dull/to smithereens on that floor
 b. Jan eet zich suf/te pletter (aan die taartjes_{Theme}).
 Jan eats REFL dull/to smithereens on those cakes

For completeness’ sake, we also give examples of the non-resultative reflexive nominal construction in (226); in cases like these the theme argument of the verb can also be expressed by means of a PP.

- (226) a. Peter veegt zich het apelazarus (op die vloer_{Theme}).
 Peter sweeps REFL the APELAZARUS on that floor
 ‘Peter rinses/wipes himself to blazes.’
 b. Jan eet zich een ongeluk (aan die taartjes_{Theme}).
 Jan eats REFL an accident on these cakes

6. Three special cases

We conclude this subsection by discussing three special cases of the resultative construction. First consider the examples in (227), which show that the accusative object is obligatory; omission of the objects from examples such as (213) normally leads to ungrammaticality. This is, of course, to be expected given that the complementive must be predicated of some noun phrase and the external argument of the verb is not a suitable candidate for that.

- (227) a. De soldaten bombarderen *(de stad) plat.
 the soldiers bomb the city flat
 b. Marie sloeg *(de hond) dood.
 Marie beat the dog dead
 c. Jan verft *(zijn haar) zwart.
 Jan dyes his hair black

There are, however, some exceptional constructions in which the accusative object can be dropped: example (228a) is a fixed expression, in which the implied object is interpreted generically, and example (228b) is an advertisement slogan for a washing powder, in which the implied object is contextually determined and refers

to the laundry. The fact that the object is semantically implied is apparently sufficient to license the presence of the complementive in these cases.

- (228) a. Geld maakt niet gelukkig.
 money makes not happy
 'Money doesn't make one happy.'
- b. Omo wast door en door schoon.
 Omo washes through and through clean
 'Omo washes your laundry thoroughly clean.'

The second special case involves verbs that seem to shift their meaning in the resultative construction. A typical example is the verb *maken* 'to make' in (229). In the transitive construction in (229a) it means "to repair", or is interpreted as a verb of creation meaning "to make". In the resultative construction in (229b), on the other hand, this meaning has bleached and what remains is just a causative interpretation; the example expresses that Jan is performing some unspecified activity that causes the chair to break.

- (229) a. Jan maakt de stoel.
 Jan makes/repairs the chair
 'Jan is making/repairing the chair.'
- b. Jan maakt de stoel kapot.
 Jan makes the chair broken
 'Jan is destroying the chair.'

An alternative for assuming a meaning shift would be to claim that the repair reading in (229a) arises as the result of a phonetically empty resultative comparable to *heel* 'unbroken' in (230a). Such a proposal would imply that *maken* is a "light" verb in the sense that it has little or no meaning; perhaps this could be supported by the fact illustrated in (230b) that the emphatic construction involving the simplex reflexive *zich* does not give rise to an acceptable result with this verb.

- (230) a. Jan maakt de stoel heel.
 Jan makes the chair whole
 'Jan is repairing the chair.'
- b. *Hij maakt zich suf/te pletter.
 he makes REFL dull/to smithereens

The same thing is suggested by examples such as (231), in which the meaning contribution of *maken* seems to be restricted to simple causation: the actual action that has the indicated result must be expressed by other syntactic means, like the use of the instrumental PP in (231a), or is left implicit, as in (231b).

- (231) a. Jan maakt Peter met die opmerking belachelijk.
 Jan makes Peter with that remark ridiculous
 'Jan is making Peter ridiculous with that remark.'
- b. Jan maakt het uit met Marie.
 Jan makes it off with Marie
 'Jan is breaking off his engagement with Marie.'

The third special case involves verbs that may take a non-factive propositional clause as their complement, such as *wensen* ‘to wish’ and *verklaren* ‘to declare’ in (232). As is shown in (233), the same verbs can also be used with a complementive.

- (232) a. Jan wenste dat zijn baas dood was.
 Jan wished that his boss dead was
 ‘Jan wished that his boss would be dead.’
 a’. Jan wenste dat hij in het graf lag.
 Jan wished that he in the grave lay
 ‘Jan wished that he would be in the grave.’
 b. De arts verklaarde dat de patiënt dood was.
 the doctor declared that the patient dead was
- (233) a. Jan wenste zijn baas dood.
 Jan wished his boss dead
 a’. Jan wenste hem in het graf.
 Jan wished him in the grave
 b. De dokter verklaarde de patiënt dood.
 the doctor declared the patient dead

Semantically, the (a)-examples in (232) seem more or less equivalent to the corresponding example in (233) as they both express unrealized wishes. The (b)-examples, on the other hand, differ slightly: in (232) the doctor declares that (to the best of his knowledge) the patient was dead, whereas in (233b) the doctor performs an act as the result of which the patient will be considered dead for legal purposes.

B. Unaccusative verbs

This subsection addresses resultative constructions with unaccusative verbs. Subsection 1 starts by discussing unaccusative verbs taking the perfect auxiliary *zijn*, and establishes a number of basic properties of the resultative construction headed by unaccusative verbs. Subsection 2 continues with a discussion of unaccusative verbs taking the auxiliary *hebben*. Subsection 3 concludes with a discussion of the unaccusative use of motion verbs like *wandelen* ‘to walk’.

1. Unaccusative verbs selecting *zijn*

Subsection II has shown that transitive verbs denoting an activity may enter the resultative construction, but that this is not possible for transitive verbs denoting an accomplishment. We repeat two examples illustrating this in (234).

- (234) a. De soldaten bombarderen de stad (plat). [activity]
 the soldiers bomb the city flat
 b. De soldaten vernietigen de stad (*plat). [accomplishment]
 the soldiers destroy the city flat

We claimed earlier that this is due to the fact that the addition of a complementive in effect changes an activity into an accomplishment by adding a unique point of termination of the event. We will show below that something similar holds for unaccusative verbs: the addition of a resultative is excluded if the verb is °telic, that

is, if it has some inherent point of termination. The examples in (235) show that if an unaccusative verb is non-telic, that is, denotes a process without an inherent point of termination, the addition of a resultative is easily possible: (235a) expresses that the vase broke as a result of its fall; (235b) expresses that the tree has crossed the fence as the result of the process of growing; (235c), finally, expresses that the vase came into pieces as the result of the process of cracking.

- (235) • Unaccusative verbs denoting an unbounded process
- a. De vaas viel (kapot).
the vase fell broken
 - b. De boom groeide (over de schutting heen).
the tree grew over the fence
 - c. De vaas barstte (in stukken).
the vase cracked into pieces

The examples in (236), on the other hand, show that if an unaccusative verb is telic, that is, denotes a process with an inherent point of termination, the addition of a complementive is impossible. Example (236a), for instance, does not express that the vase became broken as the result of arriving; the adjective instead acts as a °supplementive expressing that the vase was broken on its arrival. Similarly, (236b) does not express that the state of being in his bed is the result of the old man's dying, but that the bed is simply the place where the process of dying took place. Example (236c), finally, shows that a process that takes place momentarily cannot readily be combined with a resultative either.

- (236) • Unaccusative verbs denoting a bounded process
- a. De vaas arriveerde ([#]kapot).
the vase arrived broken
 - b. De oude man stierf ([#]in zijn bed).
the old man died in his bed
 - c. De bom explodeerde (^{*?}in stukken).
the bomb exploded in pieces

Although the subject of the resultative construction is semantically licensed as the logical SUBJECT of the complementive, it often corresponds to the internal argument of the unaccusative verb, which is clear from the fact that the complementive is optional in (235); in *De vaas viel* 'The vase fell' the subject of the clause can only be semantically licensed by the verb *vallen* 'to fall'. However, there are also examples in which there is no semantic relation between the unaccusative verb and the subject of the clause. Some examples are given in (237). Example (237a) does not express that the path is growing, which is also clear from the fact that the resultative cannot be left out, but that the plants at the border are growing over the path, so that it is no longer accessible. Similarly, example (237b) does not imply that the ditch is undergoing some process that could be denoted by *slibben* as this verb does not occur without a complementive.

- (237) a. Het paadje groeit *(dicht).
 the path grows shut
 b. De sloot slibt *(dicht).
 the ditch silts shut
 ‘The ditch silts up.’

Because the noun phrases in (235) are semantically compatible with both the verbs and the complementives, whereas in (237) they are compatible with the complementives only, we may conclude that the relation between the noun phrases and the complementives is more important than the relation between the noun phrases and the verbs. The simplest conclusion we can draw from this is that the noun phrase is selected by (is an argument of) the complementive only; the semantic restrictions seemingly imposed by the verbs on the nominal arguments in (235) are secondary in nature and based on our knowledge of the world.

The examples in (238) show that the emphatic resultative construction with *zich* is excluded with unaccusative verbs. The ungrammaticality of these examples is surprising from a semantic point of view, since in principle both arguments could be semantically licensed: the simplex reflexive *zich* could be semantically licensed as the SUBJECT of the complementive, and the subject of the clause as the internal argument of the unaccusative verb. It therefore seems that the ungrammaticality of these examples is due to the fact that the verb, being unaccusative, cannot assign accusative case to the simplex reflexive.

- (238) a. *De oude man sterft zich suf/te pletter.
 the old man dies REFL dull/to pieces
 b. *De gasten arriveren zich suf/te pletter.
 the guests arrive REFL dull/to pieces

This account of the examples in (238) also predicts the ungrammaticality of the examples in (239). The addition of a complementive is not sufficient to license an additional argument given that this argument cannot be case-marked. The difference between unaccusative and intransitive verbs, which do license an additional argument in the resultative construction (cf. the examples in (193), (198) and (199)) is thus reduced to the independently motivated difference in case assignment properties of these verbs: intransitive verbs are able to assign accusative case and can thus case-license an additional argument, but unaccusative verbs are not.

- (239) a. *Jan valt zich/zichzelf/zijn vriend/hem dood.
 Jan falls REFL/himself/his friend/him dead
 b. *De struiken groeien het paadje dicht.
 the bushes grow the path shut

For completeness' sake, note that the examples in (240) are not problematic for this analysis as the object is not an accusative object that functions as the SUBJECT

of the complementive (the subject of the clause performs this function), but a *dative* object that acts as the inalienable possessor of the nominal complement of the preposition *boven*.

- (240) a. Peter groeit zijn moeder boven het hoofd.
Peter grows his mother over the head
'Peter outgrows his mother.'
- b. Het werk groeit hem boven het hoofd.
the work grows him over the head
'He can't cope with his work.'

A more serious problem for assuming a general ban on unaccusatives in resultative constructions is the unaccusative verb *schrikken* in the (a)-examples of (241), in which the subject of the clause seems to function not as a theme but as an experiencer. Perhaps this emphatic construction is interpreted in analogy with the inherently reflexive psych-verb *zich ergeren* 'to be annoyed' in the (b)-examples, which is more extensively discussed in Section 2.5.1.3, sub IV. We leave this as a topic for future research.

- (241) a. Hij schrok (*zich).
he was.frightened REFL
- a'. Hij schrok zich lam/te pletter.
he was.frightened REFL paralyzed/in pieces
'He was frightened to death.'
- b. Hij ergert *(zich).
he is.annoyed REFL
- b'. Hij ergert zich dood/te pletter.
he is.annoyed REFL dead/to pieces
'He was extremely annoyed.'

2. *Unaccusative verbs selecting hebben*

Subsection 1 has discussed unaccusative verbs taking the auxiliary *zijn* in the perfect tense. This subsection discusses unaccusative verbs that normally take the auxiliary *hebben*. Example (242) shows that these verbs may enter the resultative construction, and then take the auxiliary *zijn*, which is due to the fact that the resultative adds a point of termination to these otherwise atelic, hence durative verbs; see the discussion in Section 2.1.2, sub III.

- (242) a. De band heeft/*is gedreven.
the tire has/is floated
- a'. De band is/*heeft naar de overkant gedreven.
the tire is/has to the opposite side floated
- b. Jan heeft/*is gebloed.
Jan has/is bled
- b'. Jan is/*heeft dood gebloed.
Jan is/has dead bled

The subject of the clause need not necessarily satisfy the selection restrictions of the unaccusative verb. This is illustrated in (243): whereas (243a) with the noun phrase *de pan* is normally unacceptable (unless a *toto pro pars* reading is intended, that is, unless *de pan* refers to the *content* of the pan), example (243b) is perfect with this noun phrase.

- (243) a. Het water/^{??}de pan kookt.
 the water/the pan boils
 b. De pan/*het water kookt droog.
 the pan/the water boils dry

The examples in (244) show that, as in the case of the unaccusative verbs with *zijn*, but unlike in the case of the intransitive verbs, the addition of a complementive does not license the addition of a second argument. This is a strong argument in favor of assuming unaccusative status for these verbs: if *drijven* and *bloeden* were intransitive, they should be able to assign accusative case to the SUBJECT of the complementive in (244), which wrongly predicts the examples in (244) to be grammatical; see the discussion in Subsection IA.

- (244) • Unaccusative verbs
 a. *De band dreef het kind naar de overkant.
 the tire floated the child to the opposite side
 b. *De patiënt bloedt de wond schoon.
 the patient bleeds the wound clean

Example (245) in fact shows that intransitive verbs like *lachen* ‘to laugh’ display the opposite behavior: if a complementive is added a second argument is also obligatorily added.

- (245) • Intransitive verbs
 a. Jan lachte *(Peter) de kamer uit.
 Jan laughed Peter the room out.of
 b. *Jan hilde *(Maries schouder) nat.
 Jan laughs Marie’s shoulder wet

The lack of unaccusative case also accounts for the impossibility of emphatic resultative constructions with *zich* in (246). We give examples with [+ANIMATE] arguments in case some kind of animacy restriction is involved; compare the contrast between *Jan beweegt (zich)* ‘Jan moves’ and *het gordijn beweegt (*zich)* ‘the curtain moves’.

- (246) a. *Jan drijft zich suf/te pletter.
 Jan floats REFL dull/to pieces
 b. *De patiënt bloedt zich suf/te pletter.
 the patient bleeds REFL dull/to pieces

A very large class of verbs that probably belong to the unaccusative type under discussion is constituted by the non-agentive verbs of sound emission; examples are *zoemen* ‘to buzz’ and *ruizen* ‘to rustle’ in (247), which typically take an inanimate argument.

- (247) a. De lift heeft/*is gezoemd (bij het opstijgen).
 the elevator has/is buzzed during the ascension
 ‘When the elevator went up, it buzzed.’
 b. De jurk heeft/*is voortdurend geruist (bij het lopen).
 the dress has/is continuously rustled with the walking
 ‘When you walk, the dress rustles.’

The addition of a complementive is possible, but this often has the side effect that the verb is no longer solely interpreted as a verb of sound emission, but also as a verb of motion. The state denoted by the complementive is not the result of the emission of the sound but of the movement that causes the sound. Observe that the subjects in the primed examples are not the entities that are making the sounds, so we again have evidence that it is the complementive and not the verb that semantically licenses the subject. Note that the auxiliary is *zijn* in these examples.

- (248) a. De lift is/*heeft naar de dertigste verdieping gezoemd.
 the elevator is/has to the thirtieth floor buzzed
 a'. Jan is/*heeft naar de dertigste verdieping gezoemd. [cf. ??*Jan zoemt*]
 Jan is/has to the thirtieth floor buzzed
 b. De jurk is/*heeft open geruist.
 the dress is/has open rustled
 b'. Marie ruiste van de trap af. [cf. ??*Marie ruist*]
 Marie rustled from the chairs

If verbs of sound emission are indeed unaccusative, we correctly predict that the addition of a complementive cannot license the additional argument in (249).

- (249) a. *De lift zoemt Jan naar de dertigste verdieping.
 the elevator buzzes Jan to the thirtieth floor
 b. *De jurk ruiste Marie van de trap af.
 the dress rustled Marie from the stairs

The emphatic resultative construction with *zich* in (250) is also excluded, but this may be accidental given that the subject of the clause is [-ANIMATE]; see the discussion above (246).

- (250) a. *De lift zoemt zich suf/te pletter.
 the elevator buzzes REFL dull/to smithereens
 b. *De jurk ruist zich suf/te pletter.
 the dress rustles REFL dull/to smithereens

3. *Motion verbs*

This subsection discusses motion verbs. This is perhaps surprising given that the unaccusativity tests discussed in Section 2.1.2 show that these verbs normally act as intransitive verbs, which is shown in (251) for the verb *wandelen* ‘to walk’. The fact that *wandelen* takes the auxiliary *hebben* ‘to have’ in the perfect-tense example in (251b) is of course not sufficient for assuming that it is intransitive, and the same thing holds for the fact illustrated in (251d) that the past/passive participle cannot be used attributively. However, the fact that the verb is used as the input for an

agentive ER-noun in (251c) and allows the impersonal passivization in (251e) unambiguously shows that we are dealing with an intransitive verb.

- (251) a. De jongen wandelt.
the boy walks
b. De jongen heeft/*is gewandeld.
the boy has/is walked
c. een wandelaar
a walker
d. *de gewandelde jongen
the walked boy
e. Er wordt gewandeld.
there is walked

The behavior of *wandelen* changes drastically, however, if a predicatively used directional PP is added, as in (252). As a result of the addition of the complementive, the verb selects the auxiliary *zijn* and the past participle can be used attributively (provided that the adpositional phrase is expressed as well), which are both sufficient for concluding that we are dealing with an unaccusative verb. Further, the agentive ER-noun cannot readily be combined with the adpositional phrase; the percentage sign indicates that speakers' judgments vary from marginally acceptable to entirely excluded. Passivization, finally, also gives rise to a degraded result if the adpositional phrase is present. From this we may conclude that the addition of a complementive changes the status of the verb: without it, the verb behaves as an intransitive verb, but with it, it has the characteristics of an unaccusative verb.

- (252) a. De jongen wandelt naar Groningen.
the boy walks to Groningen
b. De jongen is/*heeft naar Groningen gewandeld.
the boy is/has to Groningen walked
c. %een wandelaar naar Groningen
a walker to Groningen
d. de naar Groningen gewandelde jongen
the to Groningen walked boy
e. ?Er wordt naar Groningen gewandeld.
there is to Groningen walked

Note that this change is not just due to the mere addition of an adpositional phrase, but crucially involves its syntactic function. If the adpositional phrase functions as a locational *adverbial* phrase, as in (253), the motion verb continues to act as a well-behaved intransitive verb.

- (253) a. De jongen wandelt op de hei.
the boy walks on the moor
b. De jongen heeft/*is op de hei gewandeld.
the boy has/is on the moor walked
c. een wandelaar op de hei
walker on the moor
d. *de op de hei gewandelde jongen
the on the moor walked boy
e. Er wordt op de hei gewandeld.
there is on the moor walked

The examples in (254) are of a somewhat special nature. Example (254a) shows that the subject of the clause need not satisfy the selection restrictions of the verb if a complementive is present. This is, of course, expected given that the examples in (254b&c) unambiguously show that *vliegen* functions as an unaccusative verb. The examples in (254) are, however, not resultative in the sense that the state expressed by the complementive is the result of the process denoted by the verb; the verb is semantically bleached and the construction as a whole is aspectual in nature in that it simply expresses that the change of state takes place quickly (perhaps even instantaneously).

- (254) a. Het huis vliegt *(in brand).
 the house flies into fire
 'The house burst into flames.'
- b. Het huis is in brand gevlogen.
 the house has into fire flown
- c. het in brand gevlogen huis
 the into fire flown house

Semantic bleaching is more common in examples of this type. The examples in (255) and (256) show again that the subject of the clause need not satisfy the selection restrictions of the verb if a complementive is present. The verbs in these constructions, which are again not resultative in nature, have radically changed their meaning; *ten einde lopen* in (255a) is an aspectual verb with a meaning comparable to English intransitive *to terminate*, and *lopen* in (256a) means something like English intransitive *to extend*. We added the (b)- and (c)-examples in order to show that *lopen* in (255) satisfies the sufficient conditions for assuming unaccusative status; *lopen* in (256) does not, but this is, of course, not surprising given that this construction is stative, hence atelic, in nature.

- (255) a. De vergadering loopt *(ten einde).
 the meeting walks to an.end
 'The meeting draws to an end.'
- b. De vergadering is/*heeft ten einde gelopen.
 the meeting is/has to to an.end walked
- c. De ten einde gelopen vergadering.
 the to an.end walked meeting
- (256) a. Het pad loopt *(dood/naar de vijver).
 the path walks dead/to the pond
 'The path has a dead end/goes to the pond.'
- b. Het pad heeft/*is altijd al dood/naar de vijver gelopen.
 the path has/is always already dead/to the pond walked
- c. *de dood/naar de pond gelopen weg
 the dead/to the pond walked path

Since motion verbs can be used both intransitively and unaccusatively, it is not easy to determine whether the emphatic resultative construction with *zich* is possible in the unaccusative construction. Example (257a) is acceptable but this is probably due to the fact that the verb is intransitive. Example (257b) is

unacceptable but this need not be due to the unaccusative status of the verb; the example is also excluded because the clause contains two complementives.

- (257) a. Jan loopt zich suf/te pletter.
 Jan walks REFL dull/to pieces
 b. *Jan loopt zich suf/te pletter naar Groningen.
 Jan walks REFL dull/to pieces to Groningen

To conclude this subsection, observe that the two literal (non-emphatic) reflexive resultative constructions in (258a) and (258b) are both acceptable with a [+HUMAN] subject. In the first case we are dealing with the intransitive verb *vliegen*, and, consequently, the subject of the clause is also interpreted as the agent of the activity denoted by the verb; Jan is navigating a crashing plane. In the latter case we are dealing with an unaccusative verb, which means that we are dealing with a process and that the subject of the clause is not (necessarily) interpreted as the agent of the clause; Jan may just be a passenger in a crashing plane. More can be said about the unaccusatively used motion verbs, but for this we refer the reader to Section P1.1.3.2.

- (258) a. Jan vliegt zich te pletter.
 Jan flies REFL to pieces
 b. Jan vliegt te pletter.
 Jan flies to pieces

C. Unclear cases: verbs with an obligatory complementive

This subsection discusses verbs that are obligatorily accompanied by a complementive. In these cases, the status of the verb in isolation (transitive, intransitive or unaccusative) often cannot be immediately established.

1. Verbs of (change of) location

It is sometimes not clear what the basic type of a verb occurring in a resultative construction is. This holds especially if the complementive is obligatory, as in resultative constructions with the change of location verbs *leggen* ‘to put’, *zetten* ‘to put’, and *hangen* ‘to hang’ in (259). The primed examples illustrate the obligatoriness of the complementive, which has the form of a locational PP here, and thus show that we cannot decide whether we are dealing with a transitive or an intransitive verb.

- (259) a. Marie zet het kind in de stoel.
 Marie puts the child into the chair
 a'. *Marie zet (het kind)
 b. Marie legt het kleed op de tafel.
 Marie puts the cloth onto the table
 b'. *Marie legt (het kleed).
 c. Jan hangt zijn jas in de kast.
 Jan hangs his coat into the wardrobe
 c'. *Jan hangt (zijn jas).

To a lesser degree, the same thing holds for the (stative) verbs of location *zitten* 'to sit', *liggen* 'to lie', *staan* 'to stand', and *hangen* 'to hang'. If the subject of the clause is inanimate, as in (260), the locational PP is normally obligatory (unless the verb is given emphatic accent).

- (260) a. De bal zit/ligt eindelijk *(in de kist).
 the ball sits/lies finally in the box
 b. De lamp staat eindelijk ??(in de hoek).
 the lamp stands finally in the corner
 c. Zijn jas hangt eindelijk ??(in de kast).
 his coat hangs finally in the wardrobe

The examples in (261) show that the locational PP normally need not be expressed if the subject of the clause is animate, but the examples with and without the locational phrase differ in meaning: if the locational phrase is present the verb denotes the state of being in a specific location, whereas if the PP is absent the verb instead denotes the state of being in a specific posture.

- (261) a. Jan zit/ligt eindelijk (op/in bed).
 Jan sits/lies finally on/in bed
 b. Jan staat eindelijk (op zijn plaats).
 Jan stands finally at his place
 c. Jan hangt rustig ??(uit het raam).
 Jan hangs quietly out of the window

By distinguishing the locational and the posture reading, we do not want to imply that the posture reading is completely absent if the PP is present. It has in fact been shown that this reading is even available in cases with inanimate subjects. This will become clear by considering the two examples in (262), which refer to different situations; example (262a) with *liggen* 'to lie' expresses that the book is lying flat on the table, whereas (262b) expresses that the book is standing upright; cf. Van den Toorn (1975). The only thing we are claiming here is that the locational reading is the more salient one when the complementive PP is present.

- (262) a. Het boek ligt op tafel.
 the book lies on the table
 b. Het boek staat op tafel.
 the book stands on the table

Given that a (change of) location verb does not occur without a locational PP, we cannot immediately decide what the status of the verb is. It should be noted, however, that the change of location verbs in the primeless examples in (263) seem to act like causative alternants of the verbs of location in the primed examples.

- (263) a. Jan legt het boek in de kast. a'. Het boek ligt in de kast.
 Jan puts the book in the bookcase the book lies in the bookcase
 b. Jan zet het boek in de kast. b'. Het boek staat in de kast.
 Jan puts the book in the bookcase the book stands in the bookcase
 c. Jan hangt zijn jas in de kast. c'. Zijn jas hangt in de kast.
 Jan hangs his coat in the wardrobe his coat hangs in the wardrobe

This suggests that verbs of location are unaccusatives, since, as will be shown in Section 3.2.3, this causative alternation is typical for unaccusative verbs like *breken* ‘to break’, which can be used both unaccusatively (*de vaas is gebroken* ‘the vase has broken’) and transitively (*Jan heeft de vaas gebroken* ‘Jan has broken the vase’). This is interesting since this implies that we are dealing with yet another class of unaccusative verbs that does not take *zijn* in the perfect tense, and that does not allow attributive use of the past participle.

- (264) a. Het boek heeft/*is al die tijd in de kast gelegen.
 the book has/is all that time in the bookcase lain
 b. *het in de kast gelegen boek
 the in the bookcase lain book

Additional evidence for the claim that the verbs of location are unaccusatives comes from two kinds of data. First, the fact that the locational PP cannot be in extraposed position confirms the implicit assumption above that it acts like a complementive and not like an adverbial clause; cf. Section 2.2.1, sub III. Since complementives introduce a logical SUBJECT into the clause, the subject of the clause cannot be an argument of the verb itself, but must be a °DO-subject, which implies that the verb is unaccusative.

- (265) a. dat het boek in de kast ligt.
 that the book in the bookcase lies
 b. *dat het boek ligt in de kast.

Second, possessive datives may arise if a predicatively used locational PP is present, as in (266a). The fact illustrated in (266b) that the subject of a clause with a locational verb may follow the dative possessor again provides strong evidence in favor of the claim that we are dealing with a DO-subject; cf. Section 2.1.3, sub F.

- (266) a. dat Jan de jongen/hem de/een pet op het hoofd zet.
 that Jan the boy/him_{dat} the/a cap on the head puts
 ‘that Jan puts the/a cap on the boy’s/his head.’
 b. dat de jongen/hem de/een pet op het hoofd staat.
 that the boy/him_{dat} the/a cap on the head stands
 ‘that the/a cap is on the boy’s/his head.’

The complementive in the change of location construction need not be a locational PP, but can also be a particle, like *neer* ‘down’ in (267a). Although a PP may be present in this particle construction, it is clear that it does not act as a complementive: if the PP functions as a complementive, as in (267b), it should be left-adjacent to the verb, but if the particle *neer* is present, as in (267c), the PP behaves like an adverbial phrase in that it could either precede or follow the verb. Data like these are extensively discussed in Sections 2.2.1, sub IV, and P4.2.1.1.

- (267) a. dat Marie het kleed neer legt.
 that Marie the cloth down puts
 'that Marie puts the cloth down onto the table.'
- b. dat Marie het kleed <op de tafel> legt <*op de tafel>.
 that Marie the cloth on the table puts
 'that Marie puts the cloth down on the table.'
- c. dat Marie het kleed <op de tafel> neer legt <op de tafel>.
 that Marie the cloth on the table down puts
 'that Marie puts the cloth down on the table.'

The complementive can also be an adjective; the locational meaning of the verb is retained in cases like (268a&b), but in other cases it seems to have disappeared completely.

- (268) a. Marie zette het bier koud.
 Marie put the beer cold
 'Marie puts the beer in a cold place/the fridge.'
- b. Jan zette de plant wat zonniger.
 Jan put the plant somewhat sunnier
 'Jan put the plant in a sunnier spot.'
- c. Marie zette de pan klaar.
 Marie put the pan ready
 'Marie prepared the pan.'
- d. Jan legde het kleed recht.
 Jan put the cloth straight
 'Jan straightened out the cloth.'

As expected on the basis of the examples in (263), the causative verbs of change of location in (268) alternate with the non-causative verbs of location in (269).

- (269) a. Het bier staat koud.
 the beer stands cold
 'The beer is in a cold place/the fridge.'
- b. De plant staat nu wat zonniger.
 the plant stands now somewhat sunnier
 'The plant is standing in a somewhat sunnier spot.'
- c. De pan staat klaar.
 the pan stands ready
- d. Het kleed ligt recht.
 the cloth lies straight

Finally, it can be noted that a verb of location cannot be combined with a particle like *neer*: *Het kleed ligt op de tafel (*neer)* 'The cloth is lying (*down) on the table'. This is probably due to the fact that such particles have an inherent directional meaning, which is of course not compatible with the stative locational meaning expressed by verbs of location.

2. Other cases

The examples in (270) show that the change of state verb *stellen* ‘to put’ can also enter into the resultative construction. The difference between the primeless and primed (a)-example is that the former just contains an accusative object, while the latter may also have an additional dative object. The complementive can be an AP, as in the (a)-examples, a locational PP, as in (270b), or the element *teleur* in (270c), which forms a fixed collocation with *stellen*. The examples in (270d&e) show that the complementive cannot be a particle or a past/present participle.

- (270) a. Zijn antwoord stelt mij tevreden.
 his answer puts me content
 ‘His answer satisfies me.’
- a'. De winkeliers stellen (ons) de prijzen beschikbaar.
 the shopkeepers put (us) the prizes available
 ‘The shopkeepers put the prizes at our disposal.’
- b. De agenten stellen de arrestant in verzekerde bewaring.
 the policemen put the arrested person in custody
- c. Zijn antwoord stelt mij teleur.
 his answer puts me TELEUR
 ‘His answer disappoints me.’
- d. *De agenten stellen de arrestant weg.
 the policemen put the arrested person prt.
- e. *De agenten stellen de arrestant getroffen/woedend.
 the policemen put the arrested.person hit/furious

The examples in (271) show that the verb *stellen* can occur with the verbal particles *op* ‘up’ and *af* ‘off’. However, these particles do not predicate over the accusative objects *een brief* ‘a letter’ and *een tijdbom* ‘a time bomb’, respectively, but are more like aspectual markers; for further discussion see Section P1.3.1.5.2.

- (271) a. Peter stelt een brief op. b. Peter stelt een tijdbom af.
 Peter puts a letter prt. Peter puts a time bomb prt.
 ‘Peter is writing a letter.’ ‘Peter is setting a time bomb.’

The change of location verb *brenge*n ‘to bring’ can appear in the resultative construction with a directional PP, as in (272a), or a metaphorically used locational PP, as in (272b). The verb *brenge*n also occurs in resultative expressions like *het brenge*n tot, in which the PP denotes a change of state and the pronoun *het* is non-referential; the expression as a whole is interpreted as a kind of copular verb meaning something like “to become”.

- (272) a. Els brengt het kind naar school (toe).
 Els brings the child to school TOE
- b. Els brengt het kind in de war.
 Els brings the child in the confusion
 ‘Els is confusing the child.’
- c. Els heeft het tot advocaat gebracht.
 Els has it to lawyer brought
 ‘She became a lawyer.’

III. Verbs with two internal arguments

Resultative constructions with ditransitive verbs or °dyadic unaccusative verbs seem less common than resultative constructions with transitive or monadic verbs. We will see, however, that there is no general ban on this construction, and the fact that the construction seems relatively rare is due to the fact that many ditransitive and dyadic verbs are particle verbs or verbs prefixed by *be-*, *ver-* and *ont-*.

A. Ditransitive verbs

Let us start by considering prototypical ditransitive verbs like *geven* ‘to give’ and *sturen* ‘to send’. The examples in (273) show that an adjectival resultative predicate is not possible with these verbs if the direct and the indirect object are both present. The number signs indicate that these examples are possible if the adjectives *kapot* ‘broken’ and *ziek* ‘ill’ are interpreted as supplementives, but crucially not as complementives, that is, the examples in (273) cannot be interpreted in such a way that the objects receive the properties denoted by the adjective as the result of the events denoted by the verbs; (273a) can only be used to express that the state denoted by the adjective applied to the book while the giving event took place and (273b) that the plant was ill when it was sent. This suggests that it is not possible to use ditransitive verbs in resultative constructions.

- (273) a. #Jan geeft Marie het boek kapot.
 Jan gives Marie the book broken
 b. #Peter stuurde haar die plant ziek.
 Peter sent her that plant ill

If the indirect object is not expressed, as in (274a), the verb *geven* seems to be able to take an adjectival complementive, but perhaps this construction must be considered lexically determined since it is not clear whether the adjectival predicate can really be interpreted as the result of the activity denoted by the verb; cf. the marked status of the copular construction ^{??}*Het nieuws is vrij* ‘the news is free’. Observe from (274b) that the goal of the event can be expressed by means of an *aan*-PP.

- (274) a. De persvoorlichter geeft (*de pers) het nieuws vrij.
 the press officer gives the press the news free
 ‘The press officer declassified the news.’
 b. De persvoorlichter geeft het nieuws vrij aan de pers.
 the press officer gives the news free to the press

Example (275) shows that the verb *geven* can also enter a reflexive resultative construction if the theme is left implicit. The goal of the event can again be expressed by means of an *aan*-PP.

- (275) Jan geeft zich nog eens arm (aan de kerk).
 Jan gives REFL PRT PRT poor to the church
 ‘One day Jan will be poor due to his donations to the church.’

The data in (273) through (275) suggest that complementives are not possible if a (nominal) indirect object is overtly realized. This would be in line with hypotheses

that claim that ditransitive constructions involve a resultative possession relation between the direct object and the indirect object; the latter is then construed as a resultative phrase indicating the location at which the former ends up as a result of the transmission event expressed by the verb. The ban on double complementives would then exclude the addition of the resultative adjective phrase *kapot* 'broken' to double object construction in (273a) because the indirect object *Marie* already functions as (locational) resultative; see Section 3.3.1 and, especially, Den Dikken (1995) for an extensive discussion of proposals of that sort.

Potential problems for the hypothesis that complementives are impossible if an indirect object is overtly realized are the more or less archaic/formal examples in (276), which do not involve an adjectival but an adpositional complementive, which, like all complementives, must precede the verbs in clause-final position. We should be careful here, however, given that certain locational PPs can license the presence of a possessive dative (see Section 3.3.1.6), and we may therefore not be dealing with goal arguments in (276).

- (276) a. dat Jan Marie het boek in bewaring geeft.
that Jan Marie the book in keeping gives
'that Jan is entrusting the book to Marie.'
- b. dat Jan Marie het boek in bruikleen geeft.
that Jan Marie the book on loan gives
'that Jan is giving the book on loan to Marie.'
- c. dat Jan Marie het boek ter inzage geeft.
that Jan Marie the book for inspection gives
'that Jan is giving Marie the book for perusal.'
- d. dat Jan Marie het boek op zicht stuurt.
that Jan Marie the book on approval sends
'that Jan is sending Marie the book on approval.'
- e. dat Jan Marie het boek te leen gaf.
that Jan Marie the book in loan gave
'that Jan loaned the book to Marie.'

Ditransitive verbs like *geven* and *sturen* can also readily be combined with verbal particles like *terug* 'back' and *weg* 'away'. The examples in (277) show that the indirect object can be expressed in the first but not in the latter case. Observe that the use of the prepositional indirect object also leads to a reasonably acceptable result with *weggeven* 'to give away'.

- (277) a. Jan geeft Marie het boek terug/*?weg.
Jan gives Marie the book back/away
- a'. Jan geeft het boek terug/weg (aan Marie).
Jan gives the book back/away to Marie
- b. Peter stuurt Marie de plant terug/*?weg.
Peter sends Marie the plant back/away
- b'. Peter stuurt de plant terug/*?weg aan Marie.
Peter sends the plant back/away to Marie

If our earlier conclusion that verbal particles have a function similar to that of phrasal (AP/PP) complementives is correct, the examples with *terug* show that ditransitive verbs can readily be combined with complementives. But this raises the question why phrasal complementives are so rare with ditransitive verbs. One reason might be that many ditransitive verbs are actually particle verbs, and in these cases the ban on double complementives prohibits the addition of a second resultative phrase; the small sample given as (82) in Section 2.1.3 includes examples like *aan+bieden* ‘to offer’, *aan+bevelen* ‘to recommend’, *af+pakken* ‘to take away’, *na+laten* ‘to bequeath’, *op+biechten* ‘to confess’, *toe+sturen* ‘to send’, *toe+roepen* ‘to call’, and *toe+zeggen* ‘to promise’. Another reason might be that many ditransitive verbs are prefixed with *be-*, *ver-* and *ont-*; the small sample of ditransitive verbs given in (82) includes examples like *be-loven* ‘to promise’, *be-velen* ‘to order’, *ont-houden* ‘to withhold’, *ont-nemen* ‘to take away’, *ver-bieden* ‘to forbid’, and *ver-kopen* ‘to sell’. Section 3.3.2, sub II, will argue that such prefixes are like verbal particles in that they function as a kind of secondary predicate; if this is indeed correct, the ban on double complementives will also exclude the addition of a resultative phrase in these cases. In short, the fact that adjectival and prepositional resultative are often excluded with ditransitive verbs may be due to the fact that a large number of ditransitive constructions contain a particle verb or a verb prefixed by *be-*, *ver-*, or *ont-*.

B. NOM-DAT verbs

In order to enter the resultative construction, a verb must denote an activity or a process that may affect one of the arguments in the clause. NOM-DAT verbs taking *hebben* are therefore not expected to be possible in the resultative construction; they denote a state of the referent denoted by the experiencer. In (278), the adjective *goed/slecht* cannot refer to a resulting state of the subject of the clause, but can only be interpreted adverbially, that is, like English *well/badly* (hence the use of the number sign). Note that these adverbial phrases are more or less obligatory; without them, the examples are only acceptable with contrastive accent on the verb.

- (278) a. #De jas past haar goed/slecht.
 the coat fits her well/badly
 b. #Die afspraak schikt me goed/slecht.
 that arrangement suits me well/badly
 c. #Dit werk ligt me goed/slecht.
 this work appeals me well/badly

It should be noted, however, that many NOM-DAT verbs taking *hebben* are prefixed by the suffixes *be-* and *ont-*, and that some take a verbal particle (this holds especially for the NOM-DAT verbs derived from location verbs like *zitten* ‘to sit’ and *staan* ‘to stand’). If these elements can indeed be considered a kind of secondary predicates as well, this may also account for the fact that many of the verbs cannot enter the resultative construction. Some examples of NOM-DAT verbs of this type are: *aan+staan* ‘to please’, *be-hagen* ‘to please’, *be-rouwen* ‘to regret’, *be-tamen* ‘to be proper to’, *be-vreemden* ‘to surprise’, *bij+staan* ‘to dimly recollect’,

ont-breken ‘to fail to’, *tegen+staan* ‘to stand counter’, *tegen+zitten* ‘to be out of luck’.

Since the NOM-DAT verbs taking *zijn* do denote a process the expectation is that they can enter the resultative construction. This expectation is not borne out, however, but this may be due to the fact that virtually all of these verbs are prefixed by the suffixes *be-* and *ont-*, and that some take a verbal particle (this holds especially for the NOM-DAT verbs derived from motion verbs like *lopen* ‘to walk’ or *vallen* ‘to fall’). Some examples are: *af+gaan* ‘to come easy to’, *be-komen* ‘to do good to’, *be-vallen* ‘to please’, *in+vallen* ‘to occur to’, *mee+vallen* ‘to be better/less difficult than expected’, *ont-gaan* ‘to escape’, *ont-schieten* ‘to slip’, *ont-vallen* ‘to elude’, *op+vallen* ‘to catch the eye’, *tegen+lopen* ‘to go wrong’, *tegen+vallen* ‘to disappoint’, *uit+komen* ‘to suit well’. Some exceptions are: *lukken* ‘to succeed’ and *overkomen* ‘to happen to’, which is prefixed by *over-*. In (279), we give some examples containing an adjective. This adjective cannot be interpreted as a resultative, but only as an adverbial phrase, just as in (278).

- (279) a. De maaltijd bekommt haar goed/slecht.
 the meal does her well/badly
 b. Dat boek bevalt me goed/slecht.
 that book pleases me well/badly

C. Undative verbs

The undative verbs *krijgen* ‘to get’ and *hebben* ‘to have’ cannot be combined with an adjectival complementive in the resultative construction. However, like the ditransitive verb *geven* ‘to give’, the undative verb *krijgen* ‘to get’ can be combined with PPs like *te leen* ‘in loan’/in *bruikleen* ‘on loan’ and the particles like *terug*. For completeness’ sake the (b)-examples in (280) show that these elements may also occur in the non-resultative construction with *hebben* ‘to have’.

- (280) a. Ik geef Jan het boek terug. a’. Ik geef Jan het boek te leen.
 I give Jan the book back I give Jan the book in loan
 ‘I give Jan the book back’ ‘I lend Jan the book.’
 b. Jan krijgt/heeft het boek terug. b’. Jan krijgt/heeft het boek te leen.
 Jan gets/has the book back Jan gets/has the book in loan
 ‘Jan gets/has the book back.’ ‘Jan borrows the book.’

D. Semantic restrictions

The previous subsections have shown that, with the exception of verbs with two internal arguments, all basic verb types in Table 6 from Section 2.1.6 can in principle occur in a resultative construction. This does not imply, however, that all verbs allow this; there seem to be semantic restrictions on the verbs that can enter into this construction. It has been suggested, for example, that the verb must be able to affect the SUBJECT of the complementive or at least be able to instigate a change of state. Since stative verbs typically lack this property, they are unable to occur in this construction; cf. the examples in (281) taken from Hoekstra et al. (1987).

- (281) a. *Zij haatte hem dood.
 she hated him dead
 b. *Hij twijfelde het verhaal ongeloofwaardig.
 he doubted the story unbelievable
 c. *Zij vreesde haar kind nerveus.
 she feared her child nervous

IV. Summary

The previous subsections have shown that all the basic verb types in Table 6 from Section 2.1.6 can in principle occur in a resultative construction, although the verbs with two internal arguments seem more restrictive in this respect than the verbs with no or a single internal argument. It has also been shown that the properties of resultative constructions partly depend on the status of the main verb. For example, if the main verb is intransitive, an additional noun phrase must be added to the structure, whereas this is not possible with unaccusative verbs. This difference can be related to the case-assigning properties of these verbs. That the complementive may require the presence of an additional noun phrase is due to the fact that it takes an internal argument of its own. This argument of the complementive is often interpreted as an argument of the verb as well, but we have seen various cases in which such an interpretation is not possible; the internal argument of the verb seems suppressed in order to make room for the external argument of the complementive. More on the resultative construction can be found in Section A6.2.2.

2.2.4. The structure of complementive constructions

The question of what structure must be assigned to examples containing a complementive has given rise to a lengthy, still unsettled debate. According to some, the SUBJECT is part of a \circ projection headed by the complementive, which is often referred to as a SMALL CLAUSE: it occupies a designated subject position, in which it saturates the \circ thematic role assigned by the predicate, as in (282a). According to others, however, the SUBJECT is generated in the regular object position of the verb, the SUBJECT-predicate relation being established by other means, which is indicated here by means of subscripts in (282b).

- (282) a. [_{VP} ... V [_{SC} DP [Pred]]]
 b. [_{VP} ... V DP_i Pred_i]

The main difference between the two proposals is that in the former the noun phrase and the complementive form a constituent, whereas in the latter they do not. One argument in favor of the former is that the complementive and its subject do indeed behave like a constituent when it comes to coordination, as is shown in (283a). One argument in favor of the latter is that the noun phrase and the complementive need not be adjacent. Of course, many proposals have been put forth to solve these problems. Proponents of the small clause approach may account for an example such as (283b) by referring to the independently established fact that noun phrases can be scrambled in Dutch, and proponents of the alternative approach may claim that examples such as (283a) involve coordination of a verbal projection smaller than VP.

- (283) a. Jan vindt [[_{SC} Marie aardig] maar [_{SC} Els een smeerlap]].
 Jan considers Marie nice but Els an asshole
- b. Jan vindt Marie waarschijnlijk niet aardig.
 Jan consider Marie probably not nice
 ‘Probably, Jan won’t consider Marie nice.’

Another test that suggests that the noun phrase and the complementive form a constituent is that they can be pronominalized together, as is shown by example (284a). For completeness’ sake, note that the noun phrase can, of course, also be pronominalized in isolation and that the same thing holds for complementives in (at least) copular constructions; this is illustrated by (284b&c).

- (284) a. Jan vindt [_{SC} dat boek erg goed]_i maar Peter vindt dat niet.
 Jan considers that book very good but Peter considers that not
 ‘Jan considers that movie very good but Peter doesn’t.’
- b. Jan vindt het erg goed.
 Jan considers it very good
- c. Jan is erg aardig maar Els is dat ook.
 Jan is very nice but Els is that too

Another potential argument in favor of the small clause approach is the fact that in copular constructions such as (285) the nominative subject of the clause may follow the object pronoun *hem* ‘him’. If we assume that the nominative phrase is base-generated within the small clause as the subject of the adjective *bekend* this may follow from the fact that nominative subjects are only optionally moved into the subject position of the clause; see 13.2 and N8.1.4.

- (285) a. dat hem [_{SC} die problemen bekend] zijn.
 that him those problems known are
 ‘that he’s aware of those problems.’
- b. dat die problemen_i hem [_{SC} *t_i* bekend] zijn.
 that those problems him known are

A perhaps even more convincing argument is that the nominative subject may also follow the pronoun *ons* ‘us’ in example (286a). The fact that the subject may follow this pronoun strongly suggests that it must be generated within the AP, given that the pronoun is selected by the modifier *te* ‘too’ of the adjective—an example such as **dat ons die auto duur is* shows that the pronoun cannot be present if the modifier is dropped; see section A2.2.1 for extensive discussion.

- (286) a. dat ons die auto te duur is.
 that us that car too expensive is
 ‘that that car is too expensive for us.’
- b. dat die auto ons *t_i* te duur is.
 that that car us too expensive is

For the reasons discussed above, we will adopt the small clause approach in this work. We want to conclude this section with a bibliographical note. The debate on the two structures in (282) finds its origin in Stowell (1983), who defends the

proposal in (282a), and Williams (1980), who defends the proposal in (282b). An influential Dutch advocate of Stowell's proposal is Hoekstra (1984a/1988/2004: part IV). Williams' proposal has been defended by Neeleman (1994b). Proposals that potentially reconcile and at least combine a number of advantages of the two competing ideas can be found in Bowers (1993), Hale & Keyser (1993) and Den Dikken (2006), which postulate some functional \circ head in between the DP and the complementive that expresses the predicative relation between the two. When we call this functional head PRED, the structure of a small clause is as follows [_{PredDP} DP Pred [_{XP} ... X ...]], where X stands for N, A or P.

2.3. PP-complements (prepositional objects)

This section discusses what we will call PREPOSITIONAL OBJECT VERBS (PO-verbs), that is, verbs taking a prepositional phrase as their \circ complement. Some examples of such verbs are given in (287). In these examples, the PP-complement is the only internal argument of the verb: since the verb also takes an external argument (realized as the subject of the clause), we will refer to these verbs as intransitive PO-verbs.

- (287) • Intransitive PO-verbs
- a. Jan heeft op zijn vader gewacht.
Jan has for his father waited
'Jan waited for his father.'
 - b. Jan heeft op het hert geschoten.
Jan has at the deer shot
'Jan shot at the deer.'
 - c. Jan heeft op de hond van de buurman gepast.
Jan has after the dog of the neighbor looked
'Jan has looked after the neighbor's dog.'

The most conspicuous property of the PP-complements in (287) is that they have a fixed preposition, the choice of which is lexically determined by the verb; substituting any other preposition for the preposition *op* in these examples results in ungrammaticality. That the verb determines the choice of the prepositions is also clear from the fact that the preposition *op* in the examples in (287) must be rendered by different prepositions in the English translations of these examples: *to wait for*; *to shoot at*; *to look after*. Furthermore, the prepositions normally do not have a well-defined semantic content, for which reason we will refer to them as FUNCTIONAL prepositions. As a result of this lack of semantic content, the meaning of the combination of the verb and its PP-complement is not built up compositionally, but instead listed in the lexicon as a semantic unit.

PP-complements can be found in various syntactic frames. They co-occur not only with external arguments, as in (287), but also with internal arguments. In (288), for instance, we find verbs taking an internal argument that is realized as an accusative object and to which we will therefore refer as transitive PO-verbs.

- (288) • Transitive PO-verbs
- a. Jan heeft zijn mening op verkeerde informatie gebaseerd.
Jan has his opinion on inaccurate information based
'Jan based his opinion on inaccurate information.'
 - b. Jan heeft zijn kinderen tegen ongewenste invloeden beschermd.
Jan has his children against undesirable influences protected
'Jan protected his children against undesirable influences.'
 - c. Jan heeft Marie tot diefstal gedwongen.
Jan has Marie to theft forced
'Jan forced Marie to steal.'

Since we have seen in Section 2.1.2 that verbs with a single nominal argument can be either intransitive or unaccusative, it will not come as a surprise that there are also PO-verbs exhibiting unaccusative behavior. Some examples of such unaccusative PO-verbs are given in (289), in which the unaccusative status of the verbs is clear from the fact that they take the perfect auxiliary *zijn* 'to be'.

- (289) • Unaccusative PO-verbs
- a. Jan is over die opmerking gevallen.
Jan has OVER that remark fallen
'Jan took offense at that remark.'
 - b. Jan is van zijn ziekte hersteld.
Jan has from his illness recovered
'Jan has recovered from his illness.'
 - c. Jan is bezwiken onder zijn last.
Jan has collapsed under his burden
'Jan collapsed under his burden.'

Table 7 shows that the three types of PO-verbs in examples (287) to (289) fit in nicely with the classification of verbs on the basis of the nominal arguments discussed in Section 2.1: it simply seems to be the case that some intransitive, transitive and unaccusative verbs can (or must) select an additional PP-complement. We will discuss these verbs in Section 2.3.2.

Table 7: Main types of prepositional object verbs

	EXTERNAL ARGUMENT	INTERNAL ARGUMENTS		SUBSECTION
		NP	PP	
INTRANSITIVE	+	—	+	2.3.2, sub II
TRANSITIVE	+	+	+	2.3.2, sub I
UNACCUSATIVE	—	+	+	2.3.2, sub II

It is not the case that all of the verb types that we have distinguished in Section 2.1 can be supplemented with a PP-complement. For instance, we are not aware of clear cases in which ditransitive or NOM-DAT verbs take an additional PP-complement. This suggests that there is an upper boundary to the number of internal arguments a verb can take: *a verb has two internal arguments at the most*. This claim may of course be too strong, and potential counterexamples are verbs of

exchange like *kopen* ‘to buy’, *verkopen* ‘to sell’ and *betalen* ‘to pay’ in (290), for which it has been claimed that they actually do have three internal arguments.

- (290) a. Jan verkocht het boek voor tien euro aan Marie.
 Jan sold the book for ten euros to Marie
 b. Marie kocht het boek voor tien euro van Jan.
 Marie bought the book for ten euros from Jan
 c. Marie betaalde Jan tien euro voor het boek.
 Marie paid Jan ten euros for the book

The suggested generalization above implies that at least one of the presumed arguments in the examples in (290), probably the *voor*-PP, is an °adjunct. Given that the distinction between complements and adjuncts is often not clear, it seems that both the proponents and the opponents for assuming adjunct status for the *voor*-PP will have a hard time in substantiating their position. Here we will assume that the *voor*-PPs are adjuncts, because they satisfy the °adverb test in (291), which singles out VP adverbs; see the discussion in Section 2.3.1, sub VII, which shows that PP-complements cannot be paraphrased by means of ... *en PRONOUN doet dat XP* clauses. For more evidence in favor of our claim that the *voor*-PPs in (290) are adjuncts, we refer the reader to the discussion of example (337) in Section 2.3.2, sub I.

- (291) a. Jan verkocht het boek aan Marie en hij deed dat voor tien euro.
 Jan sold the book to Marie and he did that for ten euros
 b. Marie kocht het boek van Jan en ze deed dat voor tien euro.
 Marie bought the book from Jan and she did that for ten euros
 c. Marie betaalde Jan tien euro en ze deed dat voor het boek.
 Marie paid Jan ten euros and she did that for the book

The claim that verbs have two internal arguments at most receives indirect support from the fact that there are verbs taking both a °dative argument and a PP-complement, which shows that the non-existence of ditransitive and NOM-DAT PO-verbs cannot be attributed to the presence of a dative phrase. If a dative argument is present, PP-complements often alternate with nominal complements; the examples in (292) illustrate this type of verb frame alternation.

- (292) • NP_{Theme}-PP alternation with ditransitive verbs
 a. Jan vertelde mij het verhaal.
 Jan told me the story
 a'. Jan vertelde mij over de overstroming.
 Jan told me about the flood
 b. Jan vroeg me een beloning.
 Jan ask me a reward
 b'. Jan vroeg mij om een beloning.
 Jan asked me for a reward

The examples in (293) show that similar verb frame alternations can be found with certain transitive verbs; see Section 3.3.2 for a more detailed discussion of this alternation.

- (293) • NP_{Theme}-PP alternation with transitive verbs
- | | | | |
|-----|--|-----|---------------------------------|
| a. | Marie vertrouwt haar vriend. | b. | Jan eet zijn brood. |
| | Marie trusts her friend | | Jan eats his bread |
| a'. | Marie vertrouwt <i>op</i> haar vriend. | b'. | Jan eet <i>van</i> zijn brood. |
| | Marie trusts on her friend | | Jan eats from his bread |
| | ‘Marie trusts her friend.’ | | ‘Jan is eating from his bread.’ |

The NP_{Theme}-PP alternation illustrated in (292) and (293) is not possible with all (di-)transitive verbs, and often has a subtle meaning effect. Nevertheless, the nature of the PP-complements seems sufficiently close to that of the nominal complements to merit a separate discussion of such examples, which can be found in Section 2.3.3. Besides the examples discussed so far, there are various other cases that merit discussion and which will be taken up in Section 2.3.4. But before we discuss the individual classes, Section 2.3.1 will discuss some properties that all PO-verb constructions seem to share.

2.3.1. General introduction

This section briefly discusses some general properties of PO-verbs and their prepositional objects. Before we start, it should be noted that many scholars have tried to give waterproof diagnostic criteria for deciding whether or not we are dealing with a prepositional object, whereas so far the general feeling is that all attempts have failed. The discussion in this section will also leave room for doubt, but we hope that the reader will nevertheless get some idea of the properties of PP-complements.

1. The verb and the preposition form a semantic unit

The one thing that all researchers seem to agree on is that the verb and the preposition that heads the PP-complement form a semantic unit, that is, express a lexically determined meaning; the meaning of the prepositions in isolation is lost. For example, the functional prepositions *op* and *voor* in the primeless examples in (294) do not have the locational meanings of the prepositions *op* and *voor* in the primed examples.

- | | | |
|----------|---|-----------------|
| (294) a. | Jan wacht <i>op</i> zijn vader. | [PP-complement] |
| | Jan waits for his father | |
| a'. | Jan wacht <i>op</i> het perron. | [adverbial PP] |
| | Jan waits on the platform | |
| b. | Jan vecht/ <i>ijvert</i> <i>voor</i> een betere wereld. | [PP-complement] |
| | Jan fights/agitates for a better world | |
| b'. | Jan vecht/* <i>ijvert</i> <i>voor</i> de school. | [adverbial PP] |
| | Jan fights/agitates in.front.of the school | |

The meaning of the verbs may also be bleached: whereas the verb *vechten* ‘to fight’ in (294b') implies that the agent is physically involved in the activity of fighting, this is not the most prominent interpretation of the verb *vechten* in (294b), which may just indicate that Jan is actively involved in some activity that aims at creating a better world. This ambiguity in verbs like *vechten* means that in some cases it is

not immediately clear whether we are dealing with a PP-complement or a PP with some other function. In example (295), for instance, the verb *vechten* may be used with the bleached, “metaphorical” meaning that we also find in (294b) or with the more “literal” reading in (294b’); in the former case, the PP may function as a PP-complement and in the latter as an adverbial purpose phrase of the type that we also find in *Ze spaart voor een auto* ‘She is saving money for a car’.

- (295) Jan vecht voor zijn leven.
 Jan fights for his life
 ‘Jan is fighting for his life’

Another case, taken from Schermer-Vermeer (2006), is given in (296). Example (296a) involves an adverbial comitative *met*-PP, as is clear from the fact that this example alternates with (296a’); cf. Section 3.4. In example (296b), on the other hand, the meaning of the verb has bleached and we may therefore be dealing with a PP-complement; a potential argument in favor of this is that this example no longer allows the alternation that we find in the (a)-examples.

- (296) a. Jan worstelt met zijn buurman.
 Jan wrestles with his neighbor
 ‘Jan is wrestling with his neighbor.’
 a’. Jan en zijn buurman worstelen.
 Jan and his neighbor wrestle
 b. Jan worstelt met zijn computer/geweten.
 Jan wrestles with his computer/conscience
 ‘Jan is having difficulties with his computer/conscience.’
 b’. *Jan en zijn computer/geweten worstelen.
 Jan and his computer/conscience wrestle

The examples above show that the dividing line between PP-complements and PPs with some other functions is diffuse. This may be due to the fact that the V + P collocation may be a lexicalized form of an otherwise productive grammatical pattern, as a result of semantic bleaching. Consequently, it may sometimes be hard to use semantic criteria as evidence for one position or another; the decision will then have to be made by appealing to a larger number of properties of the construction as a whole.

Since the verb and the preposition form a semantic unit, it has been suggested that in order to speak of a PP-complement, the PP must be obligatorily present. This criterion, however, would imply that the PP *op zijn vader* in (294a) is not a complement of the verb *wachten*, despite the fact that this example is often given as the prototypical case of a PP-complement. It may be feasible, however, to claim that PPs that cannot be omitted (without affecting the idiosyncratic meaning of the verb + P collocation) do involve a PP-complement; the fact that the PPs in (297) cannot be dropped can then be considered sufficient for concluding that we are dealing with PP-complements in these cases.

- (297) a. Jan vertrouwt *(op zijn geluk).
 Jan relies on his luck
 b. Jan reKent #(op zijn geluk).
 Jan relies on his luck

II. A PP-complement cannot be replaced by adverbial pro-forms

The examples in (294) show that clauses with a PP-complement and clauses with an adverbial PP may look very similar on the surface. The two cases can often be distinguished by replacing the PP by adverbial pro-forms like *daar* 'there' and *hier* 'here'. If we are dealing with an adverbial PP of place, this is normally possible, but not if we are dealing with a PP-complement: *daar* in (298a) corresponds to the adverbial PP in (294a'), but not to the PP-complement in (294a); similarly, *daar* in (298b) corresponds to the adverbial PP in (294b'), but not to the PP-complement in (294b).

- (298) a. Jan wacht daar.
 Jan waits there
 b. Jan vecht daar.
 Jan fights there

The fact that a PP-complement cannot be replaced by an adverb like *daar* or *hier* need not surprise us, since this would result in the loss of the preposition, which forms a semantic unit with the verb. That it is indeed the loss of the preposition that causes the problem in the case of PP-complements is clear from the fact that °R-pronominalization, which retains the preposition, is possible with PP-complements. This is shown by the fact that the pronominal PPs in (299) are typically interpreted as PP-complements.

- (299) a. Jan wacht daarop.
 Jan waits for.that
 b. Jan ijvert daarvoor.
 Jan fights for.that

The possibility of R-pronominalization is not sufficient, however, for concluding that we are dealing with a PP-complement: pronominal PPs like *daarvoor/daarop* can also be used as adverbial phrases, including locational ones. This test can therefore not be used to distinguish the (a)-examples and (b)-examples in (296) from Subsection I.

III. The preposition has no or a restricted paradigm

Since the verb and preposition form a semantic unit, the preposition of a PP-complement normally cannot be replaced by some other preposition, in contrast to what is the case with adverbially used PPs of place or time. Some examples are given in (300).

- (300) a. Jan wacht op/#bij/#naast zijn vader. [PP-complement]
 Jan waits for/near/next.to his father
- a'. Jan wacht op/bij/naast het perron. [adverbial PP]
 Jan waits on/near/next.to the platform
- b. Jan ijvert/vecht voor/*bij/*achter een betere wereld. [PP-complement]
 Jan fights/fights for/near/behind a better world
- b'. Jan vecht voor/bij/achter de school. [adverbial PP]
 Jan fights in.front.of/near/behind the school

This does not, however, provide a foolproof test for determining whether we are dealing with a PP-complement. A first complication is that non-locational and non-temporal adverbial PPs also have a restricted paradigm; the preposition *met* in comitative PPs like *met zijn buurman* 'with his neighbor' in (296a), for instance, cannot be replaced by any other preposition either (with the possible exception of *zonder* 'without'), which means that this test cannot be used to distinguish the (a)- and (b)-examples in (296).

A second complication is that certain verbs can select different PP-complements. In some cases, like the (a)- and (b)-examples in (301), the choice of the preposition hardly affects the meaning of the verbs.

- (301) a. Els gelooft vooral in zichzelf.
 Els believes especially in herself
- a'. Els gelooft aan spiritisme.
 Els believes in spiritualism
- b. Jan denkt aan/om zijn moeder.
 Jan thinks about/about his mother
- b'. Jan denkt over een nieuwe baan.
 Jan thinks about a new job

Less problematic are those cases in which a different choice of preposition goes hand-in-hand with a different meaning: for cases such as *jagen op* in (302a), which is construed literally as "to hunt", and *jagen naar* in (302b), which is interpreted metaphorically with the meaning "to seek", we may assume that we are dealing with two separate lexical entries.

- (302) a. Peter jaagt op herten.
 Peter hunts at deer
 'Peter is hunting deer.'
- b. Peter jaagt naar succes.
 Peter hunts after success
 'Peter seeks success.'

Table 8 presents a small sample of PO-verbs that are compatible with more than one preposition. Note that with these verbs the paradigms of the prepositions are still very limited; usage of any other preposition with these verbs will give rise to an unacceptable result or to an adverbial reading of the PP.

Table 8: PO-Verbs compatible with more than one preposition

PREPOSITION	VERB	TRANSLATION
<i>aan, met</i>	<i>beginnen aan/met</i>	to start/to begin with
<i>aan, om, over</i> <i>aan, over</i>	<i>denken aan/om/over</i> <i>twijfelen aan/over</i>	to think about/to mind/to think of to doubt about/about
<i>aan, in</i>	<i>geloven aan/in</i>	to believe in
<i>bij, tot</i>	<i>behoren bij/tot</i>	to rank among/to belong to
<i>naar, op</i> <i>naar, tot</i> <i>naar, om</i>	<i>jagen naar/op</i> <i>leiden naar/tot</i> <i>vragen naar/om</i>	to seek/to hunt after to lead to/to end in to inquire after/to ask for
<i>om, van</i> <i>om, over</i> <i>om, over, voor</i>	<i>huilen om/van</i> <i>treuren om/over</i> <i>vechten om/voor/over</i>	to cry over/to cry with to mourn for/over to fight for/for/over
<i>over, van</i>	<i>spreken over/van</i> <i>horen over/van</i>	to mention/to speak of to hear about/of
<i>van, uit</i>	<i>bevrijden van/uit</i> <i>redden van/uit</i>	to rescue from/to deliver from to save from

IV. A PP-complement cannot be modified

Given that the verb and the preposition of the PP-complement form a semantic unit, they differ from adverbial PPs in that they cannot be independently modified. This is illustrated in (303); the fact that the *voor*-PP in (303b) can be modified by the adverbial modifier *vlak* ‘just’ is sufficient to show that this PP is an adverbial phrase.

- (303) a. *Jan vecht/ijvert vlak voor een betere wereld. [PP-complement]
 Jan fights/agitates just for a better world
 b. Jan vecht vlak voor de school. [adverbial PP]
 Jan fights just in.front.of the school

Modification is a typical property of locational and temporal PPs—most other adverbial PPs do not have this property; see Section P3.3 for a small number of exceptions. This means that the inability of a PP to be modified is not sufficient to conclude that we are dealing with a PP-complement.

V. R-extraction

So far, we have focused on the fact that the verb and the preposition heading the PP-complement form a semantic unit. It is therefore useful to stress that the verb and the preposition do *not* form a syntactic unit. In other words, it is not the case that the verb and the preposition have the behavior of a complex (transitive) verb. This is clear from the fact illustrated in the (a)-examples in (304) that the complement of the preposition *op*, unlike the object *zijn vader* of a transitive verb like *kussen* ‘to kiss’ in (304b), cannot be topicalized in isolation and is thus unable to strand the preposition.

- (304) a. #Zijn vader_i heeft hij [_{PP} op t_i] gewacht.
 his father has he for waited
 a'. [_{PP} Op zijn vader]_i heeft hij t_i gewacht.
 for his father has he waited
 b. Zijn vader heeft hij t_i gekust.
 his father has he kissed

Note that the string *Zijn vader heeft hij opgewacht* in (304a) is acceptable if *opgewacht* is construed as the participle of the particle verb *opwachten* 'to wait for/lie in wait for', hence the use of the number sign. Another complicating fact is that some speakers do accept the string in (304a) on its intended meaning. It has been suggested that these speakers construe the example as in (305); in other words, these speakers allow deletion of the R-word part of pronominal PPs; see Section P5.3 for further discussion.

- (305) Zijn vader_i daar_i heeft hij [_{PP} op t_i] gewacht.
 his father there has he for waited

Although topicalization of the complement of the preposition is not possible, the formation of °pronominal PPs and °R-extraction are. This is shown in (306).

- (306) a. dat Jan daar al tijden op wacht.
 that Jan there already ages for waits
 'that Jan has been waiting for that for ages.'
 b. dat Jan daar al jaren voor ijvert.
 that Jan there already years for fights
 'that Jan has been fighting for that for years.'

The possibility of R-extraction is a necessary but not a sufficient condition for assuming that a certain PP is a complement. That it is not sufficient is clear from the fact that certain adverbial phrases, such as the instrumental *met*-PP in (307a), and PPs used as °complementives, like *op het bed* in (307b), also allow R-extraction.

- (307) a. dat Jan de vloer met een oude doek schoon maakt.
 that Jan the floor with an old cloth clean makes
 'that Jan is cleaning the floor with an old cloth.'
 a'. dat Jan daar de vloer mee schoon maakt.
 that Jan there the floor with clean makes
 'that Jan is cleaning the floor with that.'
 b. dat Jan de lakens op het bed legt.
 that Jan the sheets on the bed puts
 'that Jan is putting the sheets on the bed.'
 b'. dat Jan daar de lakens op legt.
 that Jan there the sheets on puts
 'that Jan is putting the sheets on that.'

Comitative PPs like *met de buurman* in (296a) do not readily allow R-extraction given that they involve a [+HUMAN] noun phrase; R-pronominalization and

R-extraction are normally only accepted in relative clauses such as (308a); see Section P5.1. The fact that (308b) can only be construed as involving an inanimate theme can therefore *not* be used as an argument for claiming that the two PPs in (296a) and (296b) have a different syntactic status.

- (308) a. de man [waar Jan mee worstelt]
 the man where Jan with wrestles
 ‘the man with whom Jan is wrestling’
 b. dat Jan er al een tijdje mee worstelt.
 that Jan there already a while with wrestles
 ‘that Jan is wrestling with it/*him for a while.’

VI. Anticipatory pronominal PP-complements

Consider the examples in (309), in which the PP-complement has undergone R-pronominalization. The R-word *er* in these examples has a function similar to that of the °anticipatory pronoun *het* ‘it’ in examples like *dat Jan het al weet dat Peter ziek is* ‘that Jan already knows it that Peter is ill’, which is used to introduce the direct object clause *dat Peter ziek is*; like *het* the form *er* functions as an anticipatory pronoun introducing a dependent clause.

- (309) a. dat Jan er op wacht dat Peter zijn excuses aanbiedt.
 that Jan there for waits that Peter his apologies prt.-offers
 b. dat de socialisten er voor ijveren dat de wereld beter wordt.
 that the socialists there for fight that the world better becomes

Although not all PP-complements can be used as anticipatory phrases, the possibility of such a use seems a sufficient condition for assuming complement status; adverbial phrases are never used in this way. The anticipatory PPs in the examples in (310) can only be interpreted as PP-complements, not as adverbial phrases.

- (310) a. Jan wacht er op dat zijn vader thuis komt.
 Jan waits there for that his father home comes
 ‘Jan is waiting for his father to come home.’
 b. Jan vecht/ijvert er voor dat de wereld beter wordt.
 Jan fights/agitates there for that the world better becomes
 ‘Jan is striving for the world to become a better place.’

If anticipatory pronominal PPs are indeed necessarily PP-complements, example (311) shows that the collocation *worstelen met* sometimes must be analyzed as involving a PP-complement; this strongly favors our earlier claim that (296b) involves a PO-verb.

- (311) Jan worstelt er mee dat zijn vrouw hem verlaten heeft.
 Jan wrestles there with that his wife him left has
 ‘Jan is having difficulties with the fact that his wife has left him.’

A complicating factor that must be mentioned here is that in many cases the anticipatory pronominal PP can be omitted; a clear example of this phenomenon is

given in (312a). In some cases, such as (312b), speakers seem to differ in their judgments on the omissibility of the pronominal PP. Example (312c) illustrates that omitting the pronominal PP is not always possible.

- (312) a. Jan klaagt (erover) dat Marie hem steeds plaagt.
 Jan complains about.it that Marie him always teases
 ‘Jan complains (about it) that Marie always teases him.’
- b. Wij twijfelen [%](eraan) of het huis ooit afgebouwd wordt.
 we doubt of.it whether the house ever prt.-finished is
 ‘We doubt whether the house will ever be finished.’
- c. Jan berust *(erin) dat Marie komt.
 Jan resigns on.it that Marie comes
 ‘Jan resigns himself to the fact that Marie will come.’

In fact, examples (313a&b) show that pronominal PPs must be dropped in the nominalized counterparts of the examples in (312a&b). The fact illustrated in (313c) that example (312c) cannot be nominalized can probably be attributed to the fact that the pronominal PP cannot be dropped because nominalization is possible if the noun takes a regular PP: *zijn berusting in haar komst* ‘his being resigned to her coming’.

- (313) a. Jans klacht (*erover) dat Marie hem steeds plaagt
 Jan’s complaint about.it that Marie him always teases
 ‘Jan’s complaint that Marie always teases him.’
- b. onze twijfel (*eraan) of het huis ooit afgebouwd wordt
 our doubt of.it whether the house ever prt.-finished is
 ‘our doubt whether the house will ever be finished’
- c. Jans berusting *(^{??}erin) dat Marie komt
 Jan resignation on.it that Marie comes

The fact that the PP can be dropped may be somewhat surprising given that the verb and the preposition form a semantic unit. However, there is reason for assuming that the PP is still syntactically present when it is not pronounced. To see this first consider the examples in (314), which show that the anticipatory pronoun *het* ‘it’ blocks topicalization of clausal objects: (314b) is only acceptable if the pronoun is dropped.

- (314) a. Jan vertelde het [dat Peter ziek is].
 Jan told it that Peter ill is
 ‘Jan told it that Peter is ill.’
- b. [dat Peter ziek is] vertelde Jan (*het).

The examples in (315) show that the presence of an anticipatory pronominal PP likewise blocks topicalization of the clauses in (312a&b). In this case, however, omission of the anticipatory pronominal PP does not improve the result; cf. Vandeweghe & Devos (2003). This may be taken as evidence for the claim that it is still syntactically present.

- (315) a. *[dat Marie hem steeds plaagt] klaagt Jan (er over).
 that Marie him always teases complains Jan about.it
 'Jan complains (about it) that Marie always teases him.'
 b. *[dat hij ongelijk had] overtuigde Jan Peter (ervan).
 that he wrong had convinced Jan Peter of it

In (316), we give a small sample of PO-verbs that may combine with a (finite or infinitival) dependent clause, and we indicate whether or not the anticipatory PP can be dropped in that case. The judgments given are our own; it may be the case that other speakers have slightly different judgments. It is not clear to us what factors determine whether the pronominal PP must be overtly realized or can be dropped.

- (316) a. **PO-verbs with an obligatory anticipatory pronominal PP:** *aandringen op* 'to insist', *iemand belasten met* 'to make someone responsible for', *berusten in* 'to resign oneself to', *iemand completeren met* 'to complement someone on', *zich ergeren aan* 'to be annoyed at', *iemand feliciteren met* 'to congratulate someone with', *genieten van* 'to enjoy', *iemand herinneren aan* 'to remind someone of', *houden van* 'to like', *rekenen op* 'to count on', *vertrouwen op* 'to rely on', *zich verbazen over* 'to wonder at', *zich verwonderen over* 'to be amazed at', *wachten op* 'to wait for'
 b. **PO-verbs with an optional anticipatory pronominal PP:** *iemand aansporen tot* 'to urge someone on', *zich beklagen over* 'to complain about', *iemand beschuldigen van* 'to accuse someone of', *informeren naar* 'to inquire about', *iemand inlichten over* 'to inform someone about', *klagen over* 'to complain about', *oppassen voor* 'to look out for', *iemand opwekken tot* 'to urge someone on to', *iemand overhalen tot* 'to persuade someone to', *iemand overtuigen van* 'to convince someone of', *zich schamen over* 'to be ashamed of', *twifelen aan/over* 'to doubt of/to be in doubt about', *uitkijken voor* 'to watch out for', *waarschuwen voor* 'to warn against', *zaniken/zeuren over* 'to nag about', *zorgen voor* 'to look after'

VII. Syntactic tests for distinguishing PP-complements and adverbial PPs

The previous subsections have pointed out that PP-complements differ in various respects from adverbial PPs: the °head of a PP-complement forms a semantic unit with the verb, is part of a restricted paradigm and cannot be dropped under pronominalization of the PP; the prepositional head of an adverbial PP, on the other hand, has independent meaning, is part of a paradigm and can be dropped if the PP is replaced by an adverb. This subsection discusses some additional syntactic tests that have been proposed to distinguish prepositional objects from adverbial PPs.

A. Position in the middle field of the clause

Word order may also provide a clue as to the status of a PP. PP-complements are generated as part of the lexical °projection of the verb, whereas adverbial PPs are generated as adjuncts, that is, external to the lexical projection of the verb. This is reflected by the fact that PP-complements are normally closer to the verb in clause-final position than the adverbial PPs are (although PP-complements can, of course, precede the adverbial phrases if they are topicalized or *wh*-moved).

- (317) a. dat Jan [op het perron]_{adv} [op zijn vader]_{compl} wacht.
 that Jan on the platform for his father waits
 a'. *dat Jan [op zijn vader]_{compl} [op het perron]_{adv} wacht.
 b. dat de communisten [tijdens WO II]_{adv} [voor een betere wereld]_{compl} ijverden.
 that the communists during WW II for a better world fought
 b'. *dat de communisten [voor een betere wereld]_{compl} [tijdens WO II]_{adv} ijverden.

The fact that the PP-complements in (317) must follow the adverbial phrases of place/time can also be used to distinguish the two *met*-phrases in (296); whereas the comitative *met*-PP in the (a)-examples in (318) can readily precede the frequency adverb *vaak* 'often', this gives rise to a marked and semantically incoherent result in the metaphorical (b)-examples, which may be construed as evidence in favor of complement status for the PP in the latter examples.

- (318) a. dat Jan vaak met zwaargewichten geworsteld heeft.
 that Jan often with heavyweights wrestled has
 'that Jan has often wrestled with his heavyweights.'
 a'. dat Jan met zwaargewichten vaak geworsteld heeft.
 b. ^sdat Jan vaak met zijn computer/geweten geworsteld heeft.
 that Jan often with his computer/conscience wrestled has
 'that Jan is having difficulties with his computer/conscience.'
 b'. ^sdat Jan met zijn computer/geweten vaak geworsteld heeft.

B. Pseudo-cleft sentences

For some (but not all) speakers, PP-complements can be used in so-called pseudo-cleft sentences whereas adverbial PPs cannot; cf. Van den Toorn (1981:35). This is illustrated in (319). The judgments given on the examples in (319b'&d') only hold for the intended, locational reading of the PP.

- (319) a. Jan wacht op een uitnodiging voor het feest. [PP-complement]
 Jan waits for an invitation for the party
 a'. Waarop Jan wacht is een uitnodiging voor het feest.
 for.what Jan waits is an invitation for the party
 b. Jan wacht op het perron. [adverbial PP]
 Jan waits on the platform
 b'. *Waarop Jan wacht is het perron.
 on.what Jan waits is the platform
 c. De communisten vchten voor een betere wereld. [PP-complement]
 the communists fought for a better world
 c'. Waarvoor de communisten vchten was een betere wereld.
 for.what the communists fought was a better world
 d. De communisten vchten voor het gerechtsgebouw. [adverbial PP]
 the communists fought in.front.of the courthouse
 d'. *Waarvoor de communisten vchten was het gerechtsgebouw.
 in.front.of.what the communists fought was the courthouse

The two *met*-phrases in (296) seem to exhibit a similar contrast: whereas the comitative *met*-PP cannot readily be used in the cleft-construction, the PP-

complement can. For those speakers that share these judgments, this can be used as an argument in favor of complement status for the PP in the metaphorical examples in (318b), and thus be construed as evidence in favor of complement status for the PPs in (296b).

- (320) a. [%]Waarmee Jan vaak worstelt zijn zwaargewichten.
with.what Jan often wrestles are heavyweights
b. Waarmee Jan worstelt is zijn computer/geweten.
with.what Jan wrestles is his computer/conscience

C. *The adverbial ... en pronoun doet dat test*

Prepositional complements can also be distinguished from adverbially used PPs by means of the VP °adverb test. When clauses with a PP can be paraphrased by means of an *... en pronoun doet dat PP* clause, we are dealing with an adverbial PP. Clauses with PP-complements cannot be paraphrased in this way. The reason for the inability of PP-complements to appear in this clause is that the constituent *doet dat* refers to the verb phrase, that is, the verb and all of its complements; see Klooster (2001:144).

- (321) a. Marie wacht op haar vriend. [PP-complement]
Marie waits for her friend
'Marie is waiting for her friend.'
a'. *Marie wacht en zij doet dat op haar vriend.
Marie waits and she does that for her friend
b. Marie wachtte op het station. [PP-adjunct]
Marie waited at the railway station
b'. Marie wachtte en zij deed dat op het station.
Marie waited and she did that at the railway station

This test can again be used to distinguish the two *met*-phrases in (296); Whereas the comitative *met*-PP can readily be paraphrased by means of an *... en pronoun doet dat PP* clause, the PP in the metaphorical example gives rise to a marked and semantically incoherent result.

- (322) a. Jan worstelt en hij doet dat met zijn buurman.
Jan wrestles and he does that with his neighbor
'Jan is wrestling and he doing that with his neighbor.'
b. [§]Jan worstelt en hij doet dat met zijn computer/geweten.
Jan wrestles and he does that with his computer/conscience

Vandeweghe & Coleman (2011) have claimed that the simpler paraphrase by means of the conjunct *... en wel PP* may provide a similar result as the *... en pronoun doet dat PP* paraphrase. According to us, however, this paraphrase is less suitable for our purpose given that it also gives rise to an acceptable result if the PP-complement is optional: the examples in (323) show that the primeless examples in (321) can both be paraphrased in this way.

- (323) a. [%]Marie wacht, en wel op haar vriend. [optional PP-complement]
 Marie wacht en WEL for her friend
 ‘Marie is waiting, namely for her friend.’
 b. Marie wacht, en wel op het station. [PP-adjunct]
 Marie wacht en WEL at the station
 ‘Marie is waiting, at the station.’

We marked example (323a) with a percentage sign because Vandeweghe & Colleman claim this example to be excluded, whereas Duinhoven (1989) assigns a similar example a question mark. To our ear, the ... *en wel PP* paraphrase is only excluded if the PP-complement is obligatory, as in (324). We therefore have to dismiss this as a test for distinguishing PP-complements from adverbial phrases.

- (324) a. Jan reket [#](op een complimentje). [obligatory PP-complement]
 Jan counts on a compliment
 ‘Jan is expecting a compliment.’
 b. *Jan reket en wel op een complimentje.
 Jan counts and WEL on a compliment

The fact that we find this contrast between the examples in (323) and (324) is in fact consistent with Vandeweghe & Colleman’s claim that the acceptability of the ... *en wel PP* phrase points out that the verb is also meaningful without the PP, which is clearly the case with the verb *wachten* ‘to wait’ in (323a). This is not surprising given that a similar contrast to that shown in (324) can be found in examples such as (325), in which the PPs are given as afterthoughts.

- (325) a. Marie wachtte de hele dag — op haar vriend. [optional PP-complement]
 Marie waited the whole day for her friend
 b. Marie wachtte de hele dag — op het station. [PP-adjunct]
 Marie waited the whole day at the station
 c. *Jan rekende de hele dag — op een compliment. [obligatory PP-complement]
 Jan counted the whole day on a compliment
 ‘Jan was expecting a compliment the whole day.’

We do not agree with Vandeweghe & Colleman’s claim, however, that the adverbial ... *en pronoun doet dat* test shows the same thing, given that examples such as (321a’) are not only given as unacceptable by Klooster (2001), but also by Broekhuis (2004) and Schermer-Vermeer (2006). This does not mean that this test is without its problems; Schermer-Vermeer provides a small number of potential counterexamples involving the verbs *zaniken/zeuren (over)* ‘to nag (about)’, *schateren (om)* ‘to roar with pleasure (about)’ and *protesteren tegen* ‘protest against’, in which a presumed PP-complement is part of an ... *en pronoun doet dat* clause; (326) provides one somewhat simplified example.

- (326) Hij piekert vaak en hij doet dat over de meest onbenullige dingen.
 he worries often and he does that about the most silly things
 ‘He worries often and he does that about the silliest things.’

Given that the adverbial ... *en pronoun doet dat* test does give relatively clear results in other cases, it remains to be seen what examples such as (326) really tell us: we may either conclude that the adverbial ... *en pronoun doet dat* test is not foolproof or that the PPs in question are in fact adverbial phrases. We leave this to future research.

VIII. Prepositional complements versus prepositional predicates

Finally, we want to say something about the distinction between PP-complements and PPs that function as °complementives. Although these predicative PPs can also be said to function as a complement of the verb, they are sufficiently different to not include them in this subsection. Here we will simply assume that PP-complements can be distinguished from PP-complementives by means of °PP-over-V; the examples in (327) show that the former but not the latter can be placed after the verb in clause-final position. We refer the reader to Section P4.2 for an extensive discussion of the syntactic behavior of predicatively used PPs.

- (327) a. Jan heeft <naar een film> gekeken <naar een film >. [PP-complement]
 Jan has at a film looked
 'Jan has looked at a movie.'
- a'. Els is <naar Tilburg> gewandeld <*naar Tilburg >. [complementive]
 Els is to Tilburg walked
 'Els has walked to Tilburg.'
- b. Jan heeft een uur <op de trein> gewacht <op de trein>. [PP-complement]
 Jan has an hour for the train waited
 'Jan has waited for the train for an hour.'
- b'. Jan heeft een uur <op het perron> gestaan <??op het perron>. [complementive]
 Jan has an hour on the platform stood
 'Jan has stood on the platform for an hour.'

2.3.2. Intransitive, transitive and unaccusative prepositional object verbs

This section discusses unergative (transitive and intransitive) and unaccusative PO-verbs in more detail. We will take as our point of departure the four generalizations in (328) from Section 2.1.2, sub III G, on the behavior of the counterparts of these verbs without a PP-complement.

- (328) a. **Generalization I:** ER-nominalization is a sufficient (but not a necessary) condition for assuming unergative status for a verb: unaccusative verbs cannot be the input of ER-nominalization.
- b. **Generalization II:** Selection of the auxiliary *zijn* is a sufficient (but not a necessary) condition for assuming unaccusative status for a verb; unergative verbs take the auxiliary *hebben*.
- c. **Generalization III:** The possibility of using the perfect/past participle attributively is a sufficient (but not a necessary) condition for assuming unaccusative status for a monadic verb; perfect/past participles of intransitive verbs cannot be used attributively.
- d. **Generalization IV:** The possibility of passivization is a sufficient (but not a necessary) condition for assuming unergative status for a verb; unaccusative verbs cannot be passivized.

We start our discussion in Subsection I with transitive PO-verbs. Intransitive and unaccusative PO-verbs are compared to each other in Subsection II. Subsection III discusses some examples that can possibly be considered PO-counterparts of the second class of unaccusative verbs identified in Section 2.1.2, sub III. Subsection IV, finally, discusses some problematic cases.

I. Transitive prepositional object verbs

The sample in Table 9 shows that PP-complements of transitive PO-verbs can be headed by a wide range of prepositions. The actual choice of the preposition is fully determined by the verb in question. Although we do not know whether this is of any significance, it seems at least worthwhile to note that many of the verbs in this table are prefixed verbs or particle verbs.

Table 9: Transitive prepositional object verbs

PREPOSITION	VERB	TRANSLATION
<i>aan</i>	<i>iemand herinneren</i> *(aan ...) <i>iemand helpen</i> #(aan ...) <i>iets ontrukken</i> *(aan ...)	to remind someone of to help someone to to snatch something from
<i>bij</i>	<i>iemand betrekken</i> *(bij ...)	to involve someone in
<i>boven</i>	<i>iemand begunstigen</i> (boven ...) <i>iets prefereren</i> (boven ...)	to favor someone over to prefer something above
<i>in</i>	<i>iemand belemmeren</i> (in ...) <i>iemand betrekken</i> *(in ...) <i>iemand stijven</i> *(in ...)	to hinder someone in to implicate someone into to confirm someone in
<i>met</i>	<i>iemand belasten</i> *(met ...) <i>iemand complimenteren</i> (met ...) <i>iemand helpen</i> #(met ...) <i>feliciteren/gelukwensen</i> (met ...)	to put someone in charge of to compliment someone on to help someone with to congratulate someone for
<i>naar</i>	<i>iemand verwijzen</i> *(naar ...)	to refer someone to
<i>om</i>	<i>iemand benijden</i> (om ...)	to envy someone for
<i>op</i>	<i>iets baseren</i> *(op ...)	to base something on
<i>over</i>	<i>iemand inlichten</i> (over ...)	to inform someone about
<i>tegen</i>	<i>iemand beschermen</i> (tegen ...) <i>iets beveiligen</i> (tegen ...)	to protect someone against to protect something against
<i>tot</i>	<i>iemand aansporen</i> (tot ...) <i>iemand aanzetten</i> *(tot ...) <i>iemand bewegen</i> *(tot ...) <i>iemand dwingen</i> (tot ...) <i>iemand machtigen</i> (tot ...) <i>iemand oproepen</i> (tot ...) <i>iemand overhalen/overreden</i> (tot ...) <i>iemand stimuleren</i> (tot ...) <i>iemand uitdagen</i> (tot ...) <i>iemand uitnodigen</i> #(tot ...) <i>iemand verleiden</i> #(tot ...) <i>iemand verplichten</i> *(tot ...)	to urge someone on to to urge someone on to to induce someone to to force someone to to authorize someone to to incite someone to to persuade someone to to stimulate someone to to challenge someone to to invite someone to to tempt someone to to oblige someone to

PREPOSITION	VERB	TRANSLATION
<i>uit</i>	<i>iets afleiden (uit ...)</i> <i>iemand redden (uit ...)</i>	to deduce something from to save someone from
<i>van</i>	<i>iemand afbrengen *(van ...)</i> <i>iemand afhelpen *(van ...)</i> <i>iemand beroven (van ...)</i> <i>iemand beschuldigen (van ...)</i> <i>iemand betichten *(van ...)</i> <i>iemand ontslaan # (van ...)</i> <i>iemand verwittigen ?(van)</i>	to dissuade someone from to rid someone of to deprive someone of to accuse someone of to accuse someone of to release someone from to inform someone of
<i>voor</i>	<i>iets bestemmen *(voor ...)</i> <i>iemand bedanken (voor)</i> <i>iets reserveren *(voor ...)</i> <i>iemand waarschuwen (voor ...)</i>	to destine something for to thank someone for to reserve something for to warn someone about/of

The table indicates whether or not the PP-complement is obligatorily present, and whether dropping the PP-complement leads to a radical change in the meaning of the verb (the cases marked with the number sign #). Our judgments are not always crystal-clear, and we would therefore not be surprised to find that judgments vary among the various groups of Dutch speakers. As far as we can see, there does not seem to be any system that determines whether the PP-complement can or cannot be omitted, or whether omission results in a radical change of meaning. We will therefore provisionally assume that this is all lexically determined.

The examples in (329) below show that the accusative object selected by a transitive PO-verb can sometimes also remain implicit, especially in generic contexts like (329c&d). This shows that transitive PO-verbs behave like regular transitive verbs in that they can be used as pseudo-intransitives.

- (329) a. Ik spoorde (Peter) aan tot verzet.
I urged Peter on to resistance
- b. Wij verwijzen (de lezer) daarvoor naar onze speciale brochure.
we refer the reader for.that to our special brochure
- c. Zij voeden (hun kinderen) op tot absolute gehoorzaamheid.
they educate their children prt. to absolute obedience
- d. Rechters veroordelen tegenwoordig vaak tot disciplinaire straffen.
judges sentence nowadays often to disciplinary punishments

The subsections below investigate the extent to which transitive PO-verbs exhibit the properties predicted by the generalizations in (328).

A. ER-nominalization

We have claimed in Table 7 that transitive PO-verbs are unergative verbs: they are °triadic verbs selecting an external (generally agentive) argument. Generalization (328a) therefore predicts that transitive PO-verbs can be the input of ER-nominalization, but the primed examples in (330) show that this is marginally possible at best. Given the fact that ER-nominalization is not a necessary condition

for assuming unergative status (there are also many regular transitive verbs that also resist it), this need not worry us too much.

- (330) a. De rechter veroordeelde de dieven tot vijf jaar cel.
 the judge convicted the thieves to five year imprisonment
 'The judge sentenced the thieves to five years of imprisonment.'
- a'. *?een veroordelaar van dieven tot gevangenisstraf
 a convict-er of thieves to imprisonment
- b. Jan beschermt zijn huis tegen inbraak.
 Jan protects his house against burglary
- b'. ??een beschermer van huizen tegen inbraak
 a protect-er of houses against burglary

B. Auxiliary selection

Like regular transitive verbs, transitive PO-verbs select the auxiliary *hebben*. According to generalization (328b), this is consistent with assuming unergative status for these verbs.

- (331) • Auxiliary selection
- a. De rechter heeft/*is Jan tot vijf jaar gevangenisstraf veroordeeld.
 the judge has/is Jan to five year imprisonment convicted
 'The judge has sentenced Jan to five years of imprisonment.'
- b. Jan heeft/*is zijn huis tegen inbraak beschermd.
 Jan has/is his house against burglary protected
 'Jan has protected his house against burglary.'

C. Attributive use of participles

As in the case of regular transitive verbs, past/passive participles of transitive PO-verbs can only be used attributively if the noun they modify corresponds to the direct object of the verb. Attributive use of the participle with a noun that corresponds to the subject is excluded; example (332a'') is only acceptable if the modified noun, *rechter*, corresponds to the theme argument of the input verb. Note in passing that the PP-complements in the singly-primed examples behave like PP-complements of attributive adjectives in that they cannot follow the participles (cf. the °Head-final filter on attributive adjectives) or the nouns.

- (332) a. De rechter veroordeelde Jan tot vijf jaar gevangenisstraf.
 the judge convicted Jan to five years' imprisonment
- a'. de tot vijf jaar gevangenisstraf veroordeelde man
 the to five year imprisonment convicted man
- a''. #de tot vijf jaar gevangenisstraf veroordeelde rechter
 the to five years imprisonment convicted judge
- b. De man beveiligd zijn huis tegen inbraak.
 the man protects his house against burglary
- b'. het tegen diefstal beveiligde huis
 the against burglary protected house
- b''. *de tegen diefstal beveiligde man
 the against burglary protected man

The examples in (333) show that, as in the case of regular transitive verbs, present participles of transitive PO-verbs can be used attributively if the modified noun corresponds to the subject (agent) of the input verb.

- (333) a. de Jan tot vijf jaar gevangenisstraf veroordelende rechter
 the Jan to five years imprisonment sentencing judge
 ‘the judge who is sentencing Jan to five years’ imprisonment’
 b. de het huis tegen diefstal beveiligende man
 the the house against burglary protecting man
 ‘the man who is protecting the house against burglary’

D. Passive

The examples in (334) show that transitive PO-verbs can be found in the regular passive. Since the generalization in (328d) states that the possibility of passivization is a sufficient condition for assuming unergative status, this supports our assumption that we are dealing with transitive PO-verbs in (334).

- (334) a. Jan wordt (door de rechter) tot vijf jaar gevangenisstraf veroordeeld.
 Jan is by the judge to five years imprisonment sentenced
 ‘Jan is sentenced (by the judge) to five years’ imprisonment.’
 b. Het huis wordt (door de man) tegen inbraak beveiligd.
 the house is by the man against burglary protected
 ‘The house is protected (by the man) against burglary.’

E. The order of the internal arguments

To conclude this discussion of transitive PO-verbs we want to briefly address the order of the two internal arguments. Definite direct objects normally precede PP-complements, as is clear from the fact that the orders in the primed examples in (335) are at best marginally possible if the PP is assigned contrastive or emphatic °focus; see Section 2.3.4, sub I, for the discussion of a number of cases in which the inverted order in the primed examples is possible.

- (335) a. De rechter heeft Jan/iemand tot vijf jaar gevangenisstraf veroordeeld.
 the judge has Jan/someone to five years imprisonment convicted
 ‘The judge has sentenced Jan to five years’ imprisonment.’
 a’. *De rechter heeft tot vijf jaar gevangenisstraf Jan/iemand veroordeeld.
 b. Jan heeft zijn huis/iets tegen diefstal beveiligd.
 Jan has his house/something against burglary protected
 ‘Jan has protected his house against burglary.’
 b’. *Jan heeft tegen diefstal zijn huis/iets beveiligd.

Since adverbial phrases can precede the arguments of the verb, this provides us with an additional test: adverbial PPs, but not PP-complements, can precede objects. The examples in (336) show, however, that it is not the case that PP-complements categorically resist scrambling; scrambling is possible if focus accent is assigned to the nominal complement of the PP. The test therefore crucially involves scrambling of the PP *across the object of the verb*.

- (336) a. dat Jan <op dat BOEK> al tijden <op dat boek> wacht.
 that Jan for that book already ages waits
 'that Jan has been waiting for that book for ages.'
- b. dat je op JAN blijkbaar niet kan rekenen.
 that you on Jan apparently not can rely
 'that you/one apparently can't rely on Jan.'

If the word order test is indeed valid, example (337) shows that *voor*-PPs that occur with verbs of exchange cannot be considered complements, but must be considered adjuncts. This is an important conclusion since this supports the hypothesis we have put forth earlier that verbs can never take more than two internal arguments; cf. the discussion of example (290).

- (337) a. Jan heeft voor tien euro dat boek aan Marie verkocht.
 Jan has for ten euros that book to Marie sold
 'Jan has sold that book for ten euros to Marie.'
- b. Marie heeft voor tien euro dat boek van Jan gekocht.
 Marie has for ten euros that book from Jan bought
 'Marie has bought that book from Jan for ten euros.'
- c. Marie betaalde Jan voor het boek tien euro.
 Marie paid Jan for the book ten euros

The claim that PP-complements cannot precede nominal complements, of course, holds for the °middle field of the clause only: like all complements, PP-complements can be moved into the initial position of the clause by means of topicalization or *wh*-movement.

- (338) a. Tot vijf jaar gevangenisstraf heeft de rechter Jan veroordeeld.
 to five year imprisonment has the judge Jan convicted
- a'. Tot welke straf heeft de rechter Jan veroordeeld?
 to what punishment has the judge Jan convicted
- b. Tegen diefstal heeft Jan zijn huis beveiligd.
 against burglary has Jan his house protected
- b'. Waartegen heeft Jan zijn huis beschermd?
 against-what has Jan his house protected

II. Intransitive and unaccusative prepositional object verbs

This subsection discusses intransitive and unaccusative PO-verbs. The sample in Table 10 shows that PP-complements can be headed by a wide range of prepositions. The actual choice of the preposition is fully determined by the verb in question. The table also indicates whether or not the PP-complement must be obligatorily present, and whether dropping the PP-complement leads to a radical change in the meaning of the verb (the cases marked with the number #). Our judgments on these examples are not always crystal clear, and we would therefore not be surprised to find that judgments vary among the various groups of Dutch speakers. As far as we can see, there does not seem to be any system that determines whether the PP-complement can or cannot be omitted, or whether

omission results in a radical change of meaning. We will therefore provisionally assume that this is all lexically determined.

Table 10: Intransitive and unaccusative prepositional object verbs

	INTRANSITIVE	UNACCUSATIVE
<i>aan</i>	<i>appelleren</i> [#] (<i>aan</i>) ‘appeal to’ <i>denken</i> (<i>aan</i>) ‘think about’ <i>werken</i> (<i>aan</i>) ‘to work on’	<i>ontkomen</i> (<i>aan</i>) ‘escape from’ <i>toekomen</i> *(<i>aan</i>) ‘get round to’ <i>wennen</i> *(<i>aan</i>) ‘to get used to’
<i>bij</i>	<i>volharden</i> (<i>bij</i>) ‘persevere in’ <i>zweren</i> [#] (<i>bij</i>) ‘swear to/by’	—
<i>in</i>	<i>berusten</i> ^{??} (<i>in</i>) ‘resign oneself to’ <i>delen</i> [#] (<i>in</i>) ‘share’	<i>groeien</i> [#] (<i>in</i>) ‘grow into’ <i>incorporeren</i> (<i>in</i>) ‘incorporate in’ <i>slagen</i> [#] (<i>in</i>) ‘succeed in’
<i>met</i>	<i>breken</i> [#] (<i>met</i>) ‘break with’ <i>dwepen</i> (<i>met</i>) ‘idolize’ <i>worstelen</i> [#] (<i>met</i>) ‘wrestle with’	<i>beginnen</i> (<i>met</i>) ‘to start with’ <i>ophouden</i> (<i>met</i>) ‘stop/quit’
<i>naar</i>	<i>grijpen</i> [#] (<i>naar</i>) ‘reach for’ <i>kijken</i> (<i>naar</i>) ‘look at’	—
<i>om</i>	<i>denken</i> [#] (<i>om</i>) ‘think about’ <i>geven</i> [#] (<i>om</i>) ‘care about’ <i>vechten</i> (<i>om</i>) ‘scramble for’	<i>komen</i> (<i>om</i>) ‘come for’
<i>onder</i>	—	—
<i>op</i>	<i>aandringen</i> [?] (<i>op</i>) ‘press someone’ <i>rekenen</i> [#] (<i>op</i>) ‘rely on’ <i>wachten</i> (<i>op</i>) ‘wait for’	<i>afknappen</i> (<i>op</i>) ‘get fed up with’ <i>stuiten</i> *(<i>op</i>) ‘come across’
<i>over</i>	<i>heersen</i> (<i>over</i>) ‘rule (over)’ <i>klagen</i> (<i>over</i>) ‘complain about’ <i>regeren</i> (<i>over</i>) ‘rule (over)’	<i>vallen</i> [#] (<i>over</i>) ‘trip over’ <i>struikelen</i> [#] (<i>over</i>) ‘stumble over’
<i>tegen</i>	<i>strijden</i> [?] (<i>tegen</i>) ‘fight against’ <i>opwegen</i> *(<i>tegen</i>) ‘be equal to’ <i>zondigen</i> (<i>tegen</i>) ‘violate’	<i>opkomen</i> [#] (<i>tegen</i>) ‘protest against’ <i>ingaan</i> *(<i>tegen</i>) ‘go against’ <i>uitvallen</i> [#] (<i>tegen</i>) ‘let fly at’
<i>tot</i>	<i>bijdragen</i> *(<i>tot</i>) ‘contribute to’ <i>dienen</i> [#] (<i>tot</i>) ‘be useful for’ <i>spreken</i> (<i>tot</i>) ‘speak to’	<i>komen</i> [#] (<i>tot</i>) ‘come to’ <i>toetreden</i> (<i>tot</i>) ‘join’ <i>vervallen</i> (<i>tot</i>) ‘deteriorate’
<i>tussen</i>	<i>kiezen</i> (<i>tussen</i>) ‘choose between’ <i>weifelen</i> (<i>tussen</i>) ‘waver between’	—
<i>uit</i>	—	<i>ontstaan</i> (<i>uit</i>) ‘originate from’ <i>voortkomen</i> *(<i>uit</i>) ‘follow from’
<i>van</i>	<i>dromen</i> (<i>van</i>) ‘dream about’ <i>genieten</i> (<i>van</i>) ‘enjoy’ <i>houden</i> *(<i>van</i>) ‘love/like’	<i>afstappen</i> [#] (<i>van</i>) ‘abandon’ <i>herstellen</i> (<i>van</i>) ‘recover from’ <i>schrikken</i> (<i>van</i>) ‘be frightened of’
<i>voor</i>	<i>boeten</i> (<i>voor</i>) ‘suffer/pay for’ <i>kiezen</i> [#] (<i>voor</i>) ‘opt for’ <i>waken</i> [#] (<i>voor</i>) ‘watch’ <i>zorgen</i> (<i>voor</i>) ‘take care of’	<i>bezwijken</i> (<i>voor</i>) ‘succumb to’ <i>opkomen</i> [#] (<i>voor</i>) ‘stand up for’ <i>terugdeinzen</i> (<i>voor</i>) ‘shrink from’ <i>schrikken</i> (<i>voor</i>) ‘be frightened of’ <i>zwichten</i> (<i>voor</i>) ‘give in to’

The subsections below investigate the extent to which intransitive and unaccusative PO-verbs exhibit the properties predicted by the generalizations in (328). We discuss the two types simultaneously, as this will highlight the differences between them.

A. ER-nominalization

Intransitive and unaccusative PO-verbs are °dyadic verbs taking an internal argument that is realized as a PP-complement. The second argument of the intransitive PO-verbs is an external (generally agentive) argument, whereas the second argument of the unaccusative PO-verbs is an internal argument with the role of theme; generalization (328a) therefore predicts that the former, but not the latter, may have a corresponding agentive ER-noun. The examples in (339) show that there are indeed intransitive PO-verbs that allow ER-nominalization, although it should be noted immediately that ER-nominalization of intransitive PO-verbs is certainly not as common as that of regular intransitive verbs.

- (339) • Intransitive PO-verbs
- a. Kleine jongens kijken graag naar gewelddadige films.
 little boys look gladly at violent movies
 ‘Little boys like to watch violent movies.’
 - a’. De kijkers naar gewelddadige films zijn meestal vrij jong.
 the lookers at violent movies are generally quite young
 - b. Veel ouders klagen over gewelddadige films.
 many parents complain about violent movies
 - b’. De klagers over gewelddadige films zijn vaak ouders van jonge kinderen.
 the complainers about violent movies are often parents of young children

As expected, unaccusative PO-verbs do not allow ER-nominalization. Some examples are given in (340).

- (340) • Unaccusative PO-verbs
- a. De vluchtelingen ontkwamen aan een ernstige ramp.
 the refugees escaped from a severe disaster
 ‘The refugees escaped from a severe disaster.’
 - a’. *de ontkomers aan een ernstige ramp
 - b. De jongens bezweken voor de verleiding.
 the boys succumbed to the temptation
 ‘The boys succumbed to temptation.’
 - b’. *de bezwijkers voor de verleiding

B. Auxiliary selection

Intransitive PO-verbs invariably select the perfect auxiliary *hebben* ‘to have’; the unaccusative PO-verbs in (342), on the other hand, select the auxiliary *zijn*. Since generalization (328b) states that selection of the auxiliary *zijn* is a sufficient condition for assuming unaccusative status for a verb, this means that we have now established that there are indeed unaccusative PO-verbs.

- (341) • Intransitive PO-verbs
- a. De kleine kinderen hebben/*zijn naar een spannende film gekeken.
the little children have/are at an exciting movie looked
'The little children have watched an exciting movie.'
 - b. Veel ouders hebben/*zijn over deze film geklaagd.
many parents have/are about this movie complained
'Many parents have complained about this movie.'
- (342) • Unaccusative PO-verbs
- a. De vluchtelingen zijn/*hebben aan een ernstige ramp ontkomen.
the refugees are/have from a severe disaster escaped
'The refugees have escaped from a severe disaster.'
 - b. Jan is/*heeft onder de verleiding bezweken.
Jan is/has to the temptation succumbed
'Jan has succumbed to temptation.'

C. Attributive use of the past/passive and present participles

The examples in (343) show that past/passive participles of intransitive PO-verbs cannot be used attributively with nouns that correspond to their subjects.

- (343) • Intransitive PO-verbs
- a. *de naar gewelddadige films gekeken kinderen
the at violent movies looked children
 - b. *de over deze film geklaagde ouders
the about this movie complained parents

Past participles of unaccusative verbs, on the other hand, can be used attributively with nouns corresponding to their subject, as is shown in the primeless examples in (344). The primed examples show that, like PP-complements of attributive adjectives, these PP-complements cannot follow the attributively used participle (cf. the °Head-final filter on attributive adjectives) or the noun.

- (344) • Unaccusative PO-verbs
- a. de aan een ernstige ramp ontkomen vluchtelingen
the from a severe disaster escaped refugees
'the refugees who escaped from a severe disaster'
 - a'. *de ontkomen <aan een ernstige ramp> vluchtelingen <aan een ernstige ramp>
 - b. de onder de verleiding bezweken jongen
the to the temptation succumbed boy
'the boy who succumbed to temptation'
 - b'. *de bezweken <onder de verleiding> jongen <onder de verleiding>

Since generalization (328c) states that the possibility of using the past/passive participle attributively is a sufficient condition for assuming unaccusative status for a monadic verb, the primeless examples in (344) provide additional evidence for the claim that there are unaccusative PO-verbs.

For completeness' sake note that, like with regular intransitive verbs, present participles of intransitive PO-verbs can be attributively used with nouns that

correspond to the subject of the clause. This is shown in (345), in which the PP-complement must again precede both the participle and the noun.

- (345) • Intransitive PO-verbs
- a. de naar gewelddadige films kijkende kinderen
the to violent movies looking children
'the children who are watching violent movies'
 - b. de over deze film klagende ouders
the about this movie complaining parents
'the parents who are complaining about this movie'

The examples in (346) show that the present participle of unaccusative PO-verbs can also be used attributively with nouns that correspond to the subject of the clause. As with the regular unaccusative verbs, the difference between the examples in (344) and (346) is aspectual in nature: in the former case the event is represented as completed (perfective aspect), whereas in the latter case it is represented as ongoing (durative or imperfective aspect).

- (346) • Unaccusative PO-verbs
- a. de aan een ernstige ramp ontkomende vluchtelingen
the from a severe disaster escaping refugees
'the refugees that are escaping from a severe disaster'
 - b. de onder de verleiding bezwijkende jongen
the to the temptation succumbing boy
'the boy who is succumbing to temptation'

D. Impersonal passive

According to generalization (328d), the possibility of passivization is a sufficient condition for assuming unergative status for a verb; unaccusative verbs categorically resist passivization. The examples in (347) and (348) behave as expected: the intransitive PO-verbs in (347) can indeed occur in the impersonal passive, whereas the unaccusative ones in (348) cannot.

- (347) • Intransitive PO-verbs
- a. Er wordt (door kleine kinderen) vaak naar gewelddadige films gekeken.
there is by little children often at violent movies looked
'Violent movies are often watched by little children.'
 - b. Er wordt (door ouders) vaak over deze film geklaagd.
there is by parents often about this movie complained
'One (parents) often complains about this movie.'

- (348) • Unaccusative PO-verbs
- a. *Er werd (door de vluchtelingen) ontkomen aan een ernstige ramp.
there was by the refugees escaped from a severe disaster
 - b. *Er wordt (door Jan) vaak bezweken onder de verleiding.
there is by Jan often succumbed to the temptation

It should be noted, however, that there is a small set of aspectual-like verbs that do allow impersonal passivization despite the fact that they take the perfect auxiliary

zijn: *aanvangen/beginnen (met)* ‘to start with’, *ophouden (met)* ‘to stop with’, *overgaan (tot)* ‘to proceed to’. These verbs constitute a problem for the classic unaccusativity tests: the fact that they take *zijn* should be sufficient to conclude that they are unaccusative and we therefore wrongly predict that the passivization in the primed examples of (349) should be impossible. We will ignore these cases here but return to them in Subsection IV.

- (349) a. Jan is begonnen/gestopt met de bouw van het huis.
 Jan is started/stopped with the construction of the house
 ‘Jan has started/stopped building the house.’
- a'. Er is begonnen/gestopt met de bouw van het huis.
 there is started/stopped with the construction of the house
 ‘The construction of the house has stopped.’
- b. Daarna zijn we overgegaan tot de orde van de dag.
 after.that are we prt.-proceed to the order of the day
 ‘After that, we proceeded to the order of the day.’
- b'. Daarna werd overgegaan tot de orde van de dag.
 after.that was prt.-proceed to the order of the day

E. Conclusion

The previous subsections have shown that the two subclasses of dyadic PO-verbs we have distinguished indeed behave differently. The differences in behavior of these two types of PO-verbs are similar to the differences in behavior of the regular intransitive and unaccusative verbs. If the generalizations in (328) are indeed valid, we may therefore safely conclude that we have correctly characterized these two classes of PO-verbs as intransitive and unaccusative, respectively.

III. A second class of unaccusative PO-verb?

Section 2.1.2, sub III, suggested that, besides unaccusative verbs taking *zijn* as their perfect auxiliary, there is a second class of unaccusative verbs taking the auxiliary *hebben*. An example of such a verb is *branden* ‘to burn’ in (350a). The data to be discussed in this subsection strongly suggest that there are some PO-verbs that may also belong to this second class of unaccusative verbs. One potential example of this type is given in (350b), in which the verb *branden* has been used metaphorically and is clearly complemented by a PP.

- (350) a. De kaars brandt.
 the candle burns
 ‘The candle is burning.’
- b. Jan brandt van verlangen.
 Jan burns of desire

Other verbs that may belong to the second type of unaccusative PO-verbs are given in (351). This list also indicates whether or not the PP is obligatory, and whether omission of the PP results in a drastic change of meaning (the cases marked with the number sign #).

- (351) **Unaccusative prepositional object verbs (type II):** *afsteken (bij)* ‘to stand out against’, *barsten* [#](*van*) ‘to swarm with’, *bestaan* [#](*uit*) ‘to consist of’, (*be*)*horen* [#](*tot/bij*) ‘to belong to’, *dateren* [#](*van/uit*) ‘to date from’, *gonzen van* ‘to buzz’, *krioelen/sterven/stikken* [#](*van*) ‘to swarm with’, *passen (bij/in)* ‘to fit’, *rammelen* [#](*van de honger*) ‘to be extremely hungry’, *ressorteren* [#](*onder*) ‘to come under’, *ruiken* [#](*naar*) ‘to smell of’, *smaken* [#](*naar*) ‘to taste like’, *schommelen* [#](*tussen*) ‘to vacillate between’, *smaken (naar)* ‘to taste of’, *zwenen* [#](*naar*) ‘to incline/tend to’

A. ER-nominalization

The subject of the PO-verbs in (351) is non-agentive, which is clear from the fact that these verbs normally take a [-ANIMATE] subject. The actual semantic role of the subject is often difficult to determine: the subject in (352a) might be a theme, but might also be a location; the subject in (352a') might again be a theme, but it also feels like an experiencer; the subject in (352b) acts like some kind of source; in (352c), the subjects again seem to be themes.

- (352) a. De stad barst van de toeristen.
the city bursts of the tourists
'The city is swarming with tourists.'
- a'. Jan barst van de honger/hoofdpijn.
Jan bursts of the hunger/headache
'Jan is extremely hungry/has a terrible headache'
- b. Jan/de kamer ruikt naar zeep.
Jan/the room smells of soap
'Jan/the room smells of soap.'
- c. Deze wijn past goed bij dit gerecht.
this wine fits well with this dish
- c' Jan past goed in onze groep.
Jan fits well in our group

Given the fact that the subject is non-agentive, it does not come as a surprise that the PO-verbs in (351) cannot be used as input for ER-nominalization. In this respect, these verbs behave like all unaccusative verbs.

- (353) • ER-nominalization
- a. *een barster van de honger/hoofdpijn
a burst-er of the hunger/headache
- b. *een ruiker naar zeep
a smell-er of soap
- c. *een passer bij dit gerecht/in onze groep
a fit-er with this dish/in our group

B. Auxiliary selection

Like regular unaccusative verbs of the second type, the PO-verbs in (351) select the auxiliary *hebben* in the perfect tense. Although many of these verbs cannot readily be used in the perfect-tense construction, the contrast between the examples with *hebben* and *zijn* is clear.

- (354) a. De stad [?]heeft/*is al die tijd gebarsten van de toeristen.
 the city has/is all that time burst of the tourists
 ‘The city has swarmed with tourists all that time.’
- a'. Jan [?]heeft/*is al die tijd gebarsten van de honger/hoofdpijn.
 Jan has/is all that time burst of the hunger/headache
 ‘Jan has been extremely hungry/has had a terrible headache all that time.’
- b. Jan/de kamer heeft/*is al die tijd geroken naar zeep.
 Jan/the room has/is all that time smelled of soap
 ‘Jan/the room has smelled of soap all that time.’
- c. Deze wijn [?]heeft/*is altijd goed bij dit gerecht gepast.
 this wine has/is always well with this dish fit
- c'. Jan heeft/*is altijd goed in onze groep gepast.
 Jan has/is always well in our group fit

The examples in (355) illustrate that unaccusative verbs of the second type show an auxiliary shift if they are supplemented with a predicative complement: with a °complementive they take the auxiliary *zijn*. It would, of course, be decisive if the PO-verbs in (351) were to exhibit a similar shift. Unfortunately, however, these verbs cannot be supplemented with a predicative complement, because complementives never occur with verbs taking a PP-complement.

- (355) a. Jan heeft/*is gebloed.
 Jan has/is bled
- b. Jan is/*heeft dood gebloed.
 Jan is/has dead bled
 ‘Jan has bled to death.’

C. Attributive and predicative use of the participles

Like the regular unaccusative verbs of the second type, the past/passive participle of the PO-verbs in (351) cannot be used attributively.

- (356) • Attributive use of the past/passive participle
- a. *de van de toeristen gebarsten stad
 the of the tourists burst city
- a'. *de van de honger/hoofdpijn gebarsten jongen
 the of the hunger/headache burst boy
- b. *de naar zeep geroken jongen/kamer
 the of soap smelled boy/room
- c. *de bij de maaltijd gepaste wijn
 the with the dish fit wine
- c' *de in de groep gepaste jongen
 the in the group fit boy

The examples in (357) show that past/passive participles of unaccusative verbs of the second type can be used attributively, provided that a complementive is added. Again, this cannot be used as a test for showing that the PO-verbs in (351) are also unaccusative, since the PP-complement blocks the addition of a complementive.

- (357) de *(dood) gebloede jongen
 the dead bled boy
 'the boy that has bled to death'

For completeness' sake, note that present participles of the PO-verbs in (351) can be used attributively (like those of all verbs discussed so far).

- (358) • Attributive use of the present participle
- a. de van de toeristen barstende stad
 the of the tourists bursting city
 - a'. de van de honger/hoofdpijn barstende jongen
 the of the hunger/headache bursting boy
 - b. de naar zeep ruikende jongen/kamer
 the of soap smelling boy/room
 - c. de bij de maaltijd passende wijn
 the with the dish fitting wine
 - c' de in de groep passende jongen
 the in the group fitting boy

D. Impersonal passive

Like unaccusative verbs (of all types), the PO-verbs in (351) cannot be passivized. This provides support for the assumption that we are indeed dealing with unaccusative verbs. Note that the ungrammaticality of the examples in (359) cannot be accounted for by assuming some kind of animacy restriction since all these verbs can take a [+HUMAN] subject.

- (359) • Impersonal passive
- a. *Er werd (door Jan) gebarsten van de honger/hoofdpijn.
 there was by Jan burst of the hunger/headache
 - b. *Er wordt (door Jan) naar zeep geroken.
 there is by Jan of soap smelled
 - c. *Er wordt (door Jan) in de groep gepast.
 there is by Jan in the group fit

E. Conclusion

The previous subsections discussed the PO-verbs in (351). We have seen that the behavior of these verbs differs somewhat from that of the regular unaccusative verbs of the second type, but this is due to an independent factor, viz., the fact that the PP-complement blocks the addition of a predicative complement. The fact that the verbs in (351) cannot be the input for ER-nominalization and cannot be passivized provides some support in favor of the assumption that these verbs are unaccusative PO-verbs. The facts are not *sufficient*, however, for concluding unaccusative status for these verbs. More research is therefore needed to establish that these verbs are indeed unaccusative.

IV. A problematic case

This subsection briefly discusses a set of PO-verbs that do not readily fit into the groups discussed in the previous subsections; they exhibit mixed behavior in the

sense that they satisfy both a sufficient condition for assuming unaccusative status (they take the auxiliary *zijn*) and a sufficient condition for assuming unergative status (they allow passivization). A sample of these PO-verbs is given in (360).

- (360) **Prepositional object verbs selecting *zijn*** ‘to be’: *aanvangen met* ‘to start with’, *afgaan op* ‘to rely on’, *beginnen aan/met* ‘to start (with)’, *doorgaan met* ‘to continue with’, *eindigen met* ‘to conclude with’, *ingaan op* ‘to accept’, *ophouden met* ‘to quit’, *overgaan (tot)* ‘to proceed to’, *stoppen met* ‘to quit’, *tegemoet komen aan* ‘to meet’, *toekomen aan* ‘to get to’, *voorbijgaan aan* ‘to pass by’, *uitgaan van* ‘to assume’, *vooruitlopen op* ‘to anticipate’

A noteworthy fact is that many of the verbs in (360) are aspectual in nature: *aanvangen met* ‘to start with’, *beginnen (aan/met)* ‘to start with’, *doorgaan met* ‘to continue with’, *eindigen met* ‘to conclude with’, *ophouden met* ‘to quit’, *overgaan (tot)* ‘to proceed to’, *stoppen met* ‘to quit’, and perhaps also *toekomen aan* ‘to get to’ and *vooruitlopen op* ‘to anticipate’. Furthermore, many of these verbs are particle verbs based on the verbs *gaan* and *komen*, which do exhibit straightforward unaccusative behavior if used without a particle. Finally, it should be noted that most of the verbs in (360) cannot readily be combined with a [-HUMAN] subject and that those that do allow both an animate and an inanimate subject show their ambiguous behavior only if the subject is animate (which may be due to the animacy restriction on passivization).

A. ER-nominalization

The PO-verbs in (360) do not allow ER-nominalization if the PP-complement is present, which suggests that the subject is non-agentive. It should be noted, however, that the noun *beginner* ‘beginner’ does exist as a lexicalized form denoting an inexperienced person in a specific domain of art, sports, science, etc. There is also a noun *voorbijganger*, but this noun is only used to denote a person who is literally passing by and must also be considered a lexicalized form, which is clear from the fact that the morpheme *ganger* is used instead of the regular form *gaander*. The prepositions that are given in small caps do not have an English counterpart.

- (361) a. Marie begint aan/met een nieuw project.
 Marie starts with a new project
 a'. *een beginner aan/met een nieuwe project
 a starter with a new project
 b. Marie loopt op de nieuwe plannen vooruit.
 Marie anticipates OP the new plans prt.
 b'. *een vooruitloper op deze plannen
 an anticipator of these plans
 c. Jan gaat aan de details voorbij.
 Jan passes AAN the details by
 c'. *een voorbijgaander aan de details
 a by-passer AAN the details

B. Auxiliary selection

The PO-verbs in (360) all select the auxiliary *zijn* ‘to be’. Since we have claimed that selecting *zijn* is a sufficient condition for assuming unaccusative status of the verb, we should conclude that we are dealing with unaccusative PO-verbs, but we will see that this runs afoul of the fact that these verbs also allow passivization.

- (362) a. Marie is aan/met een nieuw project begonnen.
 Marie has with a new project started
 b. Marie is op de nieuwe plannen vooruitgelopen.
 Marie has OP the new plans prt.-anticipated
 c. Jan is aan de details voorbijgegaan.
 Jan has AAN the details by-passed

C. Attributive and predicative use of the past/passive participle

The past/passive participles of these PO-verbs cannot readily be used attributively, although judgments may differ from case to case and from person to person. This may indicate either that the verb in question is °atelic or that it is unergative. In the case of the PO-verbs *afgaan op*, *doorgaan met*, *ingaan op* and *voorbijgaan aan*, the lack of attributive use is probably due to the fact that they are °contraction verbs.

- (363) a. ??een aan/met een nieuw project begonnen meisje
 a with a new project started girl
 b. ??een op de plannen vooruitgelopen meisje
 a OP the plans anticipated girl
 c. *een aan de details voorbijgegane jongen
 a AAN the details by-passed boy

For completeness’ sake, the examples in (364) show that the present participles can normally be used attributively. Exceptions are verbs derived from *gaan*, which is due to the fact that the present participles of contraction verbs generally cannot be used attributively; cf. A9.2.1.1, sub IX.

- (364) a. een aan/met een nieuw project beginnend meisje
 a with a new project starting girl
 b. een op de plannen vooruitlopend meisje
 a OP the plans anticipating girl
 c. *een aan de details voorbijgaande jongen
 a AAN the details by-passed boy

D. Impersonal passive

The data discussed so far are consistent with assuming unaccusative status for the PO-verbs in (360). We therefore expect that these verbs cannot be passivized either, but the examples in (365) show that this expectation is not borne out.

- (365) a. Er wordt (door Marie) aan/met een nieuw project begonnen.
 there is by Marie with a new project started
 b. Er wordt (door Marie) op de plannen vooruitgelopen.
 there is by Marie OP the plans prt.-anticipated
 c. Er wordt (door Jan) aan de details voorbijgegaan.
 there is by Jan AAN the details by-passed

E. Conclusion

The PO-verbs in (360) are a problem for the generalizations in (328), according to which selection of the auxiliary *zijn* is a *sufficient* condition for assuming unaccusative status, and passivization a *sufficient* condition for assuming unergative status of a verb. Since the PO-verbs in (364) select *zijn* and also allow passivization, they pose a problem for the assumptions underlying the classification of PO-verbs insofar as these would lead to a contradiction. This problem deserves more attention in the future.

2.3.3. NP-PP alternations

Section 2.3.2 discussed PO-verbs that can be viewed as regular intransitive, transitive and unaccusative verbs taking a PP-complement *in addition* to their nominal arguments. This section discusses cases in which the PP-complement *substitutes for* a direct object. Since the alternation involves a direct object, it only arises with transitive and ditransitive verbs, which will be discussed in Subsection I and II, respectively. The discussion below will be relatively brief, given that the alternations under discussion will also be dealt with in Section 3.3.1.5.

I. Alternations between transitive verbs and intransitive PO-verbs

The examples in (366) show that PP-complements sometimes alternate with direct objects of transitive verbs. Although this alternation normally involves a shift in meaning, it seems that the semantic roles of the two complements are more or less the same; in all cases we seem to be dealing with themes.

- | | | | |
|----------|---|----|---|
| (366) a. | Jan schiet (op) de eend.
Jan shoot at the duck
'Jan is shooting (at) the duck.' | c. | Jan gelooft (in) Marie.
Jan believes in Marie
'Jan believes/has faith (in) Marie.' |
| b. | Jan eet (van) zijn broodje.
Jan eats from his roll
'Jan is eating (from) his roll.' | d. | Jan verlangt (naar) een broodje.
Jan desires NAAR a roll
'Jan requests/longs for a roll.' |

The shifts in meaning can be of various types. In (366a), the shift involves the affectedness of the theme: if the theme is realized as a noun phrase, it is affected by the act denoted by the verb, that is, the duck has been hit by Jan; if the theme is realized as a PP, on the other hand, it need not be affected by the action, that is, the duck may or may not have been hit by Jan. In (366b), the shift in meaning concerns whether or not the theme is totally affected. This change of meaning comes out clearly with sentences in the perfect tense: (367a) implies that Jan has finished his roll, whereas (367b) suggests that the roll has not been completely eaten.

- | | |
|----------|--|
| (367) a. | Jan heeft zijn broodje gegeten.
Jan has his roll eaten |
| b. | Jan heeft van zijn broodje gegeten.
Jan has from his roll eaten |

In (366c), the addition of the preposition makes more interpretations available: whereas *Jan gelooft Marie* can only mean that Jan believes Marie, *Jan gelooft in Marie* can also mean that Jan has faith in Marie. In (366d), the meanings of the two

constructions do not really overlap: *verlangen naar* means something like “to long for”, whereas *verlangen* is rather rendered like “to request”.

Syntactically, the PO-verbs in (366) behave more or less like the other intransitive PO-verbs discussed in Section 2.3.2, sub II. We will show this on the basis of ER-nominalization, auxiliary selection, attributive use of the past/passive participle, and passivization.

A. ER-nominalization

Section 2.3.2, sub II, has shown that ER-nominalization of intransitive PO-verbs is less common than that of regular intransitive verbs. It will therefore not come as a big surprise that the primed examples in (368) show that the PO-verbs in (366) do not allow ER-nominalization. It should be noted, however, that this need not be entirely due to the presence of the PP-complement given that the primeless examples of (368) show that ER-nominalizations of the corresponding regular transitive verbs are often unacceptable as well. A contrast only arises in the case of the verb *eten* ‘to eat’, as is clear from the fact that the nominalizations in the (b)-examples only have the total affectedness reading of the regular transitive verb. The contrast between *eten* ‘to eat’ and the other verbs with respect to ER-nominalization may reflect the fact that the transitive use of *eten* is also more common.

- | | |
|---|---|
| (368) a. *een schieter van konijnen
a shooter of rabbits | a'. *een schieter op konijnen
a shooter at rabbits |
| b. een eter van kaas
an eater of cheese | b'. #een eter van kaas
an eater from cheese |
| c. *een gelover van Marie
a believer of Marie | c'. *een gelover in Marie
a believer in Marie |
| d. *een verlanger van broodjes
a desirer of rolls | d'. *een verlanger van/naar broodjes
a desirer of/NAAR rolls |

B. Auxiliary selection

Like the intransitive PO-verbs discussed in Section 2.3.2, sub II, the PO-verbs in (366) all take the auxiliary *hebben*, which is consistent with assuming unergative status for these verbs; the examples in (369) show that in this respect these verbs behave like the corresponding transitive verbs.

- (369) a. Jan heeft (op) de eend geschoten.
Jan has at the duck shot
'Jan has shot (at) the duck.'
- b. Jan heeft (van) zijn broodje gegeten.
Jan has from his roll eaten
'Jan has eaten (from) his roll.'
- c. Jan heeft (in) Marie geloofd.
Jan has in Marie believed
'Jan has believed/had trust (in) Marie.'
- d. Jan heeft (naar) een broodje verlangd.
Jan has NAAR a roll desired
'Jan has requested/longed for a roll.'

C. Attributive use of the past/passive participle

The past/passive participles of the PO-verbs in (366) cannot be used attributively to modify the subject of the corresponding verbal construction, whereas their present participles can. In this respect they behave like the intransitive PO-verbs discussed in Section 2.3.2, sub II. The ungrammaticality of the examples in (370) with a past/passive participle is compatible with assuming unergative status for the PO-verbs in (366).

- (370) a. de op de eend schietende/*geschoten man
 the at the duck shooting/shot man
 b. de van zijn broodje etende/*gegeten man
 the from his roll eating/eaten man
 c. de in Marie gelovende/*geloofde man
 the in Marie believing/believed man
 d. de naar een broodje verlangende/*verlangde man
 thee NAAR a roll desiring/desired man

D. Impersonal passive

All PO-verbs in (366) seem to allow passivization, which is *sufficient* for assuming unergative status for these verbs.

- (371) a. Er werd op de eend geschoten.
 there was at the duck shot
 b. Er werd van zijn broodje gegeten.
 there was from his roll eaten
 c. Er werd in Marie geloofd.
 there was in Marie believed
 d. ^(?)Er wordt naar een broodje verlangd.
 there is NAAR a roll desired

E. Conclusion

The data in the previous subsections show that in all relevant respects the PO-verbs in (366) behave like the intransitive PO-verbs discussed in Section 2.3.2, sub II. Therefore, apart from the fact that PP-complements of these verbs alternate with nominal complements, nothing special need be said about these verbs.

II. PO-verbs with an indirect object

There is a relatively small set of verbs taking both a dative noun phrase and a PP-complement. Some examples are given in (372); a quick inspection of this list reveals that most verbs are verbs of communication.

- (372) **Prepositional object verbs with a dative object:** *berichten over* ‘inform about’, *smeken om* ‘to beg for’, *vertellen over* ‘to tell about’, *vertellen van* ‘to tell about’, *verzoeken om* ‘to request’, *vragen naar* ‘to ask about’, *vragen om* ‘to ask for’, *vragen over* ‘to ask about’

That we are dealing with an alternation of the same type as in Subsection I is clear from the fact that most of these verbs can also be used as ditransitive verbs with a

clausal complement; cases in which the PP alternates with a non-pronominal noun phrase are less common, however, which is related to the fact that verbs of communication prefer a complement with propositional content. The examples in (373) show that, like in most regular ditransitive constructions, the dative object cannot be used without the second complement.

- (373) a. Jan vraagt Peter *((om) een koekje).
 Jan asks Peter OM a cookie
 'Jan is asking (for) a cookie.'
- b. Marie vertelt Peter *((over) het probleem).
 Marie tells Peter about the problem
 'Jan is telling Peter (about) the problem.'

In the following subsections, we will briefly discuss the syntactic properties of these PO-verbs.

A. ER-nominalization

Although the PO-verbs in (372) take an agentive subject, ER-nominalization seems to give rise to a marginal result.

- (374) • ER-nominalization
- a. vragers [?](^{??}om een koekje)
 askers for a cookie
- b. vertellers (^{??}over het probleem)
 tellers about the problem

B. Auxiliary selection

The PO-verbs in (372) select the auxiliary verb *hebben* 'to have', just like their ditransitive counterparts. This is compatible with assuming unergative status for these verbs.

- (375) a. Jan heeft/*is Peter (om) een koekje gevraagd.
 Jan has/is Peter for a cookie asked
 'Jan has asked Peter for a cookie.'
- b. Marie heeft Peter (over) het probleem verteld.
 Marie has Peter about the problem told
 'Marie has told Peter about the problem.'

C. Attributive use of the participles

Past/passive participles of the PO-verbs in (372) cannot be used attributively with a noun corresponding to the °nominative argument of the corresponding verbal construction. It is marginally possible, however, to use it if the modified noun corresponds to the dative object; this is also the case if the PO-object is replaced by a direct object, although some speakers seem to like this option (even) less.

- (376) a. [?]de (om) een koekje gevraagde jongen [jongen ≠ agent]
 the for a cookie asked boy
- b. ^{??}de (over) het probleem vertelde jongen [jongen ≠ agent]
 the about the problem told boy

Replacing the past participle by a present participle triggers an agentive reading on the modified noun.

- (377) a. [?]de (om) een koekje vragende jongen [jongen = agent]
 the for a cookie asking boy
 b. [?]de (over) het probleem vertellende jongen [jongen = agent]
 the about the problem telling boy

D. (Impersonal) passive

The PO-verbs in (372) allow passivization. The assumption that the nominal complements are datives is motivated by the fact that it is often claimed that they cannot be promoted to subject; passivization is taken to result in the impersonal passive in the primeless examples in (378). It should be noted, however, that some speakers at least marginally allow the nominal complement to become the subject of the clause with the PO-verb in (372): for these speakers the primed examples are also more or less acceptable.

- (378) a. Er wordt Peter/hem om een koekje gevraagd.
 there is Peter/him for a cookie asked
 a'. [%]Peter/Hij wordt om een koekje gevraagd.
 Peter/he is for a cookie asked
 b. Er werd Peter/hem over het probleem verteld.
 there was Peter/him about the problem told
 b'. [%]Peter/Hij werd over het probleem verteld.
 Peter/he was about the problem told

The passivization test provides a good tool to distinguish PO-verbs with a dative object from the transitive PO-verbs discussed in Section 2.3.2, which do not allow impersonal passivization; the contrast between the two (b)-examples shows that the object *must* be promoted to subject; the impersonal passives in (379b) are excluded.

- (379) a. Jan betrok zijn studenten/hen bij de workshop.
 Jan involved his students/them in the workshop
 b. *Er werd zijn studenten/hen betrokken bij de workshop.
 there was his students/them involved in the workshop
 b'. Zijn studenten/zij werden betrokken bij de workshop.
 his students/they were involved in the workshop

The passivization test, however, is not always easy to use. For example, normative grammarians have claimed that the PO-verb *wijzen op* in (380a) takes an indirect object, and that the passive construction in (380b) consequently is an impersonal passive; the noun phrase does not function as a subject and the finite verb should therefore exhibit (default) singular agreement; we refer the reader to the *Taalunieversum*: taaladvies.net/taal/advies/vraag/917 and *Onze Taal*: onzetaal.nl/taaladvies/advies/de-luisteraars-werd-werden-erop-gewezen for discussion. This claim goes against our intuitions, according to which example (380b) is only possible with plural agreement (the form normally found in speech). This strongly suggests that we are not dealing with an impersonal but with a regular passive,

which is confirmed by the fact that using the object form of the pronoun gives rise to a severely degraded result in (380c). We believe that this unequivocally shows that normative grammar is wrong and that we are not dealing with a PO-verb with a dative object but with a transitive PO-verb, which perhaps receives further support from the fact that the German translation of *wijzen op* (*hindeuten/hinweisen auf*) also takes an accusative object.

- (380) a. Wij wijzen de kijkers erop dat deze film ongeschikt is voor kinderen.
 we point the viewers at.it that this movie unsuitable is for children
 'We inform the viewers that this movie is unsuitable for children.'
- b. De kijkers worden/*[?]wordt erop gewezen dat ...
 the viewers are/is at.it · pointed that
- c. Hij/*hem wordt erop gewezen dat ...
 he/him was at.it pointed that

For completeness' sake, we want to note that ditransitive verbs selecting an indirect object and a clausal direct object often have a similar choice between impersonal and regular passivization, as is illustrated by (381). Apparently, some speakers allow a dative object to be promoted to subject if no accusative object is present; see Section 3.2.1.3, sub II, for more discussion.

- (381) a. De conducteur verzoekt alle reizigers/hun om uit te stappen.
 the conductor requests all travelers/them COMP prt. to step
 'The conductor asks all travelers/them to get down.'
- b. Er wordt de reizigers/hun verzocht om uit te stappen.
 there is the travelers/them requested COMP prt. to step
- c. %De reizigers/Zij worden verzocht om uit te stappen.
 the travelers/they are requested COMP prt. to step

For our present purposes, the contrast between the types of passivization is not that important: the mere fact that the PO-verbs under discussion allow (impersonal) passivization is sufficient to conclude that they are unergative verbs.

E. The order of the complements

For completeness' sake, it can be noted that the dative argument normally precedes the prepositional complement; the PP-complement can only precede the dative object if it is moved into clause-initial position as the result of topicalization or *wh*-movement.

- (382) a. dat Jan <Peter> om een koekje <*Peter> vroeg.
 that Jan Peter for cigarettes asked
- b. dat Marie <Peter> over het probleem *<Peter> verteld heeft.
 that Marie Peter about the problem told has

F. Conclusion

The data in the previous subsections show that the PO-verbs in (373) are unergative, which is especially clear from the fact that they allow passivization. Passivization is different from what is found in the corresponding transitive constructions, of course, given that the theme is not realized as an accusative object.

As a result of this, it is the impersonal passive that is normally found. For some speakers a passive construction in which the dative argument of the active construction is promoted to subject is also possible.

2.3.4. *Special and problematic cases*

The previous sections discussed the main types of PO-verbs. The PO-verbs discussed in 2.3.2 seem to involve intransitive, transitive and °monadic unaccusative verbs, to which an additional PP-complement is added. The PO-verbs discussed in 2.3.3 seem related to regular transitive or ditransitive verbs, the direct object of which is replaced by a PP-complement. This section will briefly discuss some more special and potentially problematic cases.

1. *Double prepositional complement verbs?*

It has been claimed that PO-verbs select at most one PP-complement; see, e.g., Haeseryn et al. (1997:1179) and Neeleman & Weerman (1999: Section 5.5). Yet, there are many cases that might plausibly be analyzed as PO-verbs with two or more PP-complements. One potential case has already been discussed, namely, the verbs of exchange in (290), repeated here as (383), which also constitute a potential counterexample to the hypothesis put forth in the introduction to this section on PP-complements, according to which a verb can take at most two complements.

- (383) a. Jan verkocht het boek voor tien euro aan Marie.
 Jan sold the book for ten euros to Marie
 b. Marie kocht het boek voor tien euro van Jan.
 Marie bought the book for ten euros from Jan
 c. Marie betaalde Jan tien euro voor het boek.
 Marie paid Jan ten euros for the book

We have seen, however, that there are reasons for assuming that the *voor*-PPs are adverbial phrases and not complements of the verbs. First, as was also noted in the introduction to Section 2.3, it is possible to paraphrase the examples in (383) by means of an *en pronoun doet dat XP* clause, in which XP is generally assumed to be an °adjunct (the °adverb test): if this test is indeed conclusive, the examples in (291), repeated here as (384), show that the *voor*-PPs are adverbial phrases.

- (384) a. Jan verkocht het boek aan Marie en hij deed dat voor tien euro.
 Jan sold the book to Marie and he did that for ten euros
 b. Marie kocht het boek van Jan en ze deed dat voor tien euro.
 Marie bought the book from Jan and she did that for ten euros
 c. Marie betaalde Jan tien euro en ze deed dat voor het boek.
 Marie paid Jan ten euros and she did that for the book

Second, we have seen in Section 2.3.2, sub IE, that PP-complements in the °middle field of the clause cannot normally precede the direct object. This is shown again in (385).

- (385) dat Jan <*tegen inbraak> het huis <tegen inbraak> beveiligde.
 that Jan against burglary the house protected

The fact that the *voor*-PPs in (383) can precede the direct objects in (386) therefore suggests again that they are not PP-complements but adverbial phrases.

- (386) a. Jan heeft voor tien euro dat boek aan Marie verkocht.
 Jan has for ten euros that book to Marie sold
 'Jan has sold that book for ten euros to Marie.'
- b. Marie heeft voor tien euro dat boek van Jan gekocht.
 Marie has for ten euros that book from Jan bought
 'Marie has bought that book from Jan for ten euros.'
- c. Marie betaalde Jan voor het boek tien euro.
 Marie paid Jan for the book ten euros

Many examples with potentially two complement-PPs contain a so-called comitative *met*-PP, which typically refers to a "co-agent" of the activity denoted by the verb. At first sight, the examples in (387a&b) may be plausibly analyzed as cases involving the PO-verbs *praten over* 'to talk about' and *praten met* 'to talk with'. If these analyses are correct, we should probably conclude that example (387c) is a case in which *praten* 'to talk' takes two PP-complements.

- (387) a. dat Jan over zijn werk praatte.
 that Jan about his work talked
- b. dat Jan met Els praatte.
 that Jan with Els talked
- c. dat Jan met Els over zijn werk praatte.
 that Jan with Els about his work talked

The *en pronoun doet dat XP*-test suggests, however, that the comitative *met*-PP is not a PP-complement, as is clear from the acceptability contrast between the two examples in (388).

- (388) a. ^{??}Jan sprak met Els en hij deed dat over zijn werk.
 Jan talked with Els and he did that about his work
- b. Jan praatte over zijn werk en hij deed dat met Els.
 Jan talked about his word and he did that with Els

However, since the examples in (387) do not contain a direct object, nothing can be concluded on the basis of the word order of these examples. In order to apply this test, we have to construct examples that contain both a direct object and a comitative *met*-PP, and see whether the PP can precede the direct object. Now, consider the examples in (389).

- (389) a. dat Jan <met Peter> de problemen <met Peter> besprak.
 that Jan with Peter the problems discussed
 'that Jan discussed the problems with Peter.'
- b. dat Jan <met Peter> het huis <met Peter> tegen inbraak beveiligde.
 that Jan with Peter the house against burglary protected
 'that Jan took measures to protect the house against burglary with Peter.'

Since the *met*-PP can precede the direct object in these examples, it seems plausible to conclude that comitative *met*-PPs should never be considered complements, and

hence that examples like (387c) and (389b) do not constitute counterexamples to the claim that PO-verbs take at most one PP-complement. Note further that the hypothesis according to which a verb can take at most two complements would also dictate that the comitative *met*-PP is an adjunct; if the *met*-PP is a complement of the verb, an example such as (389b) would contain three complements.

The claim that a PO-verb can take at most one PP-complement is not generally accepted (cf. De Schutter 1974: 227-8), and has recently been challenged in a series of papers by Vandeweghe & Devos (2003), Vandeweghe (2007/2011), Coleman & Delorge (2010), and Vandeweghe & Coleman (2011). These papers argue that examples such as (387c) do contain two PP-complements; this double PP-complement construction is claimed to typically occur with verbs of human interaction (communication, negotiation, etc); the comitative *met*-PP in (387c) is assumed to be selected by the verb *bespreken* ‘to discuss’ given that it denotes an activity that requires at least two [+HUMAN] participants (in the prototypical case). The more recent papers further argue that the word order test used in (389) just reflects a tendency and is not generally valid. Vandeweghe & Coleman (2011) investigated the behavior of the 11 PO-verbs with a direct object in the *Twents Nieuws Corpus*, and found that 70 (11.9%) out of the 585 attestations appeared in the PP-NP order in the middle field of the clause. We have omitted two of their cases from our Table 11: *bespreken met* ‘to discuss with’ given that it is this case for which we want to establish whether or not it takes a PP-complement (the results for this verb will be given later), and *veranderen (in)* because we would analyze this as a verb with a °complementive; cf. note 12 in Vandeweghe & Coleman (2011). This resulted in a slightly lower rate of PP-NP orders (7%), which is completely due to the omission of *bespreken met* because no PP-NP orders were found for *veranderen (in)*.

Table 11: Word order of the NP and PP-complement in the middle field of the clause after Vandeweghe & Coleman (2011)

EXAMPLE	TRANSLATION	NP-PP-ORDER	PP-NP ORDER
<i>baseren op</i>	to base on	54	13
<i>beschermen tegen</i>	to protect against	92	0
<i>beschuldigen van</i>	to accuse of	64	0
<i>danken aan</i>	to owe to	47	3
<i>herinneren aan</i>	to remind of	50	0
<i>herkennen aan</i>	to recognize by	37	15
<i>verdenken van</i>	to suspect of	50	0
<i>vergelijken met</i>	to compare with	73	0
<i>vervaardigen uit</i>	to create out of	5	5
Total: 508		472	36

The results indeed suggest that the test is not absolute, and that specific factors may affect the order of the nominal and the prepositional object. This does not come as a surprise given that De Schutter (1976) and Broekhuis (2004) already noted that the preferred NP-PP order can be overruled by information-structural considerations. Example (390a), for example, shows that PP-complements may precede a direct

object if the latter introduces new information into the domain of discourse, in which case it is typically realized as an indefinite noun phrase or as a noun phrase preceded by a demonstrative pronoun. Example (390b) shows that the same thing holds for cases in which the direct object is a negative phrase; furthermore the use of *zulke* seems to favor a contrastive °focus interpretation of the PP in this example, especially if it is stressed. Crucially, however, it is not possible, to place the PP-complement in front of a direct object with a definite article, as shown in (390c); such examples are at best marginally possible provided that the PP-complement is assigned contrastive accent: *dat Peter op DEZE feiten de nieuwe theorie baseerde*.

- (390) a. dat Peter op deze feiten een/die geheel nieuwe theorie baseerde.
 that Peter on these facts a/that completely new theory based
 ‘that Peter based an/that entirely new theory on these facts.’
- b. dat je op ZULKE feiten geen theorie kan baseren.
 that one on such facts no theory can base
 ‘that one cannot base a theory on such facts.’
- c. *dat Peter op deze feiten de nieuwe theorie baseerde.
 that Peter on these facts the new theory based

In order to conclude that the word order test is invalid, it is necessary to show that the verbs allowing the inverted order also allow this order if the direct object is definite and the PP-complement is not given special emphasis. Vandeweghe & Coleman fail to indicate whether they have found such examples; all their examples are of type (390a&b), and the same holds for the constructed examples in Coleman & Delorge (2010), which are all of type (390a).

Furthermore, it is not always clear what the results indicate: it might be the case that the PPs that we find with *herkennen* ‘to recognize’ and *vervaardigen* ‘to create’ are simply misanalyzed as PP-complements. This is hard to establish given that Vandeweghe & Coleman do not give a sample of these cases, but that this may well be the case is suggested by the fact that the *aan*-PP is neither obligatory nor semantically implied by the verb. An example such as (391a), for example, does not necessarily imply that Marie/the problem has a specific feature by which Jan could recognize her/it. This contrasts sharply with an example such as (391b), which does imply that there is something that Jan could have waited for.

- (391) a. Jan herkende Marie/het probleem niet.
 Jan recognized Marie/the problem not
 ‘Jan didn’t recognize Marie/the problem.’
- b. Jan wachtte niet.
 Jan waited not
 ‘Jan didn’t wait.’

Similarly, an example such as (392a) does not imply that Peter transformed something into piano sonatas; it is even the case that the *uit*-PP can be used in very special circumstances only, e.g., if the sonatas contain recycled musical material. This again contrasts sharply with an example such as (392b), which does imply that there are potential threats that the population must be protected against.

- (392) a. Peter vervaardigde veel pianosonates (uit zijn eerste probeersels).
 Peter created many piano sonatas from his first roughs
- b. De politie beschermt de bevolking.
 the police protects the inhabitants

Recall that we manipulated the figures given by Vandeweghe & Coleman by excluding the attestations of *bespreken met* 'to discuss with'. This verb appears in the PP-NP order in 35% of the attestations found by Vandeweghe & Coleman (34 out of 96). Again, we tend to interpret this as evidence in favor of adjunct status of the *met*-PP. Vandeweghe (2011) in fact provides independent evidence in favor of this conclusion. He notices that *met*-PPs can sometimes be modified by the element *samen* 'together', and claims that this element can only be added if the *met*-PP functions as an adverbial phrase; he concludes from this that the *met*-PP in (393a) is an adverbial phrase, whereas the *met*-PP in (393b) is a PP-complement. We added the primed (a)-example to show that the phrase *samen met Marie* can be placed in clause-initial position and should therefore indeed be considered a single constituent; cf. the °constituency test. Given that Section 2.3.1, sub IV, has shown that modification is excluded in the case of PP-complements, we can accept the conclusion that we are dealing with an adverbial PP in (393a), although it remains to be shown that the *met*-PP in (393b) must be analyzed as a PP-complement.

- (393) a. Jan wandelde (samen) met Marie naar de dierentuin.
 Jan walked together with Marie to the zoo
 'Jan is walking to the zoo with Marie.'
- a'. Samen met Marie wandelde Jan naar de dierentuin.
 together with Marie walked Jan to the zoo
- b. Jan trouwt morgen (*samen) met Marie.
 Jan marries tomorrow together with Marie
 'Jan will marry Marie tomorrow.'

The above means that we now have a new test that may help us to determine the syntactic status of the *met*-PPs in (387) and (389): if the *met*-PPs can be modified by *samen*, we are dealing with adverbial phrases; if this is impossible, we may be dealing with PP-complements. Our judgments on the examples in (394) clearly point in the direction of adjunct status for the *met*-PPs. If this is indeed the correct conclusion, we can safely conclude that the hypothesis that PO-verbs take at most one PP-complement can also be maintained.

- (394) a. dat Jan samen met Els over zijn werk praatte.
 that Jan together with Els about his work talked
 'that Jan talked with Els about his work.'
- b. dat Jan samen met Peter de problemen besprak.
 that Jan together with Peter the problems discussed
 'that Jan discussed the problems with Peter.'

This subsection has also shown, however, that there are still many cases in which it is not immediately evident whether or not we are dealing with a complement-PP; see the discussion of the examples in (391) to (393). This clearly indicates that more research is needed to refine the tools that are currently at our disposal.

II. Modal verbs selecting a prepositional complement

The examples in (395) show that, in contrast to English, modal verbs can be used as main verbs in Dutch; cf. Section 5.2.3.2. They also show that modal verbs may sometimes select a PP-complement. The modal *kunnen* ‘can’ is in fact even able to select prepositional phrases headed by different prepositions; the PP-complement in (395a) is headed by *buiten* ‘without’ while the one in (395b) by *tegen* ‘against’; the difference in meaning suggests that these V + PP collocations are listed in the lexicon.

- (395) a. Jan kan niet buiten zijn sigaretten.
 Jan can not without his cigarettes
 ‘Jan can’t do without his cigarette.’
 b. Els kan niet tegen wijn.
 Els can not against wine
 ‘Els can’t stand wine.’

There are also cases in which the modal verb takes a particle and a PP-complement. An example is *opkunnen tegen* ‘to be up to’ in (396); it is not clear whether we are still dealing with genuine modal verbs in such cases. Examples like these have hardly been studied, and, for the moment, we have little to say about them either.

- (396) Peter kan niet tegen Jan op.
 Peter can not against Jan OP
 ‘Peter is no match for Jan.’

III. Verbal expressions with a prepositional complement

There is a large set of fixed and idiomatic verbal expressions that include PP-complements. Some examples are given in (397). A larger sample of these expressions is given in Table 12.

- (397) a. De boeren hebben een groot aandeel aan het oproer. [verbal expression]
 the farmers have a big share in the riot
 ‘The farmers played an important role in the riot.’
 b. Jan heeft de draak gestoken met Peters voorstel. [idiomatic expression]
 Jan has the dragon stung with Peter’s proposal
 ‘Jan has made fun of Peter’s proposal.’

Table 12: *Verbal expressions with a prepositional complement*

PREPOSITION	VERBAL EXPRESSION	TRANSLATION
<i>aan</i>	<i>aandacht besteden aan</i> <i>deelnemen aan</i> <i>gebrek hebben aan</i> <i>grenzen stellen aan</i>	to pay attention to to participate in to lack to limit
<i>achter</i>	<i>haast/spoed/vaart zetten achter</i>	to speed up
<i>bij</i>	<i>baat hebben/vinden bij</i> <i>belang hebben bij</i>	to profit from to have an interest in
<i>in</i>	<i>belang stellen in</i> <i>trek hebben in</i> <i>troost zoeken in</i>	to be interested in to feel an appetite for to find solace in

PREPOSITION	VERBAL EXPRESSION	TRANSLATION
<i>met</i>	<i>akkoord gaan met</i> <i>de draak steken met</i> <i>contact opnemen met</i>	to agree with to make fun of to contact
<i>naar</i>	<i>oren hebben naar</i> <i>navraag doen naar</i>	to rather like to inquire about
<i>op</i>	<i>acht geven/slaan op</i> <i>invloed uitoefenen op</i> <i>vat krijgen op</i>	to pay attention to to influence to get a hold of
<i>over</i>	<i>de baas spelen over</i> <i>uitsluitel geven over</i> <i>een vonnis vellen over</i>	to play the boss over to give a decisive answer about to pass judgment on
<i>tegen</i>	<i>wrok koesteren tegen</i> <i>een aanklacht indienen tegen</i> <i>reprisailles nemen tegen</i> <i>rancune hebben tegen</i> <i>van leer trekken tegen</i>	to bear a grudge against to lodge a complaint against to take reprisals against to bear a grudge against to pitch out into
<i>tot</i>	<i>aanleiding geven tot</i> <i>toenadering zoeken tot</i> <i>zijn toevlucht nemen tot</i>	to give cause for to try to approach to resort to
<i>tussen</i>	<i>het midden houden tussen</i> <i>een wig drijven tussen</i> <i>een onderscheid maken tussen</i>	to stand between to drive a wedge between to distinguish
<i>uit</i>	<i>troost putten uit</i> <i>conclusies trekken uit</i>	to find solace in to conclude from
<i>van</i>	<i>een afkeer hebben van</i> <i>afstand doen van</i> <i>last hebben van</i> <i>werk maken van</i>	to have an aversion to to renounce to suffer from to take up
<i>voor</i>	<i>partij trekken voor</i> <i>de tijd nemen voor</i> <i>het veld ruimen voor</i>	to take sides with to take one's time about to leave the field to
<i>zonder</i>	<i>het stellen zonder (buiten)</i>	to have to do without

In many cases the PPs feel like modifiers of the nominal part of the expression. That we are not dealing with “true” PP-complements of the verb is clear from the fact that these PPs can often be placed in front of the nominal part of the verbal expression, whereas “true” PP-complements can never precede the nominal complement of the verb.

- (398) a. dat Marie <van Peter> een grote afkeer <van Peter> heeft <van Peter>.
 that Marie of Peter a big aversion has
 ‘that Marie dislikes Peter much.’
- b. dat Els <uit zijn hulp> veel troost <uit zijn hulp> putte <uit zijn hulp>.
 that Els from his help much comfort got
 ‘that Marie found solace in his help.’

Nevertheless, it seems plausible to assume that the PPs are selected by the verbal expressions as a whole. This is especially clear when the verbal expression can be replaced by a simple verb, as in the cases in (399).

- (399) a. een conclusie trekken uit a'. concluderen uit
 a conclusion pull from to conclude from
 'to conclude from' 'to conclude from'
- b. een onderscheid maken tussen b'. onderscheiden tussen
 a difference make between to distinguish between
 'to distinguish between' 'to distinguish between'

There are also cases in which the nominal part of the PP-complement is part of the idiomatic expression. Two examples are given in (400).

- (400) a. Peter gaat over zijn nek.
 Peter goes over his neck
 'Peter is being sick.'
- b. Die winkel is snel over de kop gegaan.
 that shop is quickly over the head gone
 'That shop went broke quickly.'

Also noteworthy are the verbal expressions in (401), in which the PP at first sight seems to be selected by a *te*-infinitive, as in *te kampen hebben met* 'to have to contend with', *te lijden hebben van* 'to suffer severely by' and *te maken hebben met* 'to have to do with'. Note, however, that *te*-infinitives normally do not precede the verb(s) in clause-final position. The fact that the *te*-phrases in (401) must precede the verb *hebben* in clause-final position therefore suggests that we are actually dealing with PPs headed by *te*.

- (401) a. dat we met tal van moeilijkheden te kampen hebben.
 that we with TAL of difficulties to contend have
 'that we have to contend with numerous difficulties.'
- b. dat veel reizigers weer van de treinstakingen te lijden hadden.
 that many travelers again of the train strikes to suffer had
 'that many travelers suffered from the train strikes again.'
- c. dat Jan niets met deze problemen te maken heeft.
 that Jan nothing with these problems to make has
 'that Jan has nothing to do with these problems.'

Finally, there is a set of more or less fixed expressions that involve non-referential *het* as a subject or direct object. That *het* is non-referential in the examples in (402) is clear from the fact that it cannot be replaced by other (pro)nominal phrases.

- (402) a. Het/*Dit komt erop aan dat we snel een beslissing nemen.
 it/this comes on.it prt. that we quickly a decision take
 'It is necessary that we decide quickly.'

- b. Jan heeft het/*dat ernaar gemaakt dat hij ontslagen is.
 Jan has it/that to.it made that he fired is
 ‘It was Jan’s own fault that he’s fired.’
- b’. Jan heeft het/*dat gemunt op zijn broertje.
 Jan has it/*that GEMUNT OP his brother
 ‘Jan has it in for his brother.’

2.4. AP-complements

APs selected by a verb are normally predicative °complements and occur in copula, *vinden*- and resultative constructions. These constructions, which are exemplified in (403), are extensively discussed in Sections 2.2 and A6.2, and we will therefore not discuss them here.

- (403) a. Jan is aardig. [copular construction]
 Jan is nice
- b. Ik vind Jan aardig. [*vinden*-construction]
 I consider Jan kind
- c. Jan slaat Peter dood. [resultative construction]
 Jan hits Peter dead

Non-predicative AP-complements may not exist at all, and, if they do, they are probably extremely rare. The following subsections will discuss some potential cases involving measure verbs, the verbs *hebben* ‘to have’ and *krijgen* ‘to get’, and the verb *wonen* ‘to live’; however, but we will see that there is insufficient evidence to establish beyond a doubt that we are dealing with °complementives in these cases.

1. Measure verbs

A first set of potentially non-predicative AP-complements are APs selected by measure verbs like *duren* ‘to last’, *wegen* ‘to weigh’, and *kosten* ‘to cost’ in (404); cf. Klooster (1972). The judgments on these examples vary among speakers and from case to case: whereas *lang duren* ‘to last long’ in (404a) is accepted by everyone, the collocation *zwaar wegen* ‘to weigh heavy’ in examples such as (404b) is generally given as unacceptable in the normative literature (cf. *Onze Taal*: onzetaal.nl/taaladvies/advies/zwaar-wegen-veel-wegen) and *duur kosten* ‘to cost expensive’ in (404c) is considered as unacceptable by many speakers (see *Onze Taal*: onzetaal.nl/taaladvies/advies/duur-kosten). Observe that all examples in (404) are fully acceptable for all speakers if the AP is replaced by a nominal measure phrase.

- (404) a. Het concert duurde lang/drie uur.
 the concert lasted long/three hour
- b. Jan weegt [?]zwaar/zestig kilo.
 Jan weighs heavy/sixty kilo
- c. Dat boek kost ^{??}duur/vijftig euro.
 that book costs expensive/fifty euro

It seems reasonable, however, to assume that these examples are all grammatical given that they can be heard frequently and improve much if the adjective is

modified by, e.g., *te* ‘too’ or *genoeg* ‘enough’, as in (405b). Example (404c) also improves, but may still be rejected by some speakers; see the (c)-examples in (405).

- (405) a. Het concert duurde te lang. a'. Het concert duurt lang genoeg.
 the concert lasted too long the concert lasted long enough
 b. Jan weegt te zwaar. b'. Jan weegt zwaar genoeg.
 Jan weighs too heavy Jan weighs heavy enough
 c. ⁽²⁾Dat boek kost te duur. c'. ⁽²⁾Dat boek kost duur genoeg.
 that book costs too expensive that book costs expensive enough

Note, however, that not all verbs that may take a nominal measure phrase can be combined with an AP, which is clear from examples like *De totale prijs bedraagt vijftig euro/*duur* ‘the total price amounts to fifty euro/*expensive’.

The resistance that the usage of the adjectives in (404b&c) meets may be related to the fact that the intended assertion can readily be expressed by making use of a copula; this is illustrated in (406). The fact that the nominal measure phrases in these examples are degraded compared to those in (404) may provide further credibility to the idea that these examples somehow compete.

- (406) a. Het concert is ⁽²⁾lang/*drie uur.
 the concert is long/three hour
 b. Jan is zwaar/[?]zestig kilo.
 Jan is heavy/sixty kilo
 c. Dat boek is duur/⁽²⁾vijftig euro.
 that book is expensive/fifty euro

Another argument in favor of assuming that the judgments on the examples in (404) are due to competition with the examples in (406) is provided by the contrast in acceptability between the two verbs in the examples in (407), in which the adjective *zwaar* is used in a metaphorical sense; since the copular in the primed examples is unacceptable, we correctly predict the primeless examples to be acceptable for all speakers.

- (407) a. Dit argument woog zwaar bij onze beslissing.
 this argument weighs heavy with our decision
 ‘This argument played an important role in our decision.’
 a'. *Dit argument was zwaar.
 this argument was heavy
 b. Dat schuldgevoel weegt zwaar.
 that sense.of.guilt weighs heavy
 ‘That sense of guilt is a burden.’
 b'. *Dat schuldgevoel is zwaar.
 that sense.of.guilt is heavy

The idea that the examples in (404) and (406) compete may lead to the claim that the adjectives in (404) are actually used as complementives, just like the adjectives in (406), and this, in turn, may lead to the idea that the verbs *duren* ‘to last’, *wegen* ‘to weigh’ and *kosten* ‘to cost’ are semi-copular verbs. The fact that these verbs cannot be passivized if they take a nominal measure phrase is

sometimes given as evidence in favor of this claim, but it should be noted that this may also be due to the inanimate/non-agentive nature of the subject of the clause.

- (408) a. *Drie uur wordt (door het concert) geduurd.
 three hour is by the concert lasted
 b. *Zestig kilo wordt (door Jan) gewogen.
 sixty kilo is by Jan weighed
 c. *Vijftig euro wordt (door dat boek) gekost.
 fifty euro is by that book cost

A somewhat better argument in favor of the claim that (adjectival) complements of measure verbs are complementives is that they must precede the verb(s) in clause-final position. This will become clear by inspecting the word orders of the embedded counterparts in (409) of the examples in (404).

- (409) a. dat het concert <lang> duurde <*lang>.
 that the concert long lasted
 b. dat Jan <[%]zwaar> weegt <*zwaar>.
 that Jan heavy weighs
 c. dat dat boek <[%]duur> kost <*duur>.
 that that book expensive costs

II. The verbs *hebben*/*krijgen*

The verbs *hebben* ‘to have’ and *krijgen* ‘to get’ can also be combined with an AP, as is illustrated in (410). Section A.6.2.1, sub II, shows, however, that in cases like these we are also dealing with a predicative complement, and the verbs *hebben* and *krijgen* can be considered semi-copular verbs.

- (410) a. Jan heeft het raam graag open.
 Jan has the window gladly open
 ‘Jan likes to have the window open.’
 b. Jan krijgt het raam niet open.
 Jan gets the window not open
 ‘Jan doesn’t get the window open.’

III. The verb *wonen* ‘to live’

The final case of a verb that may potentially select a non-predicative AP is the verb *wonen* ‘to live’. As is shown in (411a), this verb must be combined either with an AP or a locational PP. There are other verbs from the same semantic group that obligatorily take a PP but are not able to take an AP; two examples are given in (411b&c).

- (411) a. Jan woont erg mooi/in Groningen.
 Jan lives very beautiful/in Groningen
 b. We verblijven in dure hotels/*erg mooi.
 we stay in expensive hotels/very beautiful
 c. Marie verblijft al jaren in het buitenland/*erg mooi.
 Marie stays already years in the abroad/very beautiful

The main reason for assuming that we are not dealing with a predicatively used AP in (411a) is that the clause does not contain an argument of which the AP could be predicated. The subject is certainly not a candidate; example (411a), for example, does not express that Jan is beautiful. Nevertheless, some implicit predication relation seems to be implied: it is the surroundings in which Jan lives that are claimed to be beautiful. The semantic relations between the constituents in the examples in (411) are still much of a mystery, as is the overall structure of these sentences.

IV. Conclusion

The previous subsections have considered three cases that could potentially involve non-predicative AP-complements. We have seen that the first two cases are perhaps apparent counterexamples to the claim that there are no non-predicative AP-complements. The most recalcitrant counterexample is the AP-complement of the verb *wonen*. For the moment, we will leave this problem for future research and simply conclude that APs cannot normally be used as non-predicative complements.

2.5. Special verbs

Section 2.1 has provided a classification of the main verb types on the basis of the number and type of nominal arguments they take; cf. Table 1. Section 2.2 has discussed how these verbs behave when they are supplemented with a complementive, and Section 2.3 has discussed verbs taking a PP-complement. Together these sections provide a basic syntactic classification of main verbs. This section concludes the discussion of argument structure by considering two more special verb types that do not in all respects readily fit into this classification. Section 2.5.1 discusses so-called psychological verbs and Section 2.5.2 inherently reflexive verbs.

2.5.1. Psychological verbs

This section discusses the so-called psychological or psych-verbs. These verbs denote a mental state/process and select at least an experiencer argument, that is, an argument that refers to an individual who is in the mental state described by the verb. Psych-verbs can be found in most verb classes distinguished in Section 2.1, but there is another set of psych-verbs, sometimes referred to as NOM-ACC verbs, that constitutes a verb type that we have not seen so far.

2.5.1.1. General introduction

This section provides the general background against which the discussion of the several types of psych-verbs will be situated. Subsection I starts by way of introduction with a discussion of the nature of the arguments that can be found with psychological predicates in general. Subsection II continues with a brief introduction to the psych-verb types that will be investigated in Sections 2.5.1.2 and 2.5.1.3. Subsection III concludes with some brief remarks on verb frame alternations in the domain of psych-verbs.

I. The arguments of psychological predicates

This subsection discusses the semantic roles of the various arguments that can be found with psychological predicates. We intentionally do not use the term psych-verb here, since we will clarify these roles by means of clauses containing the psych-adjective *boos* ‘angry’, which denotes the property of being in a specific mental state. The five different kinds of arguments in (412) can be found in clauses containing a psychological predicate; cf. Pesetsky (1995).

- (412) • Arguments that can co-occur with psychological predicates
- a. Experiencer
 - b. Target of emotion
 - c. Subject matter of emotion
 - d. Causer of emotion (= Agent)
 - e. Cause of emotion

A. Experiencer

Every psychological predicate has an obligatory argument that can be referred to as EXPERIENCER, that is, it has an obligatory argument that experiences or is in the mental state denoted by the predicate. In the case of psych-adjectives like *boos* ‘angry’, the experiencer is the external argument of the adjective.

- (413) Jan_{Exp} is boos.
 Jan is angry

B. Target and subject matter of emotion

Mental states are often directed towards some entity in the sense that they imply a positive or negative evaluation of this entity. The entity to which this evaluation applies will be referred to as the TARGET OF EMOTION. In the case of the psych-adjective *boos*, the target is expressed by means of a PP-complement headed by *op*, as shown by (414a). Besides a target of emotion a psych-adjective can also have a SUBJECT MATTER OF EMOTION, which is expressed by means of a PP-complement headed by *over*, as shown in (414b). Although the target and the subject matter of emotion are sometimes difficult to distinguish, the distinction is real since the two can be expressed simultaneously, as is shown by (414c).

- (414) a. Jan_{Exp} is boos op Marie_{Target}.
 Jan is angry at Marie
- b. Jan_{Exp} is boos over die opmerking_{SubjM}.
 Jan is angry about that remark
- c. Jan_{Exp} is boos op Marie_{Target} over die opmerking_{SubjM}.
 Jan is angry at Marie about that remark

It can further be noted that psychological predicates may differ in whether they allow a target or a subject matter of emotion to be present. An adjective like *bezorgd* ‘worried’, for example, may take a subject matter but not a target of emotion, whereas an adjective like *verliefd* ‘in love’ is only compatible with a target of emotion.

- (415) a. Jan is bezorgd (*op de regering_{Target}) over de luchtverontreiniging_{SubjM}.
 Jan is worried at the government about the air pollution
- b. Jan is verliefd op Marie_{Target} (*over haar ogen_{SubjM}).
 Jan is in-love with Marie about her eyes

Given that it is not always easy to decide whether a specific complement functions as the target or the subject matter of emotion, we will occasionally use the more neutral term OBJECT OF EMOTION as a cover term for the two.

C. *Causer and cause of emotion*

Not only can emotions target or be concerned with some entity, they can also be triggered by something. The trigger of the emotion will be referred to as the CAUSER or CAUSE OF EMOTION. The two notions differ in that the term causer is used if the argument is actively involved in triggering the emotion (agentive), whereas the term cause does not imply any activity. This difference is responsible for the fact that causers, like *Peter* in (416a), are normally [+ANIMATE] entities, whereas causes, like *die opmerkingen* ‘those remarks’ in (416b), can also be [-ANIMATE]. The causer and cause can be expressed simultaneously, but then the cause must be expressed by means of an °adjunct-PP, which is typically headed by *met* ‘with’ or *door* ‘by’.

- (416) a. Peter_{Causer} maakt Jan_{Exp} boos.
 Peter makes Jan angry
- b. Die opmerkingen_{Cause} maken Jan_{Exp} boos.
 those remarks make Jan angry
- c. Peter_{Causer} maakt Jan_{Exp} boos met/door zijn opmerkingen_{Cause}.
 Peter makes Jan angry with/by his remarks

Causers and causes can readily be confused with objects of emotion, but are nevertheless distinct. Although (416a) is compatible with a reading according to which Jan’s anger is directed towards Peter, this need not be the case: it might also be the case that Peter is doing something which makes Jan angry at something or someone else, that is, all that is required for the sentence to be true is that there is a causal relation between Peter and Jan’s anger. Similarly, the remarks may be the subject matter of emotion in (416b), but it may also be the case that the remarks trigger anger on some other matter. Clear cases in which the causer/cause should be distinguished from the object (subject matter/target) of emotion are given in (417).

- (417) a. Peter_{Causer} maakt Jan_{Exp} met zijn verhalen_{Cause} bang voor spoken_{SubjM}.
 Peter makes Jan with his stories afraid of ghosts
- b. Dat soort verhalen_{Cause} maken Jan_{Exp} altijd kwaad op de regering_{Target}.
 that kind [of] stories make Jan always angry at the government

D. *The syntactic realization of the semantic roles of psych-predicates*

There are several limitations on the syntactic realization of the semantic roles discussed in Subsection II. The examples in (414) and (416) in the two previous subsections have already shown that an experiencer can be either subject or object, depending on which other semantic roles are expressed. The target or subject matter

of emotion is realized as a complement: in the case of an adjective this complement always has the form of a PP, but in the case of a verb the target of emotion can also have the form of a DP. This contrast is shown in (418).

- (418) a. Jan_{Exp} is bang voor zijn vader_{Target}.
 Jan is afraid of his father
 b. Jan_{Exp} vreest zijn vader_{Target}.
 Jan fears his father

The causer is always a subject, but the examples in (416) have shown that the cause can be realized either as the subject of the sentence or (if a causer is present) as an adjunct PP headed by *met* or *door*. We can summarize the findings from the previous subsections by means of the descriptive generalizations in (419).

- (419) • Syntactic realization of the semantic roles (first approximation):
 a. Experiencer: subject or object
 b. Target of emotion: object
 c. Subject matter of emotion: object
 d. Causer of emotion: subject
 e. Cause of emotion: subject or adjunct (*met/door*-PP)

The notion of object in (419a-c) refers to the *accusative* argument in the clause. However, we will see in example (424c) in Subsection II that psych-verbs like *behagen* ‘to please’ take a °dative experiencer. In such cases the subject of the clause is not a causer/cause, but an object of emotion: *Dat boek*_{Cause} *bevalt hem*_{Exp} *goed* ‘that book pleases him’. Since verbs like *bevallen* ‘to please’ are NOM-DAT-verbs, we are dealing with a (derived) °DO-subject in such cases, so we can conclude that the object of emotion is always an internal argument of the psychological predicate. Therefore, it seems better to rephrase the generalizations in (419) in terms of internal and external arguments. Since we are not sure whether the (often inanimate) cause of emotion should be seen as an external or an internal argument we added a question mark in (420e).

- (420) • Syntactic realization of the semantic roles (second approximation)
 a. Experiencer: external or internal argument
 b. Target of emotion: internal argument
 c. Subject matter of emotion: internal argument
 d. Causer of emotion: external argument
 e. Cause of emotion: external argument^(?) or adjunct (*met/door*-PP)

A question that can be raised with respect to the semantic roles in (419)/(420) is whether they should be seen as separate °thematic roles assigned by the predicate, comparable to the thematic roles of agent and theme, or whether they are specific instantiations of these roles; see, e.g., Pesetsky (1995:ch.2) for a defense of the second position. We will not discuss this issue here, but simply describe the syntactic behavior of the arguments carrying these roles and note which facts may bear on the issue, leaving it to the reader to decide whether or not, e.g., the role of causer is a special instantiation of the agent role.

II. Different types of psych-verbs

In accordance with the generalization in (419a) psych-verbs are often classified according to the syntactic function of their experiencer, which leads to a distinction between SUBJECT EXPERIENCER and OBJECT EXPERIENCER verbs. The reformulation of this generalization in (420a) suggests, however, that the two groups can be further divided as shown in Table 13. The final column of this table indicates where the distinguished verb types will be more extensively discussed.

Table 13: A classification of psych-verbs

VERB TYPE		EXAMPLE	SUBSECTION
Subject experiencer	intransitive	<i>wanhopen</i> ‘to despair’	2.5.1.2, sub I
	transitive	<i>haten</i> ‘to hate’	2.5.1.2, sub II
	monadic unaccusative	<i>schrikken</i> ‘to be frightened’	2.5.1.2, sub III
Object experiencer	transitive	<i>irriteren</i> ‘to irritate’	2.5.1.3, sub II
	NOM-ACC	<i>irriteren</i> ‘to irritate’	
	NOM-DAT (dyadic unaccusative)	<i>behagen</i> ‘to please’	2.5.1.3, sub I

A. Subject experiencer verbs

Unergative subject experiencer verbs like *vrezen* ‘to fear’ in (421) may select a nominal complement referring to the target or the subject matter of emotion, as in (421a) and (421b), respectively. This shows that subject experiencer verbs differ from adjectival psych-predicates like *boos* ‘angry’ in that they allow the target of emotion to be realized as a noun phrase.

- (421) • Subject experiencer psych-verbs
- a. Jan_{Exp} vreest zijn vader_{Target}.
Jan fears his father
 - b. Jan_{Exp} vreest voor zijn leven_{SubjM}.
Jan fears for his life

The examples in (422a&b) show that the unergative subject experiencer verbs need not be transitive but can also be intransitive; in that case the target of emotion is realized as a PP-complement. The (c)-examples in (422) further show that subject experiencer verbs can also be °monadic unaccusative, as is clear from the fact that the verb *schrikken* ‘to get frightened’ selects the auxiliary verb *zijn* ‘to be’ in the perfect-tense construction.

- (422) • Types of subject experiencer psych-verbs
- a. Els_{Exp} wanhoopt (aan het slagen van de onderneming). [intransitive PO-verb]
Els despairs of the success of the enterprise
 - b. Jan_{Exp} haat dat huiswerk. [transitive]
Jan hates that homework
 - c. Marie_{Exp} schrok. [unaccusative]
Marie got.frightened
 - c'. Marie_{Exp} is geschrokken.
Marie has gotten.frightened

B. Object experiencer verbs

The subject of an unergative object experiencer verb like *ergeren* ‘to annoy’ refers either to an entity that is the causer of the mental state, like *Peter* in (423a), or to an entity that functions as the cause, like *die opmerkingen* ‘those remarks’ in (423b). The causer and the cause can be simultaneously expressed, but then the latter must be in the form of a *met*-PP, as is shown by (423c).

- (423) • Object experiencer psych-verbs
- a. Peter_{Causer} ergert Marie_{Exp.}
Peter annoys Marie
 - b. Die opmerkingen_{Cause} ergeren Marie_{Exp.}
those remarks annoy Marie
 - c. Peter_{Causer} ergert Marie_{Exp} met die opmerkingen_{Cause}.
Peter annoys Marie with those remarks

Since the experiencers of object experiencer verbs are realized as objects, such verbs must at least be dyadic. Object experiencer verbs can be subdivided into three subtypes on the basis of properties of their subjects., which are illustrated in (424).

- (424) • Types of object experiencer psych-verbs
- a. Peter_{Causer} ergert Marie_{Exp.} [transitive]
Peter annoys Marie
 - b. Die opmerkingen_{Cause} ergeren Marie_{Exp.} [NOM-ACC]
those remarks annoy Marie
 - c. Zulk onbeleefd gedrag_{Object} behaagt hen_{Exp} niet. [NOM-DAT]
such impolite behavior pleases them not

The verbs in examples like (424a&b) are often referred to as CAUSATIVE psych-verbs given that the subject functions as a causer/cause. Although both constructions involve the verb *ergeren* ‘to annoy’, we will show that the two constructions in (424a&b) behave quite differently in various respects. The construction with a causer subject in (424a) behaves like other kinds of transitive constructions, and we will therefore consider the verb *ergeren* in this construction as a regular transitive verb. The construction with a cause subject in (424b), on the other hand, exhibits behavior that is untypical for transitive constructions; the verb *ergeren* will therefore not be considered a regular transitive verb here, but as an instantiation of a special class of so-called NOM-ACC verbs. A third type of object experiencer verb is given in (424c); we are dealing in this case with a NOM-DAT (dyadic unaccusative) verb, which realizes the experiencer as a dative object. The subject of the NOM-DAT verb is not a causer/cause, but an object (subject matter/target) of emotion. This is, of course, not surprising given that the subject is not an external but an internal argument of the verb, just like the complements of the unergative verbs in (421); cf. the discussion of (420).

III. Verb frame alternations

The study of psych-verbs is greatly complicated by the fact that many of these verbs exhibit verb frame alternations. This was already illustrated in Subsection II for the verb *ergeren* ‘to annoy’, which may take either a causer or a cause as its subject;

the relevant examples are repeated here as (425a&b). The situation with this verb is actually even more complex, as it can also be used as an inherently reflexive verb, in which case the experiencer surfaces as the subject and the verb optionally takes a PP-complement referring to the object (target/subject matter) of emotion. The verb frame alternation in (425), which is more extensively discussed in Section 2.5.1.3, sub IV, is typical for many verbs that can be used as NOM-ACC verbs.

- (425) • Verb frame alternations with NOM-ACC verbs
- a. Peter_{Causer} ergert Marie_{Exp.} [transitive]
Peter annoys Marie
 - b. Die opmerkingen_{Cause} ergeren Marie_{Exp.} [NOM-ACC]
those remarks annoy Marie
 - c. Marie_{Exp} ergert zich (aan Peter_{Obj}/die opmerking_{Obj}). [inherently reflexive]
Marie annoys REFL of Peter/that remark

Other verb frame alternations are also possible. For example, causative psych-verbs like *kalmeren* ‘to calm down’ in (426) have unaccusative counterparts; see Section 3.2.3 for and extensive discussion of this so-called causative-inchoative alternation, which we also find with causative non-psych-verbs like *breken* ‘to break’. When relevant, the availability of verb frame alternations will be noted in the discussion of object experiencer verbs in Section 2.5.1.3.

- (426) • Causative-inchoative alternation
- a. Jan_{Causer} kalmeert zijn dochtertje_{Exp.} [transitive]
Jan calms.down his daughter
 - b. Die opmerkingen_{Cause} kalmeren zijn dochtertje_{Exp.} [NOM-ACC]
those remarks calm.down his daughter
 - c. Zijn dochtertje_{Exp} kalmeert. [unaccusative]
his daughter calms.down

2.5.1.2. Subject experiencer psych-verbs

This section discusses subject experiencer verbs; intransitive verbs like *wanhopen* ‘to despair’ in (427a), transitive verbs like *haten* ‘to hate’ in (427b) and unaccusative verbs like *schrikken* ‘to get frightened’ in (427c) will be discussed in separate subsections. We will also briefly discuss examples such as (427d) with more or less fixed collocations with the verbs *hebben* ‘to have’ and *krijgen* ‘to get’, which may be cases of undative psych-constructions.

- (427) • Types of subject experiencer psych-verbs
- a. Els_{Exp} wanhoopt (aan het slagen van de onderneming). [intransitive]
Els despairs of the success of the enterprise
 - b. Jan_{Exp} haat dat huiswerk. [transitive]
Jan hates that homework
 - c. Marie_{Exp} schrok. [unaccusative]
Marie got.frightened
 - d. Jan_{Exp} heeft/krijgt een hekel aan computers. [undative]
Jan has/gets an aversion to computers
‘Jan dislikes/is getting to dislike computers.’

The following question will be a leitmotiv in the discussion to follow: Should the psych-verbs in the constructions in (427) be considered special *syntactic* subclasses or are they simply a *semantic* subtype of the earlier established syntactic types? We will conclude that the latter is correct.

I. Intransitive subject experiencer psych-verbs

The class of °monadic intransitive psych-verbs is very small; the only clear candidate is the archaic verb *versagen* ‘to despond’, which is mainly used in combination with the negative adverb *niet* ‘not’.

- (428) Versaag niet!
 despond not
 ‘Don’t despair/be afraid!’

That monadic intransitive verbs are virtually non-existent strongly suggests that psych-verbs normally require the presence of an additional argument besides the obligatory experiencer. This additional argument may take the form of a PP-complement, that is, the psych-verb can have the form of an intransitive PO-verb. A sample of such verbs is given in (429). The PP-complement expresses the object (target/subject matter) of emotion.

- (429) **Intransitive psychological PO-verbs:** *gruwen van* ‘to abhor’, *genieten van* ‘to enjoy’, *houden van* ‘to like/love’, *hunkeren naar* ‘to hanker for’, *lijden aan/onder* ‘to suffer from’, *rouwen* ‘to mourn’, *smachten naar* ‘to yearn for’, *snakken naar* ‘to crave’, *treuren om/over* ‘to grieve over’, *verlangen naar* ‘to long for’, *walgen van* ‘to abhor’, *wanhopen aan* ‘to despair of’

In some cases, like *rouwen* ‘to mourn’ and *treuren* ‘to grieve’ in (430a), the PP-complement is optional, but if the PP is dropped, the object of the emotion is semantically implied. In most cases, however, the PP-complement is obligatory, as is exemplified by the PO-verbs *hunkeren* ‘to hanker’, *smachten* ‘to yearn’ and *verlangen* ‘to desire’ in (430b).

- (430) a. Zij rouwen/treuren (om dit grote verlies).
 they mourn/grieve for this great loss
 b. De mensen hunkeren/smachten/verlangen *(naar vrede).
 the people hanker/yearn/desire for peace

Psych-verbs that normally require a PP-complement may/must sometimes occur without a PP-complement if they appear with an adjunct-PP or an *als*-clause. This is illustrated in (431) for the verb *gruwen* ‘to abhor’; the implied object (subject matter/target) of emotion in these examples can be recovered from the content of the adjunct, viz. *al die ellende* ‘all that misery’.

- (431) a. Peter gruwte bij de gedachte aan al die ellende.
 Peter abhors at the thought of all that misery
 ‘Peter is horrified by the thought of all that misery.’
 b. Peter gruwte als hij al die ellende ziet.
 Peter abhors if he all that misery sees
 ‘Peter is horrified when he sees all that misery.’

The complement of the PP can sometimes be a clause, in which case the PP is realized as an °anticipatory pronominal PP. This PP can be obligatory or optional depending on properties of the verb; cf. Section 2.3.1, sub VI.

- (432) a. Jan walgt *(ervan) dat Marie altijd in haar neus peutert.
 Jan is.disgusted by.it that Marie always in her nose picks
 ‘It disgusts Jan that Marie is always picking her nose.’
 b. Els wanhoopt (eraan) [of de onderneming zal slagen].
 Els despairs of.it whether the enterprise will succeed

The syntactic behavior of intransitive psychological PO-verbs seems to be on a par with that of non-psychological ones. The subjects in (430), for example, are external arguments, which is clear from the fact that these experiencer subject constructions can be passivized; cf. (433).

- (433) a. Er wordt getreurd/gerouwd om de vele doden.
 there is mourned/grieved over the many dead
 ‘The many deceased are mourned over.’
 b. Er wordt gehunkerd/verlangd/gesmacht naar vrede.
 there is hankered/longed/yearned for peace
 ‘Peace is hankered/longed/yearned for.’

A potential problem is that there are a number of reasons for assuming that intransitive psychological PO-verbs are not agentive. First, these verbs cannot be the input for agentive ER-nominalization, although one can readily counter this argument by saying that ER-nominalization is rare with PO-verbs in general; cf. Section 2.3.2.

- (434) a. *treurders/rouwers om grote verliezen
 mourners/grievors for great losses
 b. *smachters/*verlangers/^hhunkeraars naar vrede
 yearners/longers/hankerers for peace

A more convincing argument for claiming that subjects of intransitive psych-verbs are non-agentive is that psych-verbs normally denote involuntary actions; the subjects of these verbs seem unable to control the event. This can be made clear by embedding these intransitive psych-verbs under the causative verb *laten* ‘to make’; whereas this is fully acceptable with regular intransitive PO-verbs, it is normally impossible with intransitive psych-verbs. See Section 5.2.3.4 for a more detailed discussion.

- (435) a. Jan_{Causer} laat [Peter_{Agent} op zijn vader wachten].
 Jan makes Peter for his father wait
 ‘Jan makes Peter waits for his father.’
 b. #Jan_{Causer} laat [Peter_{Exp} naar vrede verlangen]. [causative]
 Jan makes Peter for peace long

Note in passing that embedding of an intransitive psych-verb under causative *laten* is possible if the subject of the latter functions as a cause; this does not affect the argument above given that examples such as (436a) do not imply that the

experiencer is able to control the state of affairs denoted by the psych-verb. Embedding of intransitive psych-verbs is also possible if *laten* has a permissive reading corresponding to “let” or “to not hamper”, as in (436b).

- (436) a. Zijn gedrag_{Cause} laat [mij gruwen van alle mannen].
 his behavior makes me abhor VAN all men
 ‘His behavior makes me abhor all men.’
- b. Jan laat [haar treuren om haar verlies]. [permissive]
 Jan lets her mourn for her loss

That the subject of an intransitive psychological PO-verb is unable to control the event is also suggested by the fact, illustrated by the examples in (437), that psych-verbs cannot co-occur with agent-oriented adverbial phrases like *opzettelijk* ‘deliberately’. They cannot normally be in the scope of the volitional verb *willen* ‘to want’ either—this is only possible if *willen* is contrastively stressed: *Ik WIL wel van je houden, maar ik KAN het niet* ‘I do want to love you, but I cannot’.

- (437) a. Jan wil op zijn vader wachten.
 Jan wants for his father wait
 ‘Jan wants to wait for his father.’
- a’. Jan wacht opzettelijk op zijn vader.
 Jan waits deliberately for his father
- b. *Jan wil verlangen naar vrede.
 Jan wants long for peace
- b’. *Jan verlangt opzettelijk naar vrede.
 Jan longs deliberately for peace

An important argument *against* the claim that subjects of intransitive psych-verbs are (necessarily) non-agentive is that there are a number of cases in which they seem to be able to control the event. A clear example is the verb *genieten van* ‘to enjoy’: the examples in (438) show that this verb can be the input of ER-nominalization (provided that the object of emotion is also incorporated), and that it can readily be embedded under the volitional verb *willen*.

- (438) a. een levensgenieter
 a life.enjoyer
 ‘a bon vivant’
- b. Ik wil graag genieten van het leven.
 I want gladly enjoy VAN the life
 ‘I want to enjoy life.’

The discussion above has shown that intransitive psychological PO-verbs behave more or less like regular PO-verbs. This suggests that they are simply agentive PO-verbs, so, from a syntactic point of view, nothing special needs to be said about them. Much may depend, however, on the weight one would like to attribute to the semantic property of controllability of the event; since we have argued in Section 1.2.3, sub IIIB, that the feature [\pm CONTROL] is not a defining property of agentivity but simply superimposed on subjects of various types, we believe that we can dismiss the data in (435) to (437) as irrelevant for the issue at hand.

II. Transitive subject experiencer psych-verbs

Direct objects of transitive subject experiencer verbs always function as the target of emotion, that is, the entity that receives a positive or negative evaluation from the subject experiencer. Two examples involving a negative and a positive evaluation, respectively, are given in (439).

- (439) a. Jan_{Exp} haat zijn leraar_{Target}.
 Jan hates his teacher
 b. Jan_{Exp} waardeert dat televisieprogramma_{Target}.
 Jan appreciates that television program

A sample of the transitive subject experiencer verbs is given in (440).

- (440) **Transitive psych-verbs with a subject experiencer:** *aanbidden* ‘to adore’, *beminnen* ‘to love’, *benijden* ‘to envy’, *betreuren* ‘to regret’, *bewonderen* ‘to admire’, *dulden* ‘to tolerate’, *haten* ‘to hate’, *missen* ‘to miss’, *respecteren* ‘to respect’, *verachten* ‘to despise’, *verafschuwen* ‘to loathe’, *verdragen* ‘to bear’, *verfoeien* ‘to detest’, *vrezen* ‘to fear’, *waarderen* ‘to appreciate’

The set in (440) should probably also include fixed collocations like *hoogachten* ‘to have esteem for’. Although *hoogachten* is special in involving a predicative adjective, and probably originates as a *vinden*-construction comparable to *Jan vindt Peter aardig* ‘Jan considers Peter nice’, in modern parlance it seems on the verge of acting like a complex (separable) verb. That *hoogachten* may be halfway through the process of becoming a complex verb is clear from the fact that its antonym *minachten* ‘to despise’ has been fully reanalyzed as a verb: the fact that *min* is °pied-piped under °verb-second shows that it has become part of the verb. Another example involving a predicative adjective is the (separable) collocation *liefhebben* ‘to love’.

- (441) a. Jan_{Exp} acht Peter_{Target} hoog. a'. *Jan hoogacht Peter.
 Jan considers Peter high
 ‘Jan esteems Peter.’
 b. Jan_{Exp} minacht Peter_{Target}. b'. *Jan acht Peter min.
 Jan disdains Peter
 ‘Jan disdains Peter.’

As in the case of intransitive PO-verbs, there does not seem to be much reason to syntactically distinguish transitive psych-verbs from the non-psychological ones. Passivization of a psych-verb, for example, gives rise to a fully grammatical result.

- (442) a. Deze leraar wordt (door iedereen) gehaat.
 this teacher is by everyone hated
 b. Dat televisieprogramma wordt (vooral door intellectuelen) gewaardeerd.
 that television program is especially by intellectuals appreciated

The transitive subject experiencer verb *mogen* ‘to like’ in (443a) is special in that it does not seem to allow passivization—although a Google search (7/18/2012) on the string [*gemogen worden*] did result in about twenty cases.

- (443) a. Marie_{Exp} mag Peter_{Target} graag.
 Marie likes Peter gladly
 ‘Marie likes Peter very much.’
 b. *Peter wordt (door Marie) graag gemogen.
 Peter is by Marie readily liked

It is also easily possible to find transitive psych-verbs that can be the input for ER-nominalization. The examples in (444a&b) are fully acceptable if the target of emotion is incorporated or expressed by means of a *van*-PP. The examples in (444c) show, however, that there are also psych-verbs that do not allow ER-nominalization (the result improves somewhat if an adverb like *echt* ‘truly’ precedes the noun phrase: ^{??}*Dat is echt een sportwaardeerder* ‘that is truly someone who appreciates sports’).

- (444) a. een vrouwenhater/^{??}hater van vrouwen
 a woman.hater/hater of women
 b. een bewonderaar ^{??}(van Elvis Presley)
 an admirer of Elvis Presley
 c. *een waardeerder van sport/sportwaardeerder
 an appreciator of sports/sport.appreciator

The acceptability of the ER-nominalizations in (444a&b) suggests that the external argument is a true agent. However, like intransitive psych-verbs, the transitive psych-verbs in (440) cannot normally be embedded under the causative verb *laten* ‘to make’ with an external causer argument, which indicates that these verbs also denote involuntary actions; we return to this issue in Section 5.2.3.4.

- (445) a. *Peter_{Causer} laat [Jan zijn leraar haten].
 Peter makes Jan his teacher hate
 b. *Els_{Causer} laat [Jan dat televisieprogramma waarderen].
 Els makes Jan that television program appreciate

That the subject of a transitive psych-verb is unable to control the event is also suggested by the facts, illustrated by the examples in (446), that psych-verbs cannot readily be in the scope of the volitional verb *willen* ‘to want’, and cannot co-occur with agent-oriented adverbial phrases like *opzettelijk* ‘deliberately’.

- (446) a. *Jan wil zijn leraar haten.
 Jan wants his teacher hate
 a'. *Jan haat zijn leraar met opzet/opzettelijk.
 Jan hates his teacher on purpose/purposely
 b. *Jan wil dat televisieprogramma waarderen.
 Jan wants that television program appreciate
 b'. *Jan waardeert dat televisieprogramma met opzet/opzettelijk.
 Jan appreciates that television program on purpose/purposely

III. Unaccusative subject experiencer psych-verbs

There are only a small number of unaccusative subject experiencer verbs. Some examples are the simplex verbs *bedaren* ‘to calm down’, *kalmeren* ‘to calm down’

and *schrikken* ‘to be frightened’ in the primeless, and the particle verbs *opmonteren* ‘to cheer up’, *opfleuren* ‘to cheer up’ and *opkikkeren* ‘to cheer up’ in the primed examples of (447).

- (447) a. Marie_{Exp} bedaarde snel. a'. Jan_{Exp} montert helemaal op.
 Marie calmed.down quickly Jan cheers completely up
 b. Zijn boze vriend_{Exp} kalmeert. b'. Peter_{Exp} fleurt helemaal op.
 his angry friend calms.down Peter cheers completely up
 c. Peter_{Exp} schrikt. c'. Jan_{Exp} kikkert helemaal op.
 Peter is.startled Jan cheers completely up
 ‘Peter is startled.’

That the verbs in (447) are unaccusative is clear from the following facts: they take the auxiliary *zijn* ‘to be’ in the perfect tense; the past/passive participle of the verbs can be used attributively to modify a noun corresponding to the experiencer subject; impersonal passivization of these verbs is excluded; ER-nominalization is never possible. This is illustrated for the verb *schrikken* by (448); the facts in (448a&b) are sufficient for assuming unaccusative status.

- (448) a. Peter is/*heeft geschrokken.
 Peter is/has get.frightened
 ‘Peter has become frightened.’
 b. de geschrokken man
 the startled man
 c. *Er werd geschrokken (door de man).
 there was frightened by the man
 d. *schrikker

The examples in (449) show that clauses containing an unaccusative psych-verb may contain an adverbial *door*-PP expressing the cause of the emotion. Note that the referent of the cause must be inanimate; if it refers to an animate entity, the sentence becomes degraded. Example (449c') shows that the cause can sometimes also be expressed by means of a *van*-PP; the complement of this PP can either be animate or inanimate. We conclude from this that the *door*-PP invariably refers to a cause, whereas the *van*-PP may also refer to a causer.

- (449) a. Marie_{Exp} bedaarde door zijn rustige optreden_{Cause}/*Jan_{Causer}.
 Marie calmed.down by his quiet attitude/Jan
 b. Zijn boze vriend_{Exp} kalmeerde door zijn woorden_{Cause}/*Jan_{Causer}.
 his angry friend calmed.down by his words/Jan
 c. Peter_{Exp} schrok door het plotselinge lawaai_{Cause}/*Jan_{Causer}.
 Peter got.frightened by that sudden noise/Jan
 c'. Peter_{Exp} schrok van het plotselinge lawaai_{Cause}/Jan_{Causer}.
 Peter got.frightened by that sudden noise/Jan

With particle verbs, a *van*-PP can also be used to refer to a cause of emotion, but, in such cases, the complement of the PP is invariably inanimate.

- (450) a. Jan_{EXP} montert helemaal op van dat goede plan_{Cause}/**Marie*_{Causer}.
 Jan cheers completely up by that good plan/Marie
- b. Peter_{EXP} fleurt helemaal op van Maries opmerking_{Cause}/**Marie*_{Causer}.
 Peter cheers completely up by Marie's remark/Marie
- c. Jan_{EXP} kikkert helemaal op van die warme soep_{Cause}/**Peter*_{Causer}.
 Jan cheers completely up by that warm soup/Peter

Like the subjects of the other subject experiencer verbs, subjects of unaccusative psych-verbs normally do not control the event denoted by the verb. This is not really surprising in this case since this is common with other unaccusative verbs as well. But, for completeness' sake, we show here that a verb like *schrikken* normally can neither be embedded under volitional *willen* 'to want' nor license agent oriented adverbial phrases like *opzettelijk* 'purposely'. Note that *schrikken* cannot occur in positive imperatives either; in this respect it differs from *bedaren* and *kalmeren*, which do allow imperative forms: *Bedaar/Kalmeer!* 'Calm down!'. Note in passing that the negative imperative *Schrik niet!* 'Do not be scared!', which is normally not used as an order but as a warning or a reassurance, is easily possible.

- (451) a. **Peter wil schrikken.*
 Peter wants frighten
- b. **Peter schrikt opzettelijk.*
 Peter is.frightened purposely
- c. **Schrik!*
 be frightened

For completeness' sake, note that the verb *bedaren* 'to calm down' is special in that it may appear as the object of a predicative *tot*-PP; this is illustrated in the examples in (452).

- (452) a. Marie_{Agent} brengt Peter_{EXP} tot bedaren.
 Marie brings Peter to calm.down
 'Marie calms Peter down.'
- b. Peter_{EXP} komt tot bedaren.
 Peter comes to calm.down
 'Peter is calming down.'

IV. Undative subject experiencer psych-constructions

To our knowledge, there are no clear cases of undative psych-verbs (although it might be interesting to investigate whether some of the presumed intransitive psych-verbs discussed in Subsection I would be candidates for such an analysis). It can be noted, however, that the verbs *hebben* 'to have', *krijgen* 'to get', and *houden* 'to keep' can enter more or less fixed collocations with certain nouns that denote a psychological state; some examples are given in (453). Given that we have argued in Section 2.1.4 that *hebben*, *krijgen* and *houden* are undative, we are arguably dealing with constructions in which the experiencer is an internal argument that is promoted to subject.

- (453) a. Peter_{Exp} heeft/krijgt/houdt een hekel aan huiswerk.
 Peter has/gets/keeps a grudge at homework
 ‘Peter detests/starts to detest/keeps detesting homework.’
- b. Els_{Exp} heeft/krijgt/houdt (een) afkeer van dat gepraat over politiek.
 Els has/gets/keeps an aversion of that talking about politics
 ‘Els is having/getting/maintaining an aversion to all that talk about politics.’
- c. Jan_{Exp} heeft/krijgt/houdt berouw over zijn laffe daad.
 Jan has/gets/keeps regret of his cowardly deed
 ‘Jan regrets/starts to regret/keeps regretting his cowardly deed.’

The objects of emotion in these constructions can be part of the noun phrase, as is clear from the fact illustrated in (454) that it can be (optionally) °pied-piped under °topicalization.

- (454) a. Een hekel aan huiswerk heeft Peter niet.
 a disgust at homework has Peter not
- b. Een afkeer van dat gepraat over politiek heeft Els niet.
 an aversion of that talking about politics has Els not
- c. Berouw over zijn laffe daad heeft Jan niet.
 regret of his cowardly deed has Jan not

Undative psych-constructions of the sort in (453) are sometimes also formed with taboo words like *de pest* ‘the plague’, and they can also be completely idiomatic; this is shown in example (455).

- (455) a. Peter heeft/krijgt/houdt de pest aan huiswerk.
 Peter has/gets/keeps the plague at homework
 ‘Peter detests/starts to detest/keeps detesting homework.’
- b. Marie_{Exp} heeft/krijgt/houdt het land aan voetbal.
 Marie has/gets/keeps the LAND at soccer
 ‘Marie hates/starts to hate/keeps hating soccer.’

We want to conclude this subsection by noting that example (453c) is also possible with the verb *voelen* ‘to feel’: *Jan voelt berouw over zijn laffe daad* ‘Jan regrets his cowardly deed’. It is therefore tempting to take this as evidence for assuming that this verb is undative as well, especially because it also behaves like an undative verb in not allowing passivization and ER-nominalization.

V. Conclusion

The previous subsections have discussed three types of subject experiencer verbs and has shown that from a syntactic point of view these verbs can simply be considered regular intransitive, transitive and unaccusative verbs. These psych-verbs are, however, of a special semantic subtype in that they normally seem to denote involuntary actions.

The fact that there are intransitive and transitive subject experiencer verbs raises the question as to whether we should assume two types of external arguments with, respectively, the °thematic role of agent and the thematic role of experiencer. The answer seems to depend on whether the semantic property of controllability of the event is relevant for distinguishing between thematic roles; since Section 1.2.3,

sub IIIB, argues that the answer to this question is negative, we provisionally conclude that there is no need to postulate external arguments with the thematic role of experiencer.

The fact that there are unaccusative subject experiencer verbs shows that the experiencer need not be an external argument of the verb but can also be an internal argument. This conclusion seems to be confirmed by the fact that there also appear to be psych-constructions based on the undative verb *hebben* ‘to have’, *krijgen* ‘to get’, and *houden* ‘to keep’ in combination with a psychological noun like *een hekel hebben aan* ‘to dislike’. From this perspective, it does not come as a surprise that experiencers need not appear as subjects but can also be realized as (dative or accusative) objects. We discuss such cases in Section 2.5.1.3.

2.5.1.3. Object experiencer psych-verbs

This section discusses object experiencer verbs. Object experiencers can be either accusative or dative. In the former case we are dealing with causative psych-verbs, which can generally be used in two different ways: (i) they may take a causer subject, in which case they behave more or less like regular transitive verbs, or (ii) they may take a cause subject, in which case they exhibit behavior that is not typical for regular transitive verbs. To avoid lengthy descriptions like “causative psych-verb with a causer/cause subject”, we will sometimes distinguish the two types by referring to them as transitive and NOM-ACC psych-verbs, respectively, as in the (a)-examples in (456). Object experiencer verbs with a dative object, like *behagen* ‘to please’ in (456b), do not differ syntactically from the NOM-DAT verbs discussed in Section 2.1.3. Recall that the notion “object of emotion” in (456b) is used as a cover term for subject matter and target of emotion.

- (456) • Types of object experiencer psych-verbs
- | | | |
|-----|---|--------------|
| a. | Peter _{Causer} ergert Marie _{Exp.} | [transitive] |
| | Peter annoys Marie | |
| a’. | Die opmerkingen _{Cause} ergeren Marie _{Exp.} | [NOM-ACC] |
| | those remarks annoy Marie | |
| b. | Zulk onbeleefd gedrag _{Object of emotion} behaagt hen _{Exp} niet. | [NOM-DAT] |
| | such impolite behavior pleases them not | |

Because the NOM-DAT psych-verbs in (456b) simply constitute a semantic subclass of the NOM-DAT verbs, we begin with a very brief discussion of these in Subsection I. Subsection II provides a more lengthy discussion of the transitive and NOM-ACC psych-verbs. Since transitive/NOM-ACC psych-verbs have been claimed to have an underlying structure similar to that of the periphrastic causative psych-construction in (457a), Subsection III compares these constructions and argue that this claim is indeed well founded.

- (457) a. Jan_{Causer} maakt Marie boos. [periphrastic causative psych-verb]
 Jan makes Marie angry
- b. Die opmerking_{Cause} maakt Marie boos. [periphrastic causative psych-verb]
 that remark makes Marie angry

Subsection IV concludes with a discussion of the inherently reflexive counterparts of causative psych-verbs like *ergeren* ‘to annoy’; an example is given in (458).

- (458) Jan_{Exp} ergert zich erg (aan zijn oude auto). [reflexive psych-verb]
 Jan annoys REFL very of his old car
 ‘Jan is much ashamed (of his old car).’

I. NOM-DAT psych-verbs

Objects of NOM-DAT verbs are normally assumed to be experiencers. It will therefore not come as a surprise that many of these verbs can be characterized as psych-verbs. Example (459) provides some examples that may be given this characterization.

- (459) a. **NOM-DAT psych-verbs selecting *zijn*** ‘to be’: *bevallen* ‘to please’, *meevallen* ‘to turn out better than was expected’, *tegenvallen* ‘to disappoint’, *(goed/slecht) uitkomen* ‘to suit well/badly’
 b. **NOM-DAT psych-verbs selecting *hebben*** ‘to have’: *aanspreken* ‘to appeal’, *aanstaan* ‘to please’, *behagen* ‘to please’, *berouwen* ‘to regret’, *bevreemden* ‘to surprise’, *spijten* ‘to regret’, *tegenstaan* ‘to pall on’, *voldoen* ‘to satisfy’, *(niet) zinnen* ‘to dislike’

The verbs in (459) differ from causative psychological verbs in that the subject of the construction is not a causer/cause. Instead, it seems more appropriate to characterize the subject as the object (target/subject matter) of emotion. This is compatible with the conclusion reached in Section 2.1.2 that the subject of a NOM-DAT verb is a °DO-subject given that an object (subject matter/target) of emotion is normally an internal argument of the verb; cf. (420) in Section 2.5.1.1, sub ID.

- (460) a. Dat pretpark_{Object of emotion} bevalt Jan_{Exp}.
 that amusement park pleases Jan
 b. Deze laffe daad_{Object of emotion} stond Els_{Exp} erg tegen.
 this cowardly deed palled Els much on
 ‘That cowardly deed disgusted Els.’

Since the verbs in (459) constitute a subset of the verbs in (88), we refer the reader to Section 2.1.2 for a more detailed discussion of them. Note, however, that the subject of a NOM-DAT verb is characterized as a theme there, because the notion of object of emotion is not directly relevant in that discussion.

II. Causative (transitive and NOM-ACC) psych-verbs

This subsection is devoted to psych-verbs with an accusative experiencer. The claim that the experiencer is assigned °accusative case cannot be directly substantiated for Dutch given the lack of morphological case marking, but can be made plausible by comparing the relevant Dutch verbs to their German counterparts (which normally do take an accusatively marked experiencer object) and/or by investigating the syntactic behavior of these verbs (e.g., by considering the question as to whether the experiencer can be promoted to subject by passivization). The verbs under consideration are CAUSATIVE in the sense that their subjects generally refer to a CAUSER or a CAUSE of the event. The causer and cause can be expressed

simultaneously, but in that case the cause must be expressed in the form of an adjunct-PP; cf. example (461c). Experiencer objects are normally obligatory; they can only marginally be omitted in generic examples like *?dat soort opmerkingen kwetst* ‘that kind of remark hurts’.

- (461) a. Jan_{Causer} kwetste Marie_{Exp.}
 Jan hurt Marie
 b. Die opmerking_{Cause} kwetste Marie_{Exp.}
 that remark hurt Marie
 c. Jan_{Causer} kwetste Marie met/door die opmerking_{Cause.}
 Jan hurt Marie with/by that remark

Example (462) provides a representative sample of causative object experiencer verbs. The verbs in (462a) can all be used in a way similar to *kwetsen* in (461), that is, with either a causer or a cause subject. The causative object experiencer verbs in (462b), on the other hand, tend to prefer a cause subject (although some may occasionally occur with a causer).

- (462) a. **Causative object experiencer verbs with a causer/cause subject:** *afstoten* ‘to repel’, *almeren* ‘to alarm’, *amuseren* ‘to amuse’, *beledigen* ‘to offend’, *bemoedigen* ‘to encourage’, *boeien* ‘to fascinate’, *ergeren* ‘to annoy’, *fascineren* ‘to fascinate’, *grieven* ‘to hurt’, *hinderen* ‘to bother’, *imponeren* ‘to impress’, *interesseren* ‘to interest’, *intrigeren* ‘to intrigue’, *irriteren* ‘to irritate’, *kalmeren* ‘to calm’, *krenken* ‘to hurt’, *kwetsen* ‘to hurt’, *motiveren* ‘to motivate’, *ontmoedigen* ‘to discourage’, *ontroeren* ‘to move’, *opfleuren* ‘to cheer up’, *opmonteren* ‘to cheer up’, *opvrolijken* ‘to cheer up’, *opwinden* ‘to excite’, *overrompelen* ‘to take by surprise’, *overtuigen* ‘to convince’, *overvallen* ‘to take by surprise’, *prikkelen* ‘to annoy’, *storen* ‘to disturb’, *shockeren/choqueren* ‘to shock’, *verbazen* ‘to amaze’, *verbijsteren* ‘to bewilder’, *verblijden* ‘to make happy’, *vermaken* ‘to entertain’, *verrassen* ‘to surprise’, *vertederen* ‘to move’, *vervelen* ‘to annoy’
 b. **Causative object experiencer verbs with (preferably) a cause subject:** *aangrijpen* ‘to move’, *beangstigen* ‘to frighten’, *bedaren* ‘to calm down’, *bedroeven* ‘to sadden’, *benauwen* ‘to oppress’, *bevreemden* ‘to surprise’, *deprimeren* ‘to depress’, *frustreren* ‘to frustrate’, *opkikkeren* ‘to cheer up’, *raken* ‘to affect’, *verbitteren* ‘to embitter’, *verheugen* ‘to rejoice’, *verontrusten* ‘to alarm’, *verwonderen* ‘to surprise’

The following subsections will extensively discuss the properties of these verbs. Special attention will be paid to the differences between the constructions in (461a&b) with a causer and a cause subject, respectively.

A. The verb does not select an object of emotion

A remarkable fact about causative object experiencer verbs is that they do not occur with a subject matter of emotion. Whereas we have seen in (417), repeated here as the (a)-examples in (463), that constructions with the psych-adjective *bang* ‘afraid’ may contain a causer, a cause and a subject matter of emotion, the (b)-examples in

(463) show that a subject matter of emotion cannot be used with the almost synonymous causative verb *beangstigen* ‘to frighten’.

- (463) a. Peter_{Causer} maakt Jan_{Exp} met zijn verhalen_{Cause} bang voor spoken_{SubjM}.
 Peter makes Jan with his stories afraid of ghosts
 a'. Peters verhalen_{Cause} maken Jan_{Exp} bang voor spoken_{SubjM}.
 Peter's stories make Jan afraid of ghosts
 b. Peter_{Causer} beangstigt Jan_{Exp} met zijn verhalen_{Cause} (*voor spoken_{SubjM}).
 Peter frightens Jan with his stories of ghosts
 b'. Peters verhalen_{Cause} beangstigen Jan_{Exp} (*voor spoken_{SubjM}).
 Peter's stories frighten Jan of ghosts

Perhaps we can even generalize this and claim that causative psych-verbs cannot occur with any object (subject matter/target) of emotion. If so, the verb *interesseren* ‘to interest’ is an exception to the general rule, given that it seems to allow a *voor*-PP expressing the target of emotion.

- (464) Peter_{Causer}/het verhaal_{Cause} interesseerde Jan_{Exp} voor dat onderwerp_{Target}.
 Peter/the story interested Jan for that topic
 ‘Peter/the story interested the boys in that topic.’

Note in this connection that Pesetsky (1995: 61/283) claims that causative psych-verbs with a particle are able to select an object of emotion in English, whereas in Dutch this seems to be completely excluded. This can be seen by comparing the Dutch examples in (465) to their English renderings in the primed examples, which Pesetsky gives as fully acceptable.

- (465) a. Het nieuws vrolijkte Sue op (*over haar toestand).
 the news cheered Sue up about her plight
 a'. The news cheered Sue up about her plight.
 b. De lezingen wonden Bill op (*over klassieke muziek).
 the lectures turned Bill on about classical music
 b'. The lectures turned Bill on to classical music.

B. *The verb is possibly a derived form*

Subsections C to I below will show that the psych-verbs in (462) differ from regular transitive verbs in various respects. It has been suggested that these differences are due to the fact that causative object experiencer verbs are not simple forms but morphologically complex ones. Although this claim is not always easy to substantiate, the following subsections will show that there are reasons for assuming that it is indeed correct for a large number of these verbs.

1. *Verbs derived from an adjective*

That the causative psych-verbs in (462) are morphologically complex is, of course, uncontroversial for the deadjectival verbs in (466). Note that the prefixes *ver-* and *be-* may also express causation when the base adjective does not refer to a mental state, as is clear from *ver-edel-en* ‘to ennoble’ and *be-vochtig-en* ‘to moisten’.

- (466) • Deadjectival causative psych-verbs
- a. prefixed with *ver-*: *blij* ‘happy’-*verblijden* ‘to make happy’, *bitter* ‘bitter’-*verbitteren* ‘embitter’, *teder* ‘tender/soft’-*vertederen* ‘to move/soften’
 - b. prefixed with *be-*: *angst* ‘fear’-*beangstigen* ‘to frighten’, *droef* ‘sad’-*bedroeven* ‘to sadden’, *moed* ‘courage’-*bemoedigen* ‘to encourage’, *nauw* ‘narrow’-*benauwen* ‘to oppress’, *vreemd* ‘strange’-*bevreemden* ‘to surprise’

The fact that many of the verbs in (462) are prefixed with *ver-*, *be-* and *ont-* might be better understood if we assume that these affixes are responsible for the causative meaning aspect in all these cases.

2. The causative-inchoative alternation

There are verbs that can be used both as unaccusative and as transitive verbs. A prototypical verb that exhibits this alternation is *breken* ‘to break’, which can be used both as an inchoative, unaccusative verb and as a causative, transitive verb. It has been claimed that the causer is introduced by a zero-morpheme that attaches to the (simple) unaccusative verb; see Section 3.2.3 for more discussion.

- (467) • Inchoative-causative alternation
- a. Het glas_{Theme} breekt.
the glass breaks
 - b. Jan_{Causer} breekt het glas_{Theme}.
Jan breaks the glass

Although Section 2.5.1.2, sub III, has shown that there are only a few unaccusative psych-verbs, the same alternation can be found with psych-verbs. The (a)- and (b)-examples of (468) show this for the verbs *kalmeren/bedaren* ‘to calm down’ in (447a&b). The unaccusative verb *schrikken* ‘to get frightened’ in (447c) does not participate in this alternation, but it is nevertheless possible to derive a causative form of it by making use of the prefix *ver-*, which results in the perhaps somewhat obsolete verb *verschrikken* ‘to frighten’ (causative *verschrikken* is mainly known in its adjectival participial form *verschrikt* ‘frightened’ and as part of the instrumental compound noun *vogelverschrikker* ‘scarecrow’). The somewhat formal example in (468c’) is relevant, however, in that the prefix *ver-* is perhaps an overt counterpart of the postulated phonetically empty causative morpheme that derives the causative forms in the primed (a)- and (b)-examples in (468).

- (468) a. Zijn boze vriend_{Exp} kalmeerde snel.
his angry friend calmed.down quickly
- a'. Jan_{Causer} kalmeerde zijn vriend snel.
Jan calmed.down his friend quickly
- b. Marie_{Exp} bedaarde snel.
Marie calmed.down quickly
- b'. Zijn vriendelijke woorden_{Cause} bedaarde Marie_{Exp} snel.
his kind words calmed.down Marie quickly
- c. Jan_{Exp} schrok van de plotselinge verschijning van de geest_{Cause}.
Jan got.frightened of the sudden appearance of the ghost
- c'. ^sDe plotselinge verschijning van de geest_{Cause} verschrok Jan.
the sudden appearance of the ghost frightened Jan

Unaccusative psych-verbs with particles all have causative counterparts. Since the particle is claimed to function as a kind of predicate, the primed examples in (469) can probably be considered to be on a par with the causative non-psych-construction *Jan breekt het glas in stukken* 'Jan breaks the glass to pieces'.

- (469) a. Jan_{Exp} montert helemaal op.
 Jan cheers completely up
 a'. Peter_{Causer} montert Jan_{Exp} helemaal op.
 Peter cheers Jan completely up
 b. Peter_{Exp} fleurt helemaal op.
 Peter cheers completely up
 b'. Marie's opmerking_{Cause} fleurt Peter_{Exp} helemaal op.
 Marie's remark cheers Peter completely up
 c. Jan_{Exp} kikkert helemaal op.
 Jan cheers completely up
 c'. Die lekkere soep_{Cause} kikkert Jan_{Exp} helemaal op.
 that tasty soup cheers Jan completely up

Note that it is not the case that all causative psych-verbs have an unaccusative counterpart; the other verbs in (462) do not or only with difficulty.

3. Verbs ending in *-eren*

Many causative psych-verbs are Latinate, or at least Romance, forms ending in *-eren*. Although there are no attested words from which these verbs are derived, it seems plausible that they are derived from non-verbal stems by means of affixation with the causative morpheme *-eren*. Table (470) shows that these postulated non-verbal stems can also be used to derive nouns and adjectives; cf. De Haas & Trommelen (1993:348) and Booij (2002:127-8).

(470) Latinate forms in *-eren*

STEM	DERIVED VERB	DERIVED NOUN	DERIVED ADJECTIVE
<i>amus-</i>	<i>amus-eren</i> to amuse	<i>amus-ement</i> amusement	<i>amus-ant</i> amusing
<i>frustr-</i>	<i>frustr-eren</i> to frustrate	<i>frustr-atie</i> frustration	<i>frustr-erend</i> frustrating
<i>intrig-</i>	<i>intrig-eren</i> to make curious	<i>intrig-e</i> intrigue	<i>intrig-erend</i> intriguing
<i>irrit-</i>	<i>irrit-eren</i> to irritate	<i>irrit-atie</i> irritation	<i>irrit-ant</i> irritating
<i>stimul-</i>	<i>stimul-eren</i> to stimulate	<i>stimul-atie</i> stimulation	<i>stimul-erend</i> stimulating

The idea that *-eren* is or can act as a causative morpheme is supported by the fact illustrated in (471) that it also derives causative object experiencer verb from nouns.

- (471) **Denominal causative psych-verbs ending in *-eren*:** *alarm* 'alarm' - *alarmeren* 'to alarm', *charme* 'charm' - *charmeren* 'to charm', *motief* 'motive' - *motiveren* 'to motivate', *shock* 'shock' - *shockeren* 'to shock'

4. Conclusion and caveat

The previous subsections have shown that for many causative psych-verbs there is reason for assuming that some causative affix is present, and that the verb is therefore complex. Subsection III will show that, syntactically seen, causative psych-verbs resemble periphrastic causative constructions such as (472b), which might be considered as additional evidence for the assumption that the causative psych-verbs are morphologically complex.

- (472) a. Jan_{Exp} is bang.
 Jan is afraid
 b. De schaduwen op de muur_{Cause} maken Jan bang.
 the shadows on the wall make Jan afraid

It should be noted, however, that the presence of a (possibly phonetically empty) causative morpheme is not immediately plausible in all cases. The psych-verbs in (473a), for example, are probably denominal, but to our knowledge, there is no reason for assuming that the verbal ending *-en* is causative in nature. Moreover, the psych-verbs in (473b) do not seem to be derived at all as there does not seem to exist a base form that may be considered the input of the verb (in present-day Dutch, at least).

- (473) a. *prikkel* ‘stimulus’-*prikkelen* ‘to stimulate’, *schok* ‘shock’ *schokken* ‘to shock’
 b. *ergeren* ‘to annoy’, *krenken* ‘to offend’, *kwetsen* ‘to hurt’

Of course, we may adopt a similar assumption for the verbs in (473b) as for Latinate verbs like *irriteren* ‘to irritate’, and claim that they are derived from stems that only occur as bound morphemes. The adjectives and nouns in (474) can then be seen as derived directly from this stem. On this assumption, the two sets of verbs in (473a&b) would form a single class of problem for the assumption that all causative psych-verbs are complex.

- (474) a. *erger-lijk* ‘annoying’, *krenk-end* ‘offensive’, *kwets-end* ‘hurtful’
 b. *erger-nis* ‘annoyance’, *krenk-ing* ‘offence’, *kwets-uur* ‘hurt’

C. The semantic role of the subject

We have already noted that (in the majority of cases) the subject of an object experiencer verb can have the semantic role of causer or cause; cf. the discussion of (462). A question that should be raised is whether the role of causer can or should be distinguished from the °thematic role of agent, since in many respects causers and agents behave in the same way. For example, agent-oriented adverbs like *opzettelijk* ‘deliberately’ can readily be used with a causer subject; cf. the primeless examples in (475). In addition, the primed examples show that causative psych-verbs with a causer subject can readily be embedded under the volitional verb *willen* ‘want’ or the causative verb *laten* ‘to make’, which suggests that the causer is not only agent-like but also has control over the event.

- (475) a. Jan_{Causer} irriteert Marie_{Exp} opzettelijk.
 Jan irritates Marie deliberately
- a'. Jan_{Causer} wil Marie_{Exp} irriteren.
 Jan wants Marie irritate
- a''. Peter laat Jan_{Causer} Marie_{Exp} irriteren.
 Peter makes Jan Marie irritate
- b. Jan_{Causer} kwetst zijn vriend_{Exp} opzettelijk.
 Jan hurts his friend deliberately
- b'. Jan_{Causer} wil zijn vriend_{Exp} kwetsen.
 Jan wants his friend hurt
- b''. Peter laat Jan_{Causer} zijn vriend_{Exp} kwetsen.
 Peter makes Jan his friend hurt

The examples in (476) show that causative psych-verbs with a cause subject behave totally differently in this respect: they do not allow the agent-oriented adverb *opzettelijk*, and they cannot be embedded under volitional *willen* or the causative verb *laten*, which shows that the cause subject certainly cannot be considered agentive.

- (476) a. *Jans jaloezie_{Cause} irriteert zijn vriend_{Exp} opzettelijk.
 Jan's jealousy irritates his friend deliberately
- a'. *Jans jaloezie_{Cause} wil zijn vriend_{Exp} irriteren.
 Jan's jealousy wants his friend irritate
- a''. *Peter laat Jans jaloezie_{Cause} zijn vriend_{Exp} irriteren.
 Peter makes Jan's jealousy his friend irritate
- b. *Jans opmerking_{Cause} kwetst zijn vriend_{Exp} opzettelijk.
 Jan's remark hurts his friend deliberately
- b'. *Jans opmerking_{Cause} wil zijn vriend_{Exp} kwetsen.
 Jan's remark wants his friend hurt
- b''. *Peter laat Jans opmerking_{Cause} zijn vriend_{Exp} kwetsen.
 Peter makes Jan's remark his friend hurt

It is important to note that the unacceptability of the examples in (476) has nothing to do with the inanimateness of the subject. In order to see this it should be noted that examples with a [+HUMAN] subject, like *Jan irriteert Marie_{Exp}* 'Jan irritates Marie', are actually ambiguous between two readings; on the first reading the subject functions as the causer, and the example expresses that the irritation on the part of Marie is caused by some action of Jan; on the second reading, the subject functions as the cause and under this reading the example expresses that it is simply Jan's presence that irritates Marie. In the primed examples of (475), it is only the causer subject reading that survives. This can be illustrated in a slightly different way by means of the examples in (477), in which the [+HUMAN] subject is preferably construed as a cause: the preferred reading of this example is that it is the whining of the children that irritates the father. As long as we stick to this interpretation, the constructions in (477b-d) are unacceptable: these examples are only (marginally) acceptable under the less prominent interpretation of (477a) that the cause of the irritation is something other than the whining.

- (477) a. Kinderen die jengelen_{Cause} irriteren hun vader_{Exp}.
 children that whine irritate their father
- b. #Kinderen die jengelen_{Cause} irriteren hun vader opzettelijk.
 children that whine irritate their father deliberately
- c. #Kinderen die jengelen_{Cause} willen hun vader irriteren.
 children that whine want their father irritate
- d. #Jan laat kinderen die jengelen_{Cause} hun vader_{Exp} irriteren.
 Jan makes children that whine their father irritate

The examples in (477) therefore show that it is agentivity that is at stake: the cause subject of a causative psych-verb is not agentive. Another indication that cause subjects are non-agentive is that they may take the form of a clause, which is never possible with agentive subjects. The clause can be placed in sentence-initial or in sentence-final position; in the latter case, the subject position is normally occupied by the anticipatory subject pronoun *het*.

- (478) a. [Dat de muziek zo hard staat]_{Cause}, irriteert de jongens_{Exp}.
 that the music so loud is irritates the boys
 ‘The fact that the music is so loud is irritating the boys.’
- b. Het irriteert de jongens_{Exp} [dat de muziek zo hard staat]_{Cause}.
 it irritates the boys that the music so loud is
 ‘It is irritating the boys that the music is so loud.’

Note in passing that the causative psych-verb *bedaren* ‘calm down’ in (479) seems exceptional in not allowing a clausal subject; although we do not see any relation at this moment, it may be useful to note that *bedaren* is also special in that it can be used in the imperative and as a nominalized form in the complement of the preposition *tot*; see the discussion of the examples in (452).

- (479) a. Dat de interviewer ook een vrouw was, kalmeerde/*badaarde Marie snel.
 that the interviewer also a woman was calmed.down Marie rapidly
- b. Het kalmeerde/*badaarde Marie dat de interviewer ook een vrouw was.
 it calmed.down Marie that the interviewer also a woman was

For completeness’ sake, we want to note that causative psych-verbs generally do not give rise to ER-nominalization, irrespective of whether the referent of the ER-noun is construed as a causer or a cause.

- | | |
|----------------------|------------------|
| (480) a. *amuseerder | d. *frustreerder |
| amus-er | frustrat-or |
| b. *boeier | e. *irriteerder |
| fascinat-or | irritat-or |
| c. *fascineerder | f. *kwetser |
| fascinat-or | hurt-er |

D. Passive

It is often claimed that passivization of causative psych-verbs is unrestricted; cf. Everaert (1982), Den Besten (1985), and Pesetsky (1995:36). Examples like the primed ones in (481) are given as crucial evidence in favor of this claim and intend

to show that causative psych-verbs can be passivized, regardless of whether the subject of the corresponding active construction is a causer or a cause.

- (481) a. De nar_{Causer} amuseert de koning_{Exp} met zijn grappen_{Cause}.
 the jester amuses the king with his jokes
- a'. De koning_{Exp} wordt door de nar_{Causer} met zijn grappen_{Cause} geamuseerd.
 the king is by the jester with his jokes amused
- b. Zijn grappen_{Cause} amuseren de koning_{Exp}.
 his jokes amuse the king
- b'. De koning_{Exp} wordt geamuseerd door zijn grappen_{Cause}.
 the king is amused by his jokes

Although the argument seems sound at first sight, it may nevertheless be flawed; it is based on the presupposition that the *door*-PPs in the primed examples are passive *door*-phrases, whereas we have seen that they can also have the function of expressing the cause; cf. Section 2.5.1.1, sub ID. The examples in (449a-c), repeated here as (482), have shown that the cause must then be inanimate.

- (482) a. Marie_{Exp} bedaarde door zijn rustige optreden_{Cause}/*Jan_{Cause}.
 Marie calmed.down by his quiet way.of.acting /Jan
- b. Zijn boze vriend_{Exp} kalmeert door zijn vriendelijke woorden_{Cause}/*Jan_{Cause}.
 his angry friend calmed.down by his friendly words/Jan
- c. Peter_{Exp} schrok door het plotselinge lawaai_{Cause}/*Jan_{Cause}.
 Peter got.frightened by that sudden noise/Jan

Given this inanimacy restriction on causative *door*-PPs, we can safely conclude that (481a') is a genuine example of the passive construction, and this need not surprise us given that causative constructions with a causer subject, like *Jan brak het glas* 'Jan broke the glass', can generally be passivized: *Het glas werd door Jan gebroken* 'The glass was broken by Jan'. The situation is different, however, in the case of (481b'). One reason for doubting that this example is the passive counterpart of the active construction in (481b) is that active constructions with an inanimate subject normally do not passivize: if (481b') is really the passive counterpart of (481b), this would be pretty exceptional. This leaves us with two alternatives: the first option is to assume that (481b') is a passive construction, but one that is derived from an active sentence with a causer subject; the second option is to assume that we are not dealing with a passive construction, but with a copular construction in which the past/passive participle is actually an adjective, the so-called ADJECTIVAL PASSIVE. We will discuss these two options in the following subsections.

1. The first option

The first option, according to which we are dealing with a passive construction derived from an active sentence with a causer subject, implies that the passive *door*-phrase corresponding to the causer is suppressed; this would lead to the wrong prediction that example (483a) should be acceptable. Another prediction is that the participle is verbal, and must hence be able to appear after the finite verb in clause-final position (which is impossible with predicative adjectives); judgments on example (483b) seem to vary from speaker to speaker, but we have the impression

that this prediction is indeed correct. If example (483b) is indeed grammatical, we end up with an ambiguous result. One way of solving this is by saying that apparently, the unacceptability of (483a) is due to the fact that there is a problem with having two *door*-phrases in a single clause.

- (483) a. *[?]De koning_{Exp} wordt door de nar_{Causer} geamuseerd door zijn grappen_{Cause}.
 the king is by the jester amused by his jokes
 b. %[?]dat de koning door zijn grappen wordt geamuseerd.
 that the king by his jokes is amused

Another prediction that would follow from the first option is that passivization of a causative psych-verb is possible only if the verb is able to take a causer subject. Since the verbs in (462b) cannot readily take a causer subject, these verbs can be used to test this prediction. And, indeed, it seems that at least some of these verbs categorically resist passivization; the unacceptability of the examples in (484) therefore supports the suggestion that (481b') is derived from an active construction with a causer subject. Observe that we placed the participle after the finite verb in the primed examples in (484) in order to exclude the adjectival passive reading.

- (484) a. dat zijn dood/[?]Jan mij bedroeft.
 that his death/Jan me saddens
 a'. *dat ik word bedroefd door zijn dood.
 that I am saddened by his death
 b. dat zijn gedrag/[?]Jan mij bevreemdt.
 that his behavior/Jan me surprises
 b'. *dat ik word bevreemd door zijn gedrag.
 that I am surprised by his behavior

2. The second option

The fact that the first option is (at least partly) supported by the facts in (483) and (484) does not exclude the possibility that (481b') could also be an adjectival passive, that is, a construction in which the past/passive participle is used as a predicative adjective. Such an analysis is certainly viable, given that the verb *worden* is not only used as a passive auxiliary, but also as a copular verb. That it may be the correct analysis in many cases is also supported by the fact that many participles of causative psych-verbs can enter copular constructions headed by the verb *raken* 'to get', which is never used as a passive auxiliary.

- (485) a. Jan raakt/[?]wordt geïrriteerd door zijn gezeur.
 Jan gets/is irritated by his nagging
 b. Jan raakt/wordt geboeid door het schouwspel.
 Jan gets/is fascinated by the spectacle
 c. Jan raakt/wordt gedepimeerd door dit donkere weer.
 Jan gets/is depressed by this dark weather
 d. Jan raakt/[?]wordt verbitterd door zijn ontslag.
 Jan gets/is embittered by his discharge

That we are not dealing with passive constructions in (485) but with adjectives is also supported by the fact that the participles can readily be coordinated with true adjectives as, for example, in *Jan raakt/wordt [gedepriimeerd en angstig] door dit donkere weer* ‘Jan is getting depressed and frightened by this dark weather’. Note, finally, that examples (485c&d) involve causative psych-verbs that (preferably) take a cause subject, so that for this reason also these examples cannot be analyzed as passive constructions; see the discussion of (484).

3. Conclusion

The discussion in the previous subsections suggests that passivization of causative psych-verbs is only possible if the subject is a causer, not if it is a cause. Observe that the issue at stake is not whether or not the subject is animate. In (486a), the subject is animate, but what is actually expressed is that it is the whining of the children that irritates the speaker, which suggests that we are dealing with a cause. As long as we stick to this interpretation, the passive construction in (486b) is excluded (it is marginally acceptable if the cause of the irritation is something other than the whining). The adjectival construction in (486c) is fully acceptable.

- (486) a. dat kinderen die jengelen_{Cause} mij_{Exp} irriteren.
 that children that whine me irritate
- b. #dat ik word geïrriteerd door kinderen die jengelen_{Cause}.
 that I am irritated by children that whine
- c. dat ik geïrriteerd raak door kinderen die jengelen_{Cause}.
 that I irritated get by children that whine

E. Attributive and predicative use of present participles

This subsection discusses the attributive and predicative use of present participles derived from causative psych-verbs. It will be shown that causers and causes systematically differ in that attributive modification of nouns that correspond to causers require the present participles to be verbal in nature, whereas causes can be modified both by verbal and by adjectival present participles; see Section A9.2.1 for the distinction between verbal and adjectival present participles. We will also see that predicatively used present participles, which are always adjectival in nature, can only be predicated of noun phrases that correspond to causes. This is of course in line with the first finding.

1. Attributive use

Generally speaking, present participles of verbs can be used attributively to modify nouns that correspond to the subject of the verb. The examples in (487) show that the verb can be intransitive, (di-)transitive, or monadic/dyadic unaccusative.

- (487) a. de lachende jongen [intransitive]
 the laughing boy
- b. de het meisje kussende jongen [transitive]
 the the girl kissing boy
- b'. het de koningin bloemen aanbiedende meisje [ditransitive]
 the the queen flowers prt.-offering girl

- c. de vallende bladeren [monadic unaccusative]
 the falling leaves
- c'. de haar goed bevallende vakantie [dyadic unaccusative]
 the her well pleasing holiday

Causative psych-verbs simply follow this pattern: The examples in (488) show that the modified noun can correspond to a causer or a cause subject. Since the experiencer object is realized in the primed examples of (488), we can safely assume that the present participles are verbal in nature. This conclusion is also consistent with the fact that these examples are interpreted as referring to an ongoing event; cf. the English renderings of these examples.

- (488) a. De jongen_{Causer} kwetst haar_{Exp} met zijn opmerkingen_{Cause}.
 the boy hurts her with his remarks
- a'. de haar met zijn opmerkingen kwetsende jongen_{Causer}
 the her with his remarks hurting boy
 'the boy who is hurting her with his remarks'
- b. De opmerkingen_{Cause} kwetsten haar_{Exp}.
 the remarks hurt her
- b'. de haar kwetsende opmerkingen_{Cause}
 the her hurting remarks
 'the remarks that are hurting her'

Present participles of causative psych-verbs have the special property that they can also be used purely adjectivally, that is, as property denoting elements (without any aspectual meaning). In such cases, however, the modified noun cannot correspond to a causer; if the modified noun corresponds to the cause, on the other hand, the result is fully acceptable. This is illustrated in (489).

- (489) a. *een erg kwetsende jongen_{Causer}
 a very hurting boy
- b. een erg kwetsende opmerkingen_{Cause}
 a very hurting remark

Note in passing that we used the modifier *erg* to highlight the adjectival nature of the present participle *kwetsend*. If it is left out, example (489a) may be marginally acceptable for some speakers with a verbal reading; the marginality is then due to the omission of the experiencer argument. In this context, it might be interesting to note that we found a small number of occurrences of *kwetsende ouders* 'hurting parents' with this agentive reading, where the experiencer was clearly the implied internal argument of the relational noun *ouders* (which in fact was sometimes overtly expressed by means of a possessive pronoun).

That the present participles in (489) are purely adjectival can be supported by the fact that present participles of a well-defined set of psych-verbs cannot obtain a purely adjectival reading. One example is the present participle *irriterend*: regardless of whether or not the arguments are expressed, this form is interpreted with a verbal reading—the adjectival reading is blocked by the fact that there already exists an adjective that expresses this meaning, viz. *irritant* 'irritating'. The noun modified by this adjective is always interpreted as a cause, which is indicated by the

number sign before example (490a''); this example is acceptable but only if *jongen* is construed as a cause.

- (490) a. De jongen_{Causer} irriteert haar_{Exp.} b. De opmerkingen_{Cause} irriteren haar_{Exp.}
 the boy irritates her the remarks irritate her
 a'. de [?](haar) irriterende jongen_{Causer} b'. de [?](haar) irriterende opmerking_{Cause}
 the her irritating boy the her irritating remarks
 'the boy who is irritating her' 'the remarks that are irritating her'
 a''. #de irritante jongen_{Causer} b''. de irritante opmerkingen
 the irritating boy the irritating remarks

2. Predicative use of present participles

Present participles of most verb types cannot be used in predicative position, which is shown in (491) for the same set of present participles that were used attributively in (487).

- (491) a. *De jongen is_{copular} lachend. [intransitive]
 the boy is laughing
 b. *De jongen is_{copular} (het meisje) kussend. [transitive]
 the boy is the girl kissing
 b'. *Het meisje is_{copular} (de koningin bloemen) aanbiedend. [ditransitive]
 the girl is the queen flowers prt.-offering
 c. *De bladeren zijn_{copular} vallend. [monadic unaccusative]
 the leaves are falling
 c'. *De vakantie is_{copular} (haar goed) bevallend. [dyadic unaccusative]
 the holiday is her well pleasing

The present participles of causative psych-verbs, on the other hand, do allow predicative use of the present participle. Given our conclusion from the previous subsection that present participle of causative psych-verbs can be truly adjectival, this need not surprise us as this simply predicts that present participles like *kwetsend* 'hurting' can be used in the same way as an adjective like *irritant*. In (492), the noun phrase that the adjective is predicated of is necessarily interpreted as a cause, just as in (489) and the doubly-primed examples in (490).

- (492) a. Die opmerking_{Cause}/*Jan_{Causer} is_{copular} erg kwetsend.
 that remark/Jan is very hurting
 a'. Wij vinden die opmerking_{Cause}/*Jan_{Causer} erg kwetsend.
 we consider that remark/Jan very hurting
 b. Die opmerking_{Cause}#Jan_{Causer} is_{copular} erg irritant.
 that remark/Jan is very irritating
 b'. Wij vinden die opmerking_{Cause}#Jan_{Causer} erg irritant.
 we consider that remark/Jan very irritating

F. Attributive and predicative use of the past/passive participle

This subsection discusses the attributive and predicative use of past/passive participles derived from causative psych-verbs. We will show that attributively used participles are somewhat special in that they are preferably construed as purely

adjectival. A similar tendency can be detected in clauses that are expected to be ambiguous between a passive and a copular construction; the latter interpretation seems to be the preferred one.

1. Attributive use

Example (493) shows that the past/passive participles of causative psych-verbs can be used attributively to modify a noun that corresponds to the experiencer object in the corresponding verbal construction. Both the causer and the cause subject of the verb can optionally be expressed as the complement of a *door*-phrase.

- (493) a. de (door Peter/die opmerkingen) gekwetste vrouw
 the by Peter/those remarks hurt woman
 ‘the woman that is hurt (by Jan/those remarks)’
 b. de (door Peter/die opmerkingen) geïrriteerde vrouw
 the by Peter/those remarks irritated woman
 ‘the woman that is irritated (by Jan/those remarks)’

Since attributively used past/passive participles are normally used to modify a noun that corresponds to the theme argument of the verb, this raises the question as to whether the object in the causative psych-verbs should be characterized as an experiencer or whether it would be more appropriate to simply characterize it as a theme. This question seems to become more urgent once we take into account that past/passive participles of NOM-DAT verbs modify the °DO-subject, and not the experiencer object, of the verb; see examples (105) and (106) in Section 2.1.3, sub D.

We may argue, however, that the question is irrelevant and that objects of causative psych-verbs are, in fact, neither experiencers nor themes. This claim is related to the suggestion discussed in Section 2.5.1.3, sub V, that causative psych-verbs have a similar underlying structure as periphrastic causative constructions such as (494a). If it is true that causative psych-verbs are always morphologically complex, it seems plausible that the object is not an internal argument of the verbalizing suffix *-eer*, but an inherited external argument of the non-verbal stem *irrit-*; this gives rise to the underlying structure in (494b). This structure is very similar to that of the periphrastic causative construction in (494a), in which the object is likewise an external argument of the adjective *kwaad* ‘angry’, and not an internal argument of the verb *maken*. Since this decomposition analysis of the causative psych-verbs voids the question as to whether we are dealing with a theme or experiencer of any theoretical or descriptive significance, we will not address this question any further and simply continue to use the label “experiencer” for the object of these causative psych-verbs.

- (494) a. dat Jan/die opmerking [_{VP} [_{AP} Marie kwaad] maakte].
 that Jan/that remark Marie angry made
 b. dat Jan/die opmerking [_{VP} [_{XP} Marie irrit-] -eert].
 that Jan/that remark Marie STEM CAUS

For completeness’ sake, example (495) shows that the complex phrase *boos gemaakt* ‘made angry’ can be used attributively and behaves in this respect like

geïrriteerd in (493b), which, according to the proposal under discussion, is likewise a complex phrase.

- (495) de (door Jan/die opmerkingen) boos gemaakte vrouw
 the by Jan/those remarks angry made woman
 ‘the woman that was made angry (by Jan/those remarks)’

We will not discuss here in detail the various technical ways that will ensure that the stem *irrit-* and affix *-eert* in (493b) surfaces as a single verb form, but simply note that it is often assumed nowadays that vocabulary items are inserted post-syntactically on the basis of more abstract information provided by the syntax; for more information we refer the reader to the brief introduction to Distributed Morphology at www.ling.upenn.edu/~rnoyer/dm/ by Rolf Noyer.

2. *Predicative use*

Past/passive participles can be used predicatively, provided that they are truly adjectival in nature; cf. Section A9.3. The examples in (496) show that virtually all past/passive participles of causative psych-verbs have this option; since *raken* ‘to get’ cannot be used as a passive auxiliary, it must function as a copular and, therefore, the participles in these examples cannot be verbal but must be truly adjectival in nature. The examples in (496b&c) further show that these adjectival participles differ from causative psych-verbs in being able to take a PP expressing the subject matter of emotion; cf. the discussion of the examples in (463).

- (496) a. De jongen_{Exp} raakte geïrriteerd (door die opmerking_{Cause}).
 the boys got irritated by that remark
 b. Jan_{Exp} raakte verbijsterd (over zijn weigering_{SubjM}).
 Jan got interested in that topic
 c. Jan_{Exp} raakt gedeprimeerd (over zijn ontslag_{SubjM}).
 Jan got depressed about his dismissal

Showing that past/passive participles can be truly adjectival is somewhat harder with verbs like *zijn* ‘to be’, which can be used both as a copular verb and as a passive auxiliary; cf. the discussion of *worden* in Subsection D above. Recall from Subsection A that the verb *interesseren* is special in allowing a *voor*-PP that expresses a target of emotion; we show this again in (497a). Now consider the construction with *zijn* in (497b), in which it is also possible to use the preposition *in* to introduce a target of emotion (we will return to the reason for the marked status of the *voor*-PP in the next subsection). The fact that *in* is the only option in the adjectival passive construction in (497c) shows that the past/passive participle in (497b) can be truly adjectival.

- (497) a. Peter_{Causer}/het verhaal_{Cause} interesseerde Jan_{Exp} voor/*in dat onderwerp_{Target}.
 Peter/the story interested Jan for/in that topic
 ‘Peter/the story interested the boys for that topic.’
 b. Jan is geïnteresseerd in^{??}voor dat onderwerp_{Target}.
 Jan is interested in/for that topic
 c. Jan_{Exp} raakte geïnteresseerd (in/*voor dat onderwerp_{Target}).
 Jan got interested in/for that topic

More evidence that shows that the choice of the PP signals whether we are dealing with a verbal or an adjectival past/passive participle is given in (498). If we are dealing with an *in*-PP the participle clearly shows adjectival behavior: it can be modified by the adverbial modifiers *heel* ‘very’ and *zeer* ‘very’, as in (498a), and allows a comparative/superlative form, as in (498b); it can be prefixed with the negative affix *on-*, as shown by (498c); finally, the PP-complement *in zijn verhaal* can be placed between the participle and the finite verb in clause-final position, as in (498d), which is never possible if the participle is verbal. All examples in (498) become unacceptable if the preposition *in* is replaced by *voor*.

- (498) a. De toeschouwers zijn heel/zeer geïnteresseerd in/*voor zijn verhaal.
 the spectators are very/very interested in/for his story
 b. De toeschouwers zijn meer/het meest geïnteresseerd in/*voor zijn verhaal.
 the spectators are more/the most interested in/for his story
 c. De toeschouwers zijn ongeïnteresseerd ([?]in/*voor zijn verhaal).
 the spectators are uninterested in/for his story
 d. dat de toeschouwers geïnteresseerd in/*voor zijn verhaal zijn.
 that the spectators interested in/for his story are

3. The verbal and adjectival reading of the past/passive participle

The previous two subsections have shown that past/passive participles of causative psych-verbs can have either a verbal or an adjectival reading. There is, however, a strong tendency to construe the participle as non-verbal (which also accounts for the marked status of example (497b) with the preposition *voor*). In order to show this, we will discuss the outcome of two tests that were developed in A9.3.1.1 to distinguish the two readings.

The first test involves temporal modification. The main difference between verbal and adjectival past/passive participles is that the former denote perfective events whereas the latter denote a property of a noun phrase. This is reflected by the fact that the two types of participle co-occur with different kinds of temporal adverbial phrases; verbal participles may combine with adverbial phrases like *gisteren* ‘yesterday’ that refer to a certain time interval during which the event was completed, whereas adjectival participles instead combine with adverbial phrases like *al jaren* ‘for years’ that refer to a larger continuous span of time at which the property denoted by the participle holds. When we consider the data in (499), it turns out that the attributively used participles are preferably construed as adjectival.

- (499) a. de al jaren/*gisteren geïrriteerde jongens
 the for years/yesterday irritated boys
 ‘the boys that have been irritated for years’
 b. het al jaren/*gisteren geïnteresseerde publiek
 the for years/yesterday interested audience
 ‘the audience that has been interested for years’

The verbal reading of the attributively used participles may arise if they are accompanied by an agentive or a causative *door*-phrase, but even then the examples in (500) seem somewhat marked.

- (500) a. ?de gisteren door die opmerking geïrriteerde jongen
 the yesterday by that remark irritated boys
 'the boys that were irritated/annoyed yesterday at that remark'
- b. ?de gisteren door dat feit verbaasde man
 the yesterday by that fact surprised man
 'the man that was surprised by that fact yesterday'

It should be noted, however, that not all past/passive participles of psych-verbs allow modification by means of *al jaren*. Exceptions are the verbs *raken* 'to affect' and *treffen* 'to move' and *verrassen* 'to surprise', which may be related to the fact that these psych-verbs denote punctual events, that is, events that do not have an extension in time: since properties normally hold for a longer period of time, the formation of an adjectival participle on the basis of these verbs arguably results in a semantically incoherent meaning. The number sign in (501a) indicates that *gisteren* is possible on the reading "hit (by, e.g., a bullet)"; construal as a causative psych-verb is impossible.

- (501) a. de *al jaren/#gisteren getroffen/geraakte man
 the for years/yesterday hit/hit man
- b. de *al jaren/?gisteren verraste man
 the for years/yesterday surprised man

The second test involves the position of the participle in clause-final position. Examples with the verb *zijn* 'to be' are expected to be ambiguous between a passive reading and a reading in which the participle is predicative; cf. Subsection D. Under the passive reading, we are dealing with a verbal participle, and we hence predict that it can be placed after the finite verb in clause-final position. The examples in (502) show, however, that this prediction is not correct: the participle must precede the finite verb, from which we can conclude that it is adjectival.

- (502) a. dat de koning verrast/geamuseerd/geïrriteerd/verbaasd was.
 that the king surprised/amused/irritated/amazed was
- a'. *dat de koning was verrast/geamuseerd/geïrriteerd/verbaasd.
- b. dat het publiek geïnteresseerd/geboeid was.
 that the audience interested/fascinated was
- b'. *dat het publiek was geïnteresseerd/geboeid.

The unacceptable examples in (502) improve somewhat if a passive *door*-phrase is added, as in the primeless examples in (503), but even then the result is often dubious. The primed examples show that the addition of a causative *door*-phrase cannot be used to evoke the verbal reading of the participle. Note that acceptability judgments may differ from case to case and speaker to speaker.

- (503) a. dat de koning door de nar was verrast/geamuseerd/*geïrriteerd/*verbaasd.
 that the king by the jester was surprised/amused/irritated/amazed
 'that the king has been surprised/amused/irritated/amazed by the jester.'
- a'. dat de koning door die grap was *?verrast/?geamuseerd/*geïrriteerd/*verbaasd.
 that the king by that joke was surprised/amused/annoyed/irritated/amazed

- b. [?]dat het publiek door die docent voor taalkunde was geïnteresseerd.
 that the audience by that professor for linguistics was interested
 ‘that the audience has been interested for linguistics by that professor.’
- b'. *dat het publiek door die lezing voor taalkunde was geïnteresseerd.
 that the audience by that lecture for linguistics was interested

The passive reading is only fully acceptable if the passive auxiliary *worden* is used. Note that the passive *door*-phrase is optional then. The primed examples show that using a causative *door*-phrase often has a degrading effect on the passive construction. This seems to support our earlier conclusion from Subsection D that causative psych-verbs with a cause subject cannot be passivized; those cases that are acceptable are cases of adjectival passives.

- (504) a. dat de koning (door de nar) werd verrast/geamuseerd/geïrriteerd/verbaasd.
 that the king by the jester was surprised/amused/annoyed/irritated/amazed
 ‘that the king has been surprised/amused/irritated/amazed (by the jester).’
- a'. dat de koning door die grap werd verrast/[?]geamuseerd/^{*/?}geïrriteerd/*verbaasd.
 that the king by that joke was surprised/amused/irritated/amazed
- b. dat het publiek door die docent voor taalkunde werd geïnteresseerd.
 that the audience by that professor for linguistics was interested
 ‘that the audience has been interested for linguistics by that professor.’
- b'. ^{??}dat het publiek door die lezing voor taalkunde werd geïnteresseerd.
 that the audience by that lecture for linguistics was interested

G. Argument order

This subsection discusses the relative order of the subject and the direct object of the causative experiencer verbs. Consider the examples in (505). Nothing special needs be said about the primeless examples: as usual the subject precedes the object of the clause. Example (505a') is special, however, in that it is not the subject that precedes the object but the object that precedes the subject. This order is possible with all causative experiencer verbs provided that the subject is [-ANIMATE]; examples such as (505b') are generally considered degraded.

- (505) a. dat die grapjes_{nom} de koning_{acc} amuseren.
 that those jokes the king amuse
 ‘that those jokes amuse the king.’
- a'. dat de koning_{acc} die grapjes_{nom} amuseren.
- b. dat de narren_{nom} de koning_{acc} (met hun dolle fratsen) amuseren.
 that the jesters the king with their silly pranks amuse
 ‘that the jesters amuse the king (with their silly pranks).’
- b'. dat de koning_{acc} de narren_{nom} ^{??}(*met hun dolle fratsen) amuseren.

There are at least two ways to account for the degraded status of (505b'). The first way would be to say that, since Dutch has no morphological case marking, the order ACC-NOM with an animate subject gives rise to parsing problems on part of the speaker since the experiencer object is also animate. This account is severely weakened by the fact that these parsing difficulties are apparently not resolved by the fact that the number marking on the verb in principle provides sufficient

information to correctly interpret the sentence. That this should be sufficient to resolve the problem can be illustrated by means of the contrast in (506). The infelicity of the use of the third person plural pronoun *ze* in (506b) can plausibly be attributed to parsing problems given that it can be used both as a subject and an object pronoun. The parsing problem does not, however, occur in (506a) due to the fact that number agreement on the verb unambiguously shows that *ze* must be interpreted as an object pronoun.

- (506) a. *Zijn verhaal interesseert hen/ze.*
 his story interests them/them
 b. *Zijn verhalen interesseren hen/*ze.*
 his stories interest them/them

The second way of accounting for the degraded status of (505b') would be to say that the difference in acceptability is related to the fact that the inanimate subject DP *de grapjes* in the (a)-examples of (505) can only be interpreted as the cause, whereas the animate subject DP *de narren* in the (b)-examples is preferably construed as a causer. Support for such an approach is that the addition of a causative *met*-PP makes (505b') completely unacceptable: whereas the DP *de narren* could in principle be interpreted as a cause if the *met*-PP is absent, this is totally impossible if it is present. This second approach to the difference in acceptability between the two primed examples in (505) implies that there is a *syntactic* difference between causative experiencer verbs with a causer and those with a cause subject: the former simply behave like regular transitive verbs, whereas the latter do not.

Evidence for the second, syntactic, approach is provided by the verbs *treffen/raken* and *boeien*. In the primeless examples in (507) these verbs are used as regular transitive verbs with the meanings ‘to hit’ and ‘to chain’, respectively. In the primed examples, on the other hand, these verbs receive an interpretation as causative experiencer verbs. Only under the latter reading, in which the subject is interpreted as a cause, can the order of the subject and the object be inverted. Observe that (507a) shows that it is not sufficient for NOM-ACC inversion that the subject is inanimate.

- (507) a. *dat <de stenen> de politicus_{acc} <*de stenen> troffen/raakten.*
 that the stones the politician hit/hit
 ‘that the stones hit/hit the politician.’
 a'. *dat <die opmerkingen> de politicus_{acc} <die opmerkingen> troffen/raakten.*
 that those remarks the politician hit/hit
 ‘that those remarks affected the politician.’
 b. *dat <de agent> de studenten_{acc} <*de agent> boeit.*
 that the policeman the students chains
 ‘that the policeman chains the students.’
 b'. *dat <dat onderwerp> de studenten_{acc} <dat onderwerp> boeit.*
 that that subject the students fascinates
 ‘that that subject fascinates the students.’

For completeness' sake, note also that, just as in the case of inversion with the NOM-DAT and passive ditransitive verbs, the information-structural status of the two noun phrases may affect the order possibilities. For example, if the subject is a weak pronoun it always precedes the object.

- (508) a. dat <het> de koning_{acc} <*het> amuseert.
 that it the king amuses
 'that it amuses the king.'
 b. dat <het> de jongens_{acc} <*het> boeit.
 that it the boys fascinates
 'that it fascinates the boys.'

H. Binding

Example (509a) shows that, not surprisingly, the causer argument is able to bind an anaphoric experiencer. The same thing seems to be the case if the subject is a cause, but this is of course less evident since the cause subject must be [+ANIMATE] in this case in order to be able to serve as an antecedent of the [+ANIMATE] experiencer, so example (509b) is actually ambiguous between a cause and a causer reading; the °binding relation in these examples is indicated by italics.

- (509) a. *Die jongens*_{Causer} irriteren *elkaar*_{Exp} met die opmerkingen_{Cause}.
 those boys irritate each other with those remarks
 b. *Die jongens*_{Cause/Causer} irriteren *elkaar*_{Exp}.
 those boys irritate each other

Given that an experiencer object may also precede a cause subject, it need not come as a surprise that it can function as the antecedent of an anaphor embedded in the subject in (510a); note that the subject itself cannot be realized as an anaphor since, for some reason, anaphors cannot be marked with °nominative case. As is shown by (510b), the binding relation is maintained if the cause subject precedes the experiencer object. Note that we added a percentage sign to example (510a) because some speakers report that they consider the order in this example marked compared to the order in (510b). It is not clear what causes this effect.

- (510) a. % dat *die jongens*_{Exp} *elkaars* opmerkingen_{Cause} irriteren.
 that those boys each other's remarks irritate
 b. dat *elkaars* opmerkingen_{Cause} *die jongens*_{Exp} irriteren.

The question that we will address now is whether binding relations like those in (510) are also possible if the subject is a causer. Example (511) is an attempt to construct an example comparable to (510a). Not surprisingly, this example is unacceptable under the intended reading given that experiencers never precede causers (cf. Subsection G); this sentence only allows the reading in (510a), in which *elkaars ouders* is interpreted as experiencer.

- (511) a. *dat *die jongens*_{Exp} *elkaars ouders*_{Causer} met hun opmerkingen_{Cause} irriteren.
 that those boys each other's parents with their remarks irritate
 b. dat *die jongens*_{Causer} *elkaars ouders*_{Exp} met hun opmerkingen_{Cause} irriteren.
 that those boys each other's parents with their remarks irritate
 'that those boys irritate each other's parents with their remarks.'

The interesting cases are therefore constructions in which the causer subject contains a reciprocal and precedes the experiencer. Examples such as (512a) have been extensively discussed in the literature and are generally given as grammatical; cf. Hoekstra (1991:150) and references cited there. This example cannot, however, be used for our purpose because [+ANIMATE] subjects can in principle also be interpreted as the cause argument of a psych-verb, and thus illustrate the same point as (510b). What we need to find out is therefore whether the noun phrase *elkaars ouders* can be used as a causer. We may force this reading by adding the causative *met*-phrase in (512b). Giving a judgment of this example seems a tricky matter, but to us it seems that the sentence is degraded compared to the fully acceptable example in (512a).

- (512) a. dat *elkaars* ouders_? die jongens_{Exp} irriteren.
 that each other's parents those boys irritate
 'that each other's parents irritate those boys.'
- b. ??dat *elkaars* ouders_{Causer} die jongens_{Exp} irriteren met hun opmerkingen_{Cause}.
 that each other's parents those boys irritate with their remarks
 'that each other's parents irritate those boys with their remarks.'

A difficulty in judging (512b) is that the hearer may start interpreting this example such as (512a), that is, with a subject that functions as a cause; only if the *met*-PP is pronounced does the hearer reinterpret the subject as a causer, but by then the intended interpretation of the anaphor may already have been grasped. This problem can be avoided, however, if we place the *met*-PP in clause-initial position, as in (513), and we believe that the resulting example is indeed unacceptable.

- (513) *Met hun opmerkingen_{Cause} irriteren *elkaars* ouders_{Causer} die jongens_{Exp}.
 with their remarks irritate each other's parents those boys
 'that each other's parents irritate those boys with their remarks.'

We do realize that the complexity of the examples above makes it difficult to provide reliable judgments, and that a more careful investigation than we can conduct here is welcome. Nevertheless, we will provisionally conclude on the basis of the discussion above that experiencers of causative psych-verbs can only bind an anaphor embedded in the subject if the latter is a cause, not if it is a causer.

We want to conclude this subsection on a more technical note. The fact that (510b) is grammatical has led to the claim that the order in (510a) represents the underlying order and that (510b) is derived from this order by moving the cause into the regular subject position, that is, that examples like these have a similar derivation as the NOM-DAT verbs; cf. Den Besten (1985). An analysis of this sort is problematic, however, given that D, will show that we find similar facts with periphrastic causative constructions, in which the experiencer originates as the °logical SUBJECT of a predicative adjective. The base structure of these periphrastic constructions is therefore something like what is shown in (514a). If constructions with a causative experiencer verb indeed have a similar structure as the periphrastic construction, the assumption that (510a) is the base order cannot be maintained: the base structure should then be as given in (514b). We refer the reader to Subsection III for more discussion.

- (514) a. [... DP_{Cause} ... [DP_{Exp} AP_{PRED}] maken]
 b. [...DP_{Cause} ... [DP_{Exp} irrit-] -eren]

I. Nominalization

The previous subsections have discussed several differences between causative experiencer verbs with, respectively, a causer and a cause subject. This subsection discusses a final difference concerning nominalization. The examples in (515) suggest that the possibility of nominalization depends on whether the base verb is of the type *amuseren* and *beledigen* in (515a&b), which may take a causer subject, or whether it is of the type *bedroeven* and *verheugen* in (515c&d), which preferably take a cause subject; cf. the samples in (462).

- (515) a. het amuseren van de koning_{Exp} c. ^{??}het bedroeven van Jan_{Exp}
 the amusing of the king the saddening of Jan
 b. het beledigen van de mannen_{Exp} d. ^{??}het verheugen van Jan_{Exp}
 the insulting of the men the rejoicing of Jan

The idea that only causative experiencer verbs with a causer subject can be the input for nominalization is also supported by the fact that the examples in (515a&b) become unacceptable if a *door*-phrase expressing a cause is added; if the *door*-phrase expresses a causer, on the other hand, the result is fully acceptable (although somewhat marked).

- (516) a. *het amuseren van de koning_{Exp} door die grapjes_{Cause}
 the amusing of the king by those jokes
 a'. het amuseren van de koning door de narren_{Causer}
 the amusing of the king by the jesters
 'the entertaining of the king by the jesters'
 b. *het beledigen van de mannen_{Exp} door die opmerking_{Cause}
 the insulting of the men by that remark
 b'. het beledigen van de mannen_{Exp} door Jan_{Cause}
 the insulting of the men by Jan

Observe that it is not the presence of a cause that makes the nominalizations unacceptable, but the fact that the cause is given in a *door*-PP; the examples in (517) with a causative *met*-PP are fully acceptable.

- (517) a. het amuseren van de koning_{Exp} met die grapjes_{Cause}
 the amusing of the king with those jokes
 b. het beledigen van de mannen_{Exp} met die opmerking_{Cause}
 the insulting of the men by that remark

This contrast strongly suggests that the *door*-PP in (516) must be construed as referring to the subject of the corresponding verbal construction, that is, that we have to conclude that nominalization of verbs with a cause subject is excluded. This shows again that causative experiencer verbs with a causer subject pattern with regular transitive verbs, whereas those with a cause subject deviate from them; see Subsection D.

J. Conclusion

The previous subsections have shown that causative experiencer verbs with, respectively, a causer and a cause subject differ in various respects. First, passivization seems possible with the former only. Present participles can be used attributively with nouns corresponding to the subject of both verb types, but this only holds if the participle is verbal in nature; if the present participle is adjectival in nature it can only be used to modify nouns that correspond to a cause subject. Given that predicatively used participles are always adjectival, it does not come as a surprise that these can only be predicated of noun phrases that function as a cause in the corresponding verbal construction. It is not clear whether the past/passive participles of the two verb types are syntactically different: we can only observe that they can both be used attributively to modify a noun that corresponds to the experiencer object of the verb; the same thing holds if they are used predicatively. The two verb types do differ with respect to inversion of the subject and object; this is only possible if the subject is a cause. The two types of causative experiencer verbs also seem to differ with respect to whether the experiencer object is able to bind an anaphor embedded in the subject; this is clearly possible if the subject is a cause but seems to be excluded if it is a causer. The final difference concerns nominalization, which is possible only if the subject is a causer. Table 14 summarizes these observations.

Table 14: Causative experiencer verbs with a causer and a cause subject.

		CAUSER SUBJECT	CAUSE SUBJECT
PASSIVE		+	—
ATTRIBUTIVELY USED PRESENT PARTICIPLES MODIFYING THE SUBJECT	VERBAL	+	+
	ADJECTIVAL	—	+
ATTRIBUTIVELY USED PAST/PASSIVE PARTICIPLES MODIFYING THE EXPERIENCER		+	+
NOM-ACC-INVERSION		—	+
BINDING OF AN ANAPHOR EMBEDDED IN THE SUBJECT BY THE OBJECT EXPERIENCER		—	+
NOMINALIZATION		+	—

Since the syntactic behavior of causative experiencer verbs with a causer subject is more or less identical to that of regular transitive verbs, it seems reasonable to simply consider them transitive verbs as well. The syntactic behavior of causative experiencer verbs with a cause subject, on the other hand, is very different from that of regular transitive verbs, for which reason we assume that they constitute a separate class of so-called NOM-ACC verbs.

III. Periphrastic causative psychological constructions

Subsection IIB suggested that causative psych-verbs like *amuseren* ‘to amuse’ are not simple verbs but instead are derived by means of a causative affix, which is responsible for introducing a causer/cause argument. Some researchers have suggested that this cause affix is inserted in syntax, and that the causative psych-verb comes into existence by moving the stem of the verb to this cause affix, as

depicted in (518a’); cf. Pesetsky (1995) and references cited there. According to this proposal the structure of causative psych-verb constructions is essentially identical to that of constructions with periphrastic causative psych-predicates like *vrolijk maken* ‘to make merry’ in (518b’); the only difference is that the stem of the causative psych-verb must move to the affix in order to merge with it, whereas the psych-adjective in *vrolijk maken* can remain in its original position.

- (518) a. dat de narren_{Causer} de koning_{Exp} amuseren.
 that the jesters the king amuse
 a’. dat [de narren [de koning amus-] -eren] ⇒
 dat [de narren [de koning t_i] amus_i-eren]
 b. dat de narren_{Causer} de koning_{Exp} vrolijk maken.
 that the jesters the king merry make
 b’. dat [de narren [de koning vrolijk] maken]

This proposal predicts that the two constructions behave in a similar way in various respects, and this subsection will therefore compare some of the properties of the two constructions in order to see whether this prediction is indeed correct.

A. The semantic roles of the arguments in the periphrastic construction

The psych-adjective and the verb make independent contributions to the argument structure of the periphrastic causative psych-construction as a whole. Section 2.5.1.1, sub I, has already shown that psych-adjectives may select several types of arguments: they are always predicated of an experiencer argument, and some psych-adjectives are in addition able to take an object (subject matter/target) of emotion. This is illustrated again for the psych-adjective *boos* ‘angry’ in (519a). Note that we take the term psych-adjective rather broadly here by including non-verbal past/passive participles like *geïnteresseerd* ‘interested’ in (519b), which were argued to be truly adjectival Subsection IIF, as well as idiomatic PPs like *in de war* ‘confused’ in (519c), which exhibit several characteristic traits of psych-adjectives; see Sections A8.4 and P3.3 for discussion.

- (519) a. Jan_{Exp} is boos op Marie_{Target} over die opmerking_{SubjM}.
 Jan is angry at Marie about that remark
 b. Jan_{Exp} is geïnteresseerd in dat boek_{SubjM}.
 Jan is interested in that book
 c. Jan is in de war over die opmerking_{SubjM}.
 Jan is in the WAR about that remark
 ‘Jan is confused about that remark.’

The verb in (520) introduces the causer/cause argument, and is thus responsible for the causative interpretation of the periphrastic construction as a whole. As in the case of causative psych-verbs, the causer and cause argument can be expressed simultaneously provided that the latter is expressed by means of an °adjunct-PP.

- (520) a. Peter_{Causer} maakt Jan_{Exp} boos.
 Peter makes Jan angry
- b. Die opmerkingen_{Cause} maken Jan_{Exp} boos.
 those remarks make Jan angry
- c. Peter_{Causer} maakt Jan_{Exp} boos met die opmerkingen_{Cause}.
 Peter makes Jan angry with those remarks

The main difference between the periphrastic causative psych-constructions and constructions with a causative psych-verb is that in the former the presence of a causer/cause does not block the presence of an object (subject matter/target) of emotion, whereas in the latter it does; see the discussion in Subsection II, from which we repeat the examples in (521), and Pesetsky (1995:ch.6) for an attempt to account for this difference.

- (521) a. Peter_{Causer} maakt Jan_{Exp} met zijn verhalen_{Cause} bang voor spoken_{SubjM}.
 Peter makes Jan with his stories afraid of ghosts
- b. Peter_{Causer} beangstigt Jan_{Exp} met zijn verhalen_{Cause} (*voor spoken_{SubjM}).
 Peter frightens Jan with his stories of ghosts
- c. Zijn verhalen_{Cause} beangstigen Jan_{Exp} (*voor spoken_{SubjM}).
 his stories frighten Jan of ghosts

The causative verb in the periphrastic construction is normally *maken* 'to make'. In the more or less fixed collocations in (522) and (523) the verbs *stellen* 'to put' and *brenge* 'to bring' are used with, respectively, an adjectival and prepositional psych-predicate. Since *maken* is the one productively used in this construction, we will restrict our attention to this verb in the remainder of the discussion.

- (522) a. Jan_{Causer} stelt zijn baas_{Exp} tevreden/gerust/teleur.
 Jan puts his boss satisfied/calm/TELEUR
 'Jan satisfies/reassures/disappoints his boss.'
- b. Die opmerking_{Cause} stelt zijn baas_{Exp} tevreden/gerust/teleur.
 that remark puts his boss satisfied/calm/TELEUR
- c. Jan_{Causer} stelt zijn baas_{Exp} tevreden/gerust/teleur met die opmerking_{Cause}.
 Jan puts his boss satisfied/calm/TELEUR with that remark
- (523) a. Marie_{Causer} bracht ons_{Exp} in verrukking/vervoering.
 Marie brought us in delight/ecstasy
 'Marie delighted/thrilled us.'
- b. Dat lied_{Cause} bracht ons_{Exp} in verrukking/vervoering.
 that song brought us in delight/ecstasy
 'That concert delighted/thrilled us.'
- c. Marie_{Causer} bracht ons_{Exp} in verrukking/vervoering met dat lied_{Cause}.
 Marie brought us in delight/ecstasy with that song
 'Marie delighted/thrilled us with that song.'

B. Passivization

Example (524a) shows that, like causative psych-verb constructions, periphrastic causative psych-constructions can be passivized if the subject is a causer. The result is also marginally acceptable if the *door*-phrase expresses the cause, but such

constructions are probably not derived from active constructions with a cause subject for the reasons indicated in Subsection IID.

- (524) a. Jan_{Exp} werd door Peter_{Causer} boos gemaakt.
 Jan was by Peter angry made
 ‘Jan was made angry by Peter.’
 b. [?]Jan werd door die opmerking_{Cause} boos gemaakt.
 Jan was by that remark angry made

C. Argument order

Subsection IIG, has shown that the cause and experiencer arguments of causative psych-verbs can be inverted. The examples in (525) show that the same thing holds for the periphrastic causative construction.

- (525) a. dat die opmerking_{Cause} de jongens_{Exp} boos maakt.
 that that remark the boys angry makes
 ‘that that remark makes the boys angry.’
 b. dat de jongens_{Exp} die opmerking_{Cause} boos maakt.

Inversion of the causer and experiencer arguments of a causative psych-verb, on the other hand, is excluded. Again, we find the same thing in the periphrastic construction.

- (526) a. dat het meisje_{Causer} de jongens_{Exp} (met die opmerking_{Cause}) boos maakt.
 that the girl the boys with that remark angry makes
 ‘that the girl makes the boys angry with that remark.’
 b. dat de jongens_{acc} het meisje_{nom} ^{??}(met die opmerking_{Cause}) boos maakt.

D. Binding

Periphrastic causative psych-constructions and causative psych-verb constructions also behave in a similar way with respect to binding. This can easily be established by comparing the examples in (527)-(530) below with those in (509)-(512) from Subsection IIIH. Example (527a) shows that the causer argument is able to bind an anaphoric experiencer. The same thing seems to be the case if the subject is a cause, but this is again less evident given that the cause subject must be [+ANIMATE] in order to be able to serve as an antecedent of the [+ANIMATE] experiencer, so that example (509b) is actually ambiguous between a cause and a causer reading.

- (527) a. *Die jongens*_{Causer} maken *elkaar*_{Exp} boos met die opmerkingen_{Cause}.
 those boys make each other angry with those remarks
 b. *Die jongens*_{Cause/Causer} maken *elkaar*_{Exp} boos.
 those boys make each other angry

The examples in (528) show that the experiencer object may function as the antecedent of an anaphor embedded in the cause subject, regardless of whether it precedes or follows the subject. The percentage sign in (528a) indicates that some speakers report that they consider the order in this example marked compared to the order in (528b). As in the case of the examples in (510) in Subsection II, it is not clear what causes this effect.

- (528) a. % dat *die jongens*_{EXP} *elkaars* opmerkingen_{CAUSE} boos maken.
 that those boys each other's remarks angry make
 b. dat *elkaars* opmerkingen_{CAUSE} *die jongens*_{EXP} boos maken.

If the subject is a causer, it cannot follow the experiencer: it is therefore not surprising that example (529a) is unacceptable under the intended reading; this sentence only allows the reading in (529b), in which *elkaars ouders* is interpreted as the experiencer.

- (529) a. *dat *die jongens*_{EXP} *elkaars* ouders_{CAUSER} met hun opmerkingen_{CAUSE}
 that those boys each other's parents with their remarks
 boos maken.
 angry make
 b. dat *die jongens*_{CAUSER} *elkaars* ouders_{EXP} met hun opmerkingen_{CAUSE}
 that those boys each other's parents with their remarks
 boos maken.
 angry make
 'that those boys make each other's parents angry with their remarks.'

The interesting cases are therefore, again, constructions in which the causer subject contains a reciprocal and precedes the experiencer. Like (512a), example (530a) is grammatical. This example cannot, however, be used for our purpose because the [+ANIMATE] subject DP can be interpreted either as a cause or as a causer. We should therefore find out whether the noun phrase *elkaars ouders* can be used as a causer. We may force this reading by adding the causative *met*-phrase in topicalized position, as in (530b); this example seems unacceptable to us.

- (530) a. dat *elkaars* ouders *die jongens* boos maken.
 that each other's parents those boys angry make
 b. *Met hun opmerkingen_{CAUSE} maken *elkaars* ouders_{CAUSER} *die jongens*_{EXP} boos.
 with their remarks make each other's parents those boys angry

E. Conclusion

The previous subsections compared several syntactic properties of periphrastic causative psych-constructions and causative psych-verb constructions. The two constructions are similar in most respects. The main difference is that objects of emotion can occur in periphrastic causative psych-constructions, but not in causative psych-verb constructions. This suggests that the hypothesis in (518), according to which the two constructions have more or less the same underlying structure, is well founded.

F. Some possibly related constructions with a psychological noun

The periphrastic psych-construction discussed in the previous subsections involved predicative psych-adjectives like *boos* 'angry'. There is, however, a totally different sort of causative psych-construction, which involves a psychological noun phrase that functions as a direct object. This subsection briefly discusses two subtypes which, to our knowledge, have played no part in the discussion on psych-verbs so far; the double object construction in Subsection 1, for example, was only

mentioned as a special case in Pesetsky (1995), and the periphrastic constructions in Subsection 2 have not been discussed at all.

1. Double object constructions

Double object constructions such as (531a) are special in that they often alternate with constructions containing a periphrastic indirect object such as (531b). The difference between the two constructions is normally described in terms of possession; cf. Section 3.3.1. In the double object construction in (531a), for example, the indirect object is the person for whom the book is intended: Peter is said to be the RECIPIENT, the new owner, of the book. This implication is missing, however, in the periphrastic construction in (531b): Peter is simply the GOAL, that is, the receiver but not necessarily the new owner of the book.

- (531) a. Jan bezorgde Peter_{Rec} het boek.
 Jan delivered Peter the book
 b. Jan bezorgde het boek aan Peter_{Goal}.
 Jan delivered the book to Peter

The relevance of this difference becomes clear if the direct object is more abstract, like *een nieuwe baan* in (532a). Since the indirect object *Peter* clearly functions as a recipient in this construction, the periphrastic alternant in (532b) is unacceptable.

- (532) a. Jan bezorgde Peter_{Rec} een nieuwe baan.
 Jan delivered Peter a new job
 b. *Jan bezorgde een nieuwe baan aan Peter_{Goal}.
 Jan delivered a new job to Peter

If the direct object is a psychological noun phrase, the indirect object is also clearly a recipient, or, since the direct object refers to an emotion which can only be experienced by the referent of the indirect object him/herself, an experiencer. As can be seen in the (a)-examples in (533), the subject of a double object construction of this type can be either a causer or a cause: the two can also be expressed simultaneously, but then the cause must be expressed by means of an adjunct-PP. The periphrastic indirect object construction in (533b) is unacceptable.

- (533) a. Jan_{Causer} bezorgt Marie_{Exp} veel angst/irritatie/plezier met die opmerking_{Cause}.
 Jan delivers Marie much fear/irritation/fun with that remark
 ‘Jan gives Marie a lot of fear/irritation/fun with that remark.’
 a’. Die opmerking_{Cause} bezorgt Marie_{Exp} veel angst/irritatie/plezier.
 that remark delivers Marie much fear/irritation/fun
 b. *Jan/Die opmerking bezorgt veel angst/ergernis/irritatie/plezier aan Marie.
 Jan/that remark delivers much fear/irritation/irritation/fun to Marie

The psych-constructions in (533) resemble the constructions in (534), which differ in that the noun does not refer to a psychological state, but to a physical state that comes into existence. That the borderline between the two constructions is small is clear from the fact that the (a)-examples in (534) can also be construed metaphorically with the meaning “to shock”, in which case we are dealing with a psych-construction (this is actually the preferred reading of (534a)).

- (534) a. Jan_{Causer} bezorgde Marie_{Exp} een hartaanval met die opmerking_{Cause}.
 Jan delivered Marie a heart attack with that remark
 'Jan gave Marie a heart attack/shocked Marie.'
- a' Die opmerking_{Cause} bezorgde Marie_{Exp} een hartaanval.
 that remark delivered Marie a heart attack
 'That remark gave Marie a heart attack/shocked Marie.'
- b. *Jan/Die opmerking bezorgt een hartaanval aan Marie.
 Jan/that remark delivers a heart attack to Marie

2. Constructions with a verb of causation

Example (535) provides constructions with the verb of causation *veroorzaken* 'to cause'. This construction is special in that what seems to be the experiencer is expressed by an adjunct-PP headed by *bij*. Subjects in this construction, however, exhibit properties similar to those of the causative psych-constructions discussed earlier: the subject of the construction can be a causer or a cause, and when the two are expressed simultaneously, the cause must be expressed by means of an adjunct-PP. Example (535b) shows that the experiencer cannot be realized as a noun phrase.

- (535) a. Jan_{Causer} veroorzaakt met die opmerking_{Cause} veel angst/irritatie bij Marie_{Exp}.
 Jan causes with that remark much fear/irritation at Marie
 'Jan causes Marie a lot of fear/irritation with that remark.'
- a'. Die opmerking_{Cause} veroorzaakt veel angst/irritatie bij Marie_{Exp}.
 that remark causes much fear/irritation at Marie
- b. *Jan/Die opmerking veroorzaakt Marie veel angst/ergernis/irritatie/plezier.
 Jan/that remark causes Marie much fear/irritation/irritation/fun

In (536), we give an example with the more or less fixed collocation *indruk maken op* 'to impress', in which the experiencer is part of an *op*-PP. And in (537), we provide a number of more or less fixed collocations with *doen* 'to do'. Note that example (537b) is special in not allowing a causer subject.

- (536) a. Jan_{Causer} maakte een diepe indruk op me_{Exp} met zijn woorden_{Cause}.
 Jan made a deep impression on me with his words
 'Jan made a deep impression on me with his words.'
- b. Zijn woorden_{Cause} hebben een diepe indruk op me_{Exp} gemaakt.
 his words have a deep impression on me made
 'His words made a deep impression on me.'
- (537) a. Jan_{Causer} deed me_{Exp} behoorlijk pijn met die opmerking.
 Jan did me considerably pain with that remark
 'Jan hurt me a lot with that remark.'
- a'. Die opmerking_{Cause} deed me_{Exp} behoorlijk pijn.
 that remark did me considerably pain
 'That remark hurt me a lot.'
- b. *Jan_{Causer} doet me_{Exp} absoluut niets met die opmerking.
 Jan does me absolutely nothing with that remark
- b'. Die opmerking_{Cause} doet me_{Exp} absoluut niets.
 that remark does me absolutely nothing
 'That remark means nothing to me.'

IV. Inherently reflexive psych-verbs

The examples in (538) illustrate that some causative psych-verbs have inherently reflexive alternants; see Pesetsky (1995:ch.4) and references cited there. The inherently reflexive psych-verbs in the primed examples differ in several respects from their causative counterparts. First, the inherently reflexive verb obligatorily takes a simplex reflexive pronoun like the third person pronoun *zich*. Second, the experiencer is realized as the subject of the reflexive construction, not as the object. Third, the inherently reflexive verb may take a PP-complement that refers to the object (subject matter/target) of emotion, which is excluded in the case of the causative verbs; cf. Subsection IIA.

- (538) a. De jongens_{Causer} ergerde de agenten_{Exp} met hun ongepaste gedrag_{Cause}.
 the boys annoyed the policemen with their improper behavior
 a'. De agenten_{Exp} ergeren zich aan het ongepaste gedrag van de jongens_{Target}.
 the policemen annoy REFL of the improper behavior of the boys
 'The policeman are annoyed about the boys' improper behavior.'
 b. Marie_{Causer} verbaast Jan_{Exp} met haar asociale gedrag_{Cause}.
 Marie amazes Jan with her asocial behavior
 b'. Jan_{Exp} verbaast zich over Marie's asociale gedrag_{SubjM}.
 Jan is.amazed REFL about Marie's asocial behavior

It is not the case that all causative psych-verbs have an inherently reflexive counterpart; only a relatively small number of the causative psych-verbs in (462) do so. The relevant cases are given in (539); these verbs virtually all select a PP that expresses an object of emotion.

- (539) **Inherently reflexive psych-verbs with a causative counterpart:** *zich amuseren (over/met)* 'to be amused about', *zich ergeren (aan)* 'to be annoyed at', *zich interesseren (in/voor)* 'to be interested in', *zich irriteren (aan)* 'to be irritated about', *zich opwinden (over)* 'to be/get incensed about', *zich storen (aan)* 'to be annoyed at', *zich verbazen (over)* 'to be surprised about', *zich verheugen (op)* 'to rejoice in', *zich vermaken (met)* 'to enjoy oneself', *zich vervelen* 'to be bored', *zich verwonderen (over)* 'to be amazed about'

The examples in (538) perhaps suggest that causes of the causative psych-verb constructions surface as objects of emotion in the corresponding inherently reflexive constructions. The examples in (540) show, however, that such an assumption would not be without its problems; the (a)-examples illustrate that, like all causative psych-verbs, *vervelen* may take a cause, which can be realized either as an optional *met*-PP or as the subject of the clause, but that the corresponding inherently reflexive construction in (540b) does not take a PP expressing an object of emotion.

- (540) a. Peter_{Causer} verveelt Jan_{Exp} (met zijn flauwe grapjes_{Cause}).
 Peter bores Jan with his insipid jokes
 a'. Zijn flauwe grapjes_{Cause} vervelen Jan_{Exp}.
 his insipid jokes bore Jan
 b. Jan_{Exp} verveelt zich (*met/over/... zijn flauwe grapjes).
 Jan is.bored REFL with/about/... his insipid jokes

Although the fact that a large number of causative psych-verbs do not have inherently reflexive counterparts suggests that the alternation between these verb types is not regulated by means of a productive (morphological or syntactic) rule, there are nevertheless reasons for assuming that there is a systematic relation between constructions headed by them. A first reason is that the some periphrastic causative psych-constructions exhibit the same alternation; cf. the examples in (541).

- (541) a. Peter_{Causer} maakt Marie_{Exp} kwaad/boos met die opmerking_{Cause}.
 Peter makes Marie angry with that remark
- b. Die opmerking_{Cause} maakt Marie kwaad/boos.
 that remark makes Marie angry
- c. Marie_{Exp} maakt zich kwaad/boos over die opmerking_{SubjM}.
 Marie makes REFL angry about that remark
 ‘Marie is getting angry about that remark.’

Another reason for assuming that there is a systematic relationship is that the idiomatic meaning of example (542a) is preserved in the corresponding inherently reflexive construction in (542c). For completeness’ sake, (542b) shows that the idiomatic reading is not available if the cause surfaces as the subject of the causative construction.

- (542) a. Jan_{Causer} maakt Marie_{Exp} blij met een dode mus.
 Jan makes Marie glad with a dead sparrow
 ‘Jan is making Marie happy with something worthless.’
- b. #Een dode mus_{Cause} maakt Marie blij.
 a dead sparrow makes Marie glad
- c. Marie_{Exp} maakt zich blij met een dode mus.
 Marie makes REFL glad with a dead sparrow
 ‘Marie is getting all excited about nothing.’

Something similar holds for the more or less fixed periphrastic expression *tevreden stellen* ‘to satisfy’ in (522); example (543a) provides the inherently reflexive counterpart of this expression. The examples in (543b&c) show that the alternation is not productive; the periphrastic expressions *gerust stellen* ‘to reassure’ and *teleur stellen* ‘to disappoint’ in (522) do not have inherently reflexive counterparts.

- (543) a. Jan_{Exp} stelde zich tevreden ^{??}(met dat antwoord).
 Jan put REFL satisfied with that answer
 ‘Jan contented himself with that answer.’
- b. ^{??}Jan_{Exp} stelt zich met dat antwoord gerust.
 Jan puts REFL with that answer calm
 ‘Jan calms himself down with that answer.’
- c. *Jan_{Exp} stelt zich teleur.
 Jan puts REFL TELEUR
 ‘Jan disappoints himself.’

That there is no productive rule that regulates the alternation between causative and inherently reflexive psych-verbs is also clear from the fact that the inherently

reflexive psych-verbs in (544) do not have causative alternants. Observe that these verbs all select a PP-complement referring to the object of emotion.

- (544) **Inherently reflexive psych-verbs without a causative counterpart:** *zich bekommeren (om)* ‘to take care (about)’, *zich schamen (over/voor)* ‘to be ashamed (of/for)’, *zich verlustigen in* ‘to delight in’, *zich verkneukelen om/over* ‘to chuckle at’

It is interesting in this connection to note that the periphrastic inherently reflexive examples in (545) with the psych-adjective *druk* and the psychological noun phrase *zorgen* ‘worries’ do not have a causative counterpart either.

- (545) a. Jan maakt zich zorgen over zijn dochter.
 Jan makes REFL worries about his daughter
 ‘Jan worries about his daughter.’
 b. Jan maakt zich druk over zijn incompetentie.
 Jan makes REFL busy about his incompetence
 ‘Jan is getting worried/excited about his incompetence.’

This subsection has shown that there is some systematic relationship between the causative and inherently reflexive psych-verbs, despite the fact that the alternation does not seem to be mediated by some fully productive morphological or syntactic process. We refer the reader to Section 2.5.2, sub II, on inherently reflexive verbs for a discussion of the mechanism that may be behind the systematic relationship between the two constructions.

V. A note on causative non-experiencer object verbs

There is a small set of causative non-experiencer object verbs that more or less resembles the object experiencer verbs in allowing both a causer and a cause subject. Some examples are: *verduidelijken* ‘to clarify’, *verkleinen* ‘to reduce’, *voorkomen* ‘to prevent’, *beëindigen* ‘to end’, *creëren* ‘to create’, *duperen* ‘to damage’, *redden* ‘to save’, *vermeerderen* ‘to enlarge’. Many of these verbs can be paraphrased by means of a periphrastic construction; *verduidelijken*, for example, can be paraphrased as *duidelijk(er) maken* ‘to make clear(er)’.

- (546) a. Jan verduidelijkt de stelling met een voorbeeld.
 Jan clarifies the thesis with an example
 a'. Jan maakt de stelling duidelijk(er) met een voorbeeld.
 Jan made the thesis (more).transparent with an example
 b. Dit voorbeeld verduidelijkt de stelling.
 this example clarifies this thesis
 b'. Dit voorbeeld maakt de stelling duidelijk(er).
 this example makes the thesis (more).transparent

There are also certain differences, however. The examples in (547), for example, show that present participles of these verbs often cannot be used predicatively. Not much has been said so far about these verbs in the literature, and we therefore leave further investigation of them to future research.

- (547) a. Deze voetballer dupeert het team met zijn domme solo-acties.
 this soccer.player harms the team with his stupid solo.actions
 ‘This soccer player is damaging his team with his stupid solo actions.’
- b. Zijn domme solo-acties duperen het team.
 his stupid solo.actions harm the team
 ‘His stupid solo actions are damaging the team.’
- c. *Zijn domme solo-acties zijn duperend.
 his stupid solo.actions are harming

2.5.2. *Inherently reflexive verbs*

This section is devoted to inherently reflexive verbs, that is, fixed collocations of verbs and simplex reflexives like the third person pronoun *zich*. Prototypical examples are the collocations *zich schamen* ‘to be ashamed’ and *zich vergissen* ‘to be mistaken’ in the primeless examples in (548). The primed examples show that in these prototypical cases the reflexive pronoun cannot be replaced by any other element: replacement of *zich* by a complex reflexive like *zichzelf* ‘himself’ or a referential expression like *Marie* gives rise to an ungrammatical result.

- | | | | |
|----------|------------------------------|-----|------------------------------|
| (548) a. | Jan schaamt zich. | b. | Jan vergist zich. |
| | Jan shames REFL | | Jan mistakes REFL |
| | ‘Jan is ashamed.’ | | ‘Jan is mistaken.’ |
| a’. | *Jan schaamt zichzelf/Marie. | b’. | *Jan vergist zichzelf/Marie. |
| | Jan shames himself/Marie | | Jan mistakes himself/Marie |

Note in passing that examples like *Jan schaamt/vergist zich ZELF*, with contrastive accent on *zelf*, are possible. Such cases do not involve the complex reflexive pronoun *zichzelf*, but the simplex reflexive *zich*, which is strengthened by the contrastive element *zelf* ‘himself’, which can also be used with referential noun phrases; see Section N5.2.3.2.5 for more discussion.

The contrast between the examples in (548) and (549) show that the selectional properties of inherently reflexive verbs crucially differ from verbs taking a nominal or prepositional complement.

- (549) a. Jan zag zichzelf/Marie/*zich op televisie.
 Jan saw himself/Marie/REFL on television
- b. Jan gaf zichzelf/Marie/*zich graag cadeautjes.
 Jan gave himself/Marie/REFL gladly presents
- c. Jan wachtte op zichzelf/Marie/*zich.
 Jan waited for himself/Marie/REFL

The impossibility of using a simplex reflexive in object position or as part of a PP-complement might suggest that simplex reflexives cannot be used in argument position, but the examples in (550) show that this is wrong; *zich* clearly functions as an argument in these examples, given that it is used in the same function and position as the referential noun phrase *Marie*.

inherently reflexive constructions with a simplex reflexive in argument position. After that we can continue in Subsection II, with a more detailed discussion of the genuine cases of inherent reflexivity; this subsection will focus especially on the syntactic function of the simplex reflexive in these constructions. Subsection III concludes with a discussion of a number of special cases.

I. On the notion of inherent reflexivity

The notion of inherent reflexivity is often used as an umbrella term for a set of constructions that share the property that a simplex reflexive is obligatorily used. This subsection shows, however, that a number of cases normally subsumed under inherent reflexivity are in fact constructions in which the simplex reflexive occupies an argument position, and in which the obligatory use of the simplex reflexive is a reflection not of some syntactic property of the construction as such, but of our knowledge of the world.

Consider the examples in (553), which all contain an adjectival complementive. If the simplex reflexive functions as the °SUBJECT of the complementive, we expect two things: (i) the reflexive is an argument and can therefore be replaced by a referential noun phrase like *Marie*, and (ii) since the reflexive is an external argument of the adjective, the no co-argument restriction allows it to be bound by the subject of the clause. Example (553a) behaves exactly as predicted, but the examples in (553b&c), which have the exact same structure, are problematic.

- (553) a. Hij eet [_{SC} zich/Marie arm].
 he eats REFL/Marie poor
 ‘He makes himself/Marie poor by eating so much.’
 b. Hij steelt [_{SC} zich/[§]Marie rijk].
 he steals REFL/Marie rich
 c. Hij steelt [_{SC} [§]zich/ Marie arm].
 he steals REFL/Marie poor

The difference between (553a) and (553b&c) seems natural, however, when we take our knowledge of the world into account. Since one need not necessarily pay for one’s own food, eating too much may result in high costs either for oneself or for someone else; this accounts for the fact that (553a) can be either reflexive or non-reflexive. The act of stealing, on the other hand, normally results in profit to oneself and loss to someone else, and this may account for the weirdness of the non-reflexive version of example (553b) and the reflexive version of example (553c). If this account for the distribution of reflexive/referential phrases in (553) is tenable, we can conclude that, from a syntactic point of view, there is nothing interesting going on in these examples.

A similar line of reasoning may account for the “inherently reflexive” nature of the resultative constructions in (554), which all have a more or less idiomatic flavor. The activities denoted by the verbs in (554) may affect the mental or physical state of the person undertaking these actions, but not those of some other person; drinking, for example, does not make somebody else drunk.

- (554) a. Hij werkt [_{SC} zich/^SMarie suf].
 he works REFL/Marie dull
 ‘He works himself to death.’
- b. Hij drinkt [_{SC} zich/^SMarie zat].
 he drinks REFL/Marie drunk
 ‘He drinks such that he gets very drunk.’
- c. Hij schrijft [_{SC} zich/^SMarie lam].
 he writes REFL/Marie lame
 ‘He writes until he’s stiff.’
- d. Hij rent [_{SC} zich/^SMarie rot].
 he runs REFL/Marie bad
 ‘He runs himself to the ground.’

Another case involves the verb *voelen* ‘to feel’ in (555). Since this verb expresses here that the agent performs some introspective activity as the result of which he attributes some property to himself, the subject of the secondary predicate will necessarily be co-referential with the agent.

- (555) a. Jan voelt [_{SC} zich/^SMarie ziek].
 Jan feels REFL/Marie ill
 ‘Jan is feeling sick.’
- b. Jan voelde [_{SC} zich/^SMarie genoodzaakt te verdwijnen].
 Jan felt REFL/Marie obliged to disappear
 ‘Jan felt obliged to disappear.’
- c. Jan voelt [_{SC} zich/^SMarie een held].
 Jan feels REFL/Marie a hero
 ‘Jan is feeling like a hero.’

More cases that may be susceptible to a similar explanation are given in (556), albeit that the actions denoted by the verbs are less well specified; examples like these can be used if there is a certain amount of shared knowledge between the speaker and the addressee about the actions performed by the agent *Jan*, if the speaker specifies these actions later in the discourse, or if the precise nature of these actions is not considered important.

- (556) a. Jan toonde [_{SC} zich/^SMarie bereid weg te gaan].
 Jan showed REFL/Marie willing away to go
 ‘Jan made it clear that he was willing to leave.’
- b. Jan maakte [_{SC} zich/^SMarie druk over zijn werk].
 Jan made REFL/Marie busy about his work
 ‘Jan bothered about his work.’
- c. Jan maakte [_{SC} zich/^SMarie uit de voeten].
 Jan made REFL/Marie from the feet
 ‘Jan fled.’
- d. Jan toonde [_{SC} zich/^SMarie een slecht verliezer].
 Jan showed REFL/Marie a bad loser
 ‘Jan turned out to be a bad loser.’

The examples in (554)-(556) are “inherently reflexive” constructions of the same syntactic type; they all involve cases in which the simplex reflexive functions as the SUBJECT of an embedded predicate. Another syntactic type is illustrated by the more or less idiomatic examples in (557); in these examples the simplex reflexive also satisfies the no co-argument restriction on binding given that it is the complement of a complementive PP and thus not a co-argument of its antecedent, which functions as the external argument of the main verb.

- (557) a. Marie heeft [_{SC} dat leven achter zich] gelaten.
 Marie has that life behind REFL let
 ‘Marie has passed that stage of her life.’
- b. Marie neemt [_{SC} de verantwoordelijkheid op zich].
 Marie takes the responsibility on REFL
 ‘Marie takes on the responsibility.’
- c. Zij schoven [_{SC} de verantwoordelijkheid van zich] af.
 they shoved the responsibility from REFL prt.
 ‘They denied responsibility.’

Given that the no co-argument restriction correctly allows *zich* to appear in the constructions in (554)-(557), and since we can give a pragmatic explanation for the fact that use of a referential noun phrase is not acceptable in these examples, we may conclude that they are not very interesting from a syntactic point of view; we may in fact conclude from our discussion that, syntactically speaking, they are not even inherently reflexive constructions.

II. The syntactic function of the simplex reflexive

If we adopt a strictly syntactic view regarding the notion of inherent reflexivity, and thus eliminate constructions of the type discussed in the previous subsection from our domain of inquiry, we may provisionally assume that simplex reflexives are not arguments in inherently reflexive constructions. This suggests that they are not needed in order to perform some semantic function, but rather to perform one or more syntactic functions. This subsection addresses the question of what these syntactic functions may be.

A. Case absorption

Noun phrases must be assigned case by a case-assigner. In a transitive construction such as (558a), the subject and the direct object are assigned °nominative and °accusative case by what we have called TENSE and the verb, respectively. Example (558b) further shows that the direct object of the active construction becomes a derived °DO-subject in a passive construction such as (558b). This is normally accounted for by assuming that passive participles are not able to assign accusative case to their internal °argument, which therefore must be assigned nominative case by TENSE, which furthermore implies that the subject of the active construction is suppressed; see Section 3.2.1 for more details.

- (558) a. Zij slaat hem.
 she hits him
 b. Hij wordt geslagen.
 he is hit

Section 2.1 has argued that DO-subjects occur not only in passive constructions, but also with unaccusative verbs; such verbs are not able to assign accusative case to their internal argument either, which therefore has to be assigned nominative case by TENSE. This can be illustrated by means of the causative-inchoative alternation in (559): if the verb *breken* selects the auxiliary *hebben* ‘to have’, as in (559a), it is a transitive verb and thus able to assign accusative case to its internal argument, but if it selects the auxiliary *zijn* ‘to be’, as in (559b), it is an unaccusative verb so that accusative case is no longer available and the internal argument of (559a) must surface as the subject of the construction (and the subject of the corresponding transitive construction cannot be expressed).

- (559) • Causative-inchoative alternation
- | | |
|---|---|
| a. Jan breekt het glas.
Jan breaks the glass | b. Het glas breekt.
the glass breaks |
| a'. Jan heeft/*is het glas gebroken.
Jan has/is the glass broken | b'. Het glas is/*heeft gebroken.
the glass is/has broken |

The examples in (560) show that a word-for-word translation of example (559b) into a language like French or Italian results in an ungrammatical construction; in order to obtain an acceptable result, the simplex reflexive *se/si* must be added. Burzio (1986: Section 1.5) claims that the simplex reflexive marks the subject of the construction as a derived DO-subject; see also Dobrovie-Sorin (2006) for a recent survey of the relevant literature.

- | | |
|---|--|
| (560) a. *Le verre brise.
the glass breaks | b. *Il vetro rompe.
the glass breaks |
| a'. Le verre se brise.
the glass REFL breaks
'The glass breaks' | b'. Il vetro si rompe.
the glass REFL breaks
'The glass breaks.' |

Although the Standard Dutch simplex reflexive cannot be used in the same way as the Romance reflexive markers *se/si*, it is worthwhile to note that Heerlen Dutch, a variety of Dutch spoken in Limburg, does employ the simplex reflexive in the same way as French and Italian; cf. Cornips (1994) and Cornips & Hulk (1996).

- (561) • Reflexive causative-inchoative alternation
- | | |
|--|-----------------|
| a. Het glas breekt zich.
the glass breaks REFL
'The glass breaks.' | [Heerlen Dutch] |
| b. Het glas heeft/*is zich gebroken.
the glass has/is REFL broken
'The glass breaks/has broken.' | [Heerlen Dutch] |

For completeness' sake, note that Heerlen Dutch also has examples like *Jan brak zich het glas*, but in these examples the reflexive functions as a possessor (*Jan broke his glass*) or a benefactive (*Jan broke the glass for himself*); see also Subsection III.

It is important to note that the Heerlen Dutch example in (561b) differs from Standard Dutch (559b) in that the verb does not select the auxiliary *zijn*, but *hebben*, which suggests that the verb retains its ability to assign accusative case. If this is really the case, we need to explain why the internal argument cannot be assigned accusative case, that is, why we are dealing with a DO-subject in (561). Burzio (1986: Section 1.5) and Everaert (1986) have argued that in inherently reflexive constructions like (560) and (561), the non-argument *se/zich* marks not only the presence of a DO-subject, but in fact forces the suppression of the regular subject of the corresponding transitive construction. The argument goes as follows. Since simplex reflexives can be used as arguments, they are ordinary noun phrases that must be assigned (accusative) case. Since verbs can assign accusative case to a single argument only, this means that the internal arguments in (560) and (561) can no longer be marked with accusative case, and hence must be assigned nominative case, as a result of which the subject of the corresponding transitive construction is suppressed (just like in passive constructions).

When we now return to inherent reflexivity, the case absorption approach predicts that there are no inherently reflexive verbs taking a direct object, and it seems indeed to be the case that the vast majority of inherently reflexive verbs do not select a DP- but a PP-complement (if any). A representative sample of inherently reflexive PO-verbs is given in (562).

- (562) **Inherently reflexive PO-verbs:** *zich aansluiten bij* 'to join with', *zich abonneren op* 'to subscribe to', *zich afkeren van* 'to turn away from', *zich bekommeren om* 'to worry about', *zich beklagen over* 'to complain about', *zich beperken tot* 'to confine oneself to', *zich beraden op* 'to consider' *zich bezinnen op* 'to reflect on', *zich bemoeien met* 'to meddle in/with', *zich inlaten met* 'to meddle in', *zich keren tegen* 'to turn against', *zich mengen in* 'to interfere in', *zich neerleggen bij* 'to come to terms with', *zich ontdoen van* 'to dispose of', *zich schamen over/voor* 'to be ashamed about', *zich schikken in* 'to reconcile oneself to', *zich vergissen in* 'to be mistaken', *zich vergapen aan* 'to gaze admiringly at', *zich verontschuldigen voor* 'to apologize for', *zich verzetten tegen* 'to resist', *zich wagen aan* 'to venture in to'

There are a number of apparent counterexamples to the claim that inherently reflexive verbs do not take a direct object. Examples are: *zich iets aantrekken van* 'to care about something', *zich iets aanwennen* 'to make a habit of something', *zich iets afwennen* 'to cure of', *zich iets afvragen* 'to ask whether ...', *zich iets herinneren* 'to remember something', *zich iets permitteren* 'to afford something', *zich iets toeëigenen* 'to take possession of something', *zich iets verwerven* 'to acquire something', *zich iets voorstellen* 'to imagine something', *zich iets voor de geest roepen* 'to remember something'. It seems, however, that we are dealing not

with accusative but \circ dativ reflexives in these cases, which will be discussed separately in Subsection III.

B. Reflexive causative-inchoative alternation (Anti-causativization)

The inchoative constructions in (559b) and (561b) suggest that languages may in principle use two strategies to detransitivize causative verbs such as *breken*: either the verb is deprived of its capacity to assign accusative case, in which case the verb selects the perfect auxiliary *zijn*, or accusative case is absorbed by a simplex reflexive. This subsection shows that Standard Dutch in fact uses both strategies.

Although Standard Dutch does not use simplex reflexives to mark causative-inchoative alternations of the type in (559), the examples in (563) and (564) show that there is a comparable alternation in which the simplex reflexive is used to obtain a detransitivizing effect; cf. Everaert (1984:52-3). Given our earlier conclusion on the basis of the Heerlen Dutch examples in (561) that this effect is due to accusative case absorption by the simplex reflexive *zich*, it does not come as a surprise that the reflexive inchoative construction takes the auxiliary *hebben* in the perfect tense.

- (563) a. Jan verspreidde het gerucht.
 Jan spread the rumor
- b. Het gerucht verspreidde *(zich).
 the rumor spread REFL
- b'. Het gerucht heeft zich verspreid.
 the rumor has REFL spread
- (564) a. Hij vormde een onderzoeksgroep.
 he constituted a research.team
- b. Een onderzoeksgroep vormde *(zich).
 a research.team constituted REFL
 'A research team was constituted.'
- b'. Er heeft zich een onderzoeksgroep gevormd.
 there has REFL a research.team constituted

The assumption that we are dealing with derived DO-subjects in the reflexive inchoative examples is supported by the fact that they are subject to the same selectional restrictions as the direct objects of the corresponding transitive constructions. The object of the transitive verb *verspreiden* in (565a), for instance, cannot refer to a single concrete entity; it is normally plural, or headed by a collective noun like *menigte* 'crowd' or a propositional noun like *gerucht* 'rumor'. Example (565b) shows that the subject of the corresponding reflexive construction is subject to the exact same restriction.

- (565) a. Jan verspreidde de menigte/het gerucht/de mannen/*de man.
 Jan spread the crowd/the rumor/the men/the man
- b. De menigte/Het gerucht/De mannen/*De man verspreidde zich.
 the crowd/the rumor/the men/the man spread REFL

The causative-inchoative alternations with and without a simplex reflexive certainly cannot be considered as idiosyncratically constrained alternatives, but may reflect

some more principled difference between the two constructions. This is clear from the fact illustrated by (566) that they are sometimes simultaneously available.

- (566) a. Eucalypta veranderde Paulus/zichzelf in een schildpad.
Eucalypta changed Paulus/herself into a tortoise
- b. Eucalypta verandert zich per ongeluk in een schildpad.
Eucalypta changes REFL by accident into a tortoise
- c. Paulus verandert (*zich) gelukkig niet in een schildpad.
Paulus changes REFL happily not into a tortoise

Furthermore, the two inchoative constructions differ in meaning. In the story alluded to (*Paulus en het levenswater* by Jean Dulieu), the witch Eucalypta by mistake drinks her own transformation draught, which was originally intended for the goblin Paulus. The presence of the simplex reflexive in the inchoative constructions depends on the feature [\pm CONTROL], discussed in Section 1.2.3, sub IIIB: if the subject of the inchoative construction is (in principle) able to control the action, as in (566b), the simplex reflexive is preferably present, but if the subject is not able to control the action, as in (566c), the reflexive must be absent.

The same condition may apply to the examples in (567): the use of the weak reflexive in examples such as (567b) is preferred by many speakers because the subject of the clause is taken as the instigator of the event denoted by the verb, but disfavored in examples such as (567c) because the subject is typically taken as a patient. Judgments are subtle, however, and there are speakers that report example (567c) as fully grammatical with *zich*; cf. Everaert (1986:84). Some of our informants share this judgment but claim that the use of *zich* creates a “spooky” effect in the sense that it feels as if the curtain acts like an animate being, which would of course be in line with our suggestion above.

- (567) a. Jan bewoog zijn arm/het gordijn.
Jan moved his arm/the curtain
- b. Jan bewoog (zich).
Jan moved REFL
- c. Het gordijn bewoog (*zich).
the curtain moved REFL

However, There are also reflexive inchoative constructions such as (568b), in which the proposed semantic effect is clearly absent; despite the fact that the referent of the subject is not able to control the event, the reflexive must be realized in this example. It therefore remains an open question as to whether the semantic contrast between the (b)- and (c)-examples in (566) and (567) is really related to the absence or presence of the reflexive.

- (568) a. Jan heeft het bad met water gevuld.
Jan has the bath with water filled
- b. Het bad heeft *(zich) met water gevuld.
the bath has REFL with water filled
'The bath has filled with water.'

We will nevertheless take the fact that the (b)- and (c)-examples in (566) and (567) differ in the way they do as evidence for the claim that the two types of inchoative constructions are different. Cross-linguistically, there also seem to be two strategies for obtaining a causative-inchoative alternation. The first way is referred to by Schäfer (2008:120) as anticausativization and involves some detransitivization morpheme, which is normally reflexive in nature. The second way is referred to as causativization, and involves some morpheme that introduces a causer argument. This element may be overt, but Pesetsky (1995) has provided evidence that this morpheme can also remain phonologically empty.

- (569) a. Anticausativization: transitive → monadic
 b. Causativization: monadic → transitive

The case absorption hypothesis proposed in Subsection A in fact amounts to saying that the reflexive inchoative construction is derived by anticausativization: the reflexive absorbs the accusative case of the verb, as a result of which the theme argument must be promoted to subject and the external argument of the verb can no longer be expressed. Since Section 3.2.3 will show that non-reflexive inchoatives are always regular unaccusative verbs, we may assume that they can be the input to a morphological process with a phonologically empty morpheme that adds an external causer argument to the argument structure of the input verb.

An advantage of this approach is that it makes it possible to account for the fact that the two inchoative constructions may occur side by side without the need to postulate idiosyncratic constraints on the processes involved. The examples in (566), for example, can be accounted for by assuming that the verb *veranderen* is stored in the lexicon as an unaccusative verb, as in (566c). This verb can be the input of the causativization process, which derives the transitive version of the verb in (566a). This derived transitive verb can subsequently be used as the input for the anticausativization process that derives the inherently reflexive verb in (566b). Of course, this proposal does not imply that reflexive and non-reflexive inchoative verbs always co-exist; the fact that *verspreiden* ‘to spread’ in (563)/(565) cannot be used as a non-reflexive inchoative verb could be accounted for by assuming that the inherently reflexive verb is stored as a lexical verb in the lexicon.

For completeness’ sake, we may note that the difference between Standard and Heerlen Dutch in (570) may simply reflect a lexical difference between the two languages; whereas *breken* ‘to break’ is stored as an unaccusative verb in Standard Dutch, it is stored as a transitive verb in Heerlen Dutch.

- (570) a. Het glas breekt. [Standard Dutch]
 the glass breaks
 b. Het glas breekt zich. [Heerlen Dutch]
 the glass breaks REFL

French and Italian, which also use the reflexive form in cases like these, can be taken to be similar to Heerlen Dutch but we should point out that these languages constitute a potential problem for the proposal outlined above. The problem is that the French and Italian inchoative construction in (560) takes the auxiliary *être/essere* ‘to be’ rather than *avoir/avere* ‘to have’ in the perfect tense, as is shown

by the French perfect-tense example *Le verre s'est brisé* 'the glass has broken'. Although this is not the place to solve this problem, we want to suggest that this difference is related to the fact that *se* differs from (Heerlen) Dutch *zich* in that it cannot be used in argument position or to the fact that it cliticizes to the verb; this may void the need for case assignment, which may be empirically supported by the existence of so-called clitic doubling constructions in which a clitic doubles a syntactically present argument; see Anagnostopoulou (2006) for a recent overview. If so, the role of Romance *si/se* cannot be case absorption but must be something else; see Dobrovie-Sorin (2006) for relevant discussion.

C. Reflexive psych-verb constructions

Many causative psych-verbs have inherently reflexive counterparts, which is illustrated by the sentence pairs in (571). Section 2.5.1.3, sub IV, has shown that the object experiencers from the primeless examples surface as the subjects of the inherently reflexive constructions in the primed examples.

- | | | | |
|----------|--|-----|--|
| (571) a. | Dat boek irriteert hem.
that book annoys him
'That book annoys him.' | a'. | Hij irriteert zich aan dat boek.
he annoys REFL on that book
'He's annoyed at that book.' |
| b. | Die uitslag verheugde haar.
that result rejoiced her
'That result delighted her.' | b'. | Zij verheugde zich over die uitslag.
she rejoiced REFL about that result
'She rejoiced at that result.' |
| c. | Dit argument verbaast haar.
this argument surprises her
'This argument surprises her.' | c'. | Zij verbaast zich over dit argument.
she surprises REFL about this argument
'She's surprised about this argument.' |

However, we cannot simply assume that the primed examples are derived from the primeless examples as a result of case absorption by the simplex reflexives. The reason for this is that promotion to subject is normally restricted to cases in which an external argument is present, and there are reasons for assuming that the subjects in the primeless examples in (571) are not external arguments; the most important of these is that external arguments only seem to occur with psych-verbs in a third alternant that is illustrated in (572); cf. Bennis (1986).

- | | |
|----------|---|
| (572) a. | Hij irriteerde hem met dat boek.
he annoyed him with that book |
| b. | ³ Hij verheugde haar met die uitslag.
he rejoiced her with that result |
| c. | ⁽²⁾ Hij verbaasde haar met dit argument.
he astonished her with this argument |

The case absorption approach will lead to a more or less correct result if we assume that the inherently reflexive constructions in the primed examples of (571) are derived from the transitive examples in (572): *zich* will absorb the accusative case of the verb and consequently the experiencer object must be promoted to subject (for which reason the causer subject in (572) must be suppressed). Observe, however, that this derivation cannot be syntactic in nature as this would leave unexplained why the *met*-PPs from the examples in (572) cannot be used in the

inherently reflexive constructions in (571); we must therefore be dealing with a lexical process. Note, finally, that the case absorption approach correctly predicts that the simplex reflexive cannot be used in the causative psych-constructions in the primeless examples in (571); since accusative case must be assigned to the experiencer object, no case is available for the simplex reflexive, so that the requirement that every noun phrase be assigned case would be violated if it were present.

D. Reflexive middle construction

This subsection discusses reflexive middle constructions, which seem to constitute another case in which the simplex reflexive acts as an accusative case absorber.

1. Regular versus reflexive middle constructions

Regular middle constructions like *this sweater washes easily* are characterized by the fact that the direct object of the corresponding transitive constructions surfaces as the subject and by the obligatory presence of an evaluative adjective like *easily*. The examples in (573) show that French middles differ from English ones in that they normally take the form of inherently reflexive constructions.

- (573) a. Il lave ce veston.
he washes this waistcoat
b. Ce veston se lave bien.
this waistcoat REFL washes well
'This waistcoat washes easily.'

Example (574b) shows that middle constructions are also acceptable in Standard Dutch, but do not involve the simplex reflexive *zich*; see Section 3.2.2.2 for a discussion of this non-reflexive middle construction. Example (574c) shows, however, that Dutch has another construction with comparable properties that does involve a simplex reflexive. This construction, which will from now on be referred to as the REFLEXIVE MIDDLE construction, typically involves the permissive verb *laten* 'to let'.

- (574) a. Jan wast het truitje.
Jan washes the sweater
b. Het truitje wast [?](*zich) gemakkelijk.
the sweater washes REFL easily
c. Het truitje laat zich gemakkelijk wassen.
the sweater lets REFL easily wash
'The sweater washes easily.'

2. The Dutch reflexive middle construction

The transitive-reflexive middle alternation is very productive in Standard Dutch, and more examples are given in (575). Given that the internal arguments of the embedded transitive verbs are promoted to subject in the corresponding reflexive middle constructions, we may safely assume that the simplex reflexive absorbs the accusative case of these verbs.

- (575) a. Marie bewerkt het hout.
 Marie carves the wood
 a'. Het hout laat zich gemakkelijk bewerken.
 the wood lets REFL easily carve
 'The wood carves easily.'
- b. Marie raadt de oplossing.
 Marie guesses the solution
 b'. De oplossing laat zich gemakkelijk raden.
 the solution lets REFL easily guess
 'The solution is easy to guess.'
- c. Marie voorspelde de uitslag.
 Marie predicted the score
 c'. De uitslag laat zich moeilijk voorspellen.
 the score lets REFL hard predict
 'The score is hard to predict.'

Example (576) provides some idiomatic examples: the embedded verbs in (576a&b) are only used (with the intended readings) in these constructions, in which the modifying element is the negative adverb *niet* 'not'.

- (576) a. Hij laat zich niet kisten.
 he lets REFL not coffin
 'He isn't going to be cornered.'
- b. Hij laat het zich niet aanleunen.
 he lets it REFL not against-lean
 'He doesn't put up with it all.'
- c. Zij laat zich niet zien.
 she lets REFL not see
 'She doesn't show up.'

3. *Apparent cases of the reflexive middle construction*

We argued in the previous subsections that the Dutch reflexive middle construction is the result of case absorption of the accusative case of the embedded main verb by the simplex reflexive. Everaert (1986) suggests that the reflexive has the same case absorbing capacity in the primed constructions in (577), but these constructions differ from the reflexive middle constructions in (575) in that the verbs embedded under the permissive/perception verb are unaccusative and are therefore unable to assign accusative case. However, given that *laten* 'let' and *zien* 'to see' are able to exceptionally case mark the subject of their verbal complement (cf. *Marie zag hem vallen* 'Mary saw him fall'), we may in principle assume that the simplex reflexive absorbs the case assigned by these verbs.

- (577) a. Hij viel op de grond. a'. Hij liet zich op de grond vallen.
 he fell on the ground he let REFL on the ground fall
 'He fell to the ground.' 'He dropped on the ground.'
- b. Hij glijdt achterover. b'. Hij laat zich achterover glijden.
 he glides backwards he lets REFL backwards glide
 'He's gliding backwards.' 'He's letting himself glide backwards.'

- | | |
|--------------------------|---|
| c. Hij gaat op vakantie. | c'. Hij zag zich nog niet op vakantie gaan. |
| he goes on holiday | he saw REFL yet not on holiday go |
| 'He's going on holiday.' | 'He didn't expect to go on holiday.' |

There are various reasons, however, to reject a case absorption approach for the primed examples in (577). First, it should be noted that a modifying adjective is not needed in these examples, unlike in the French example in (573b) and the Dutch examples in (575). Second, the examples in (578) show that the simplex reflexive can be replaced by a lexical noun phrase, which suggests that the reflexive acts as a regular argument of the embedded verb; cf. Van der Leek (1988).

- (578) a. Hij liet de theepot op de grond vallen.
 he let the teapot on the ground fall
 'He dropped the teapot onto the ground.'
- b. Hij laat Marie achterover glijden.
 he lets Marie backwards glide
 'He let Marie glide backwards.'
- c. Hij zag Marie nog niet op vakantie gaan.
 he saw Marie yet not on holiday go
 'He didn't expect Marie to go on holiday.'

Third, the subject of the primed examples in (577) must be animate: if these examples were really syntactically derived through case absorption by the reflexive, this would be surprising given that there is no such restriction on the reflexive middle constructions in (575).

- (579) a. De theepot viel op de grond.
 the teapot fell on the ground
- a'. *De theepot liet zich op de grond vallen.
 the teapot let REFL on the ground fall
- b. Het boek glijdt achterover.
 the book glides backwards
- b'. *Het boek laat zich achterover glijden.
 the book lets REFL backwards glide
- c. De schemerlamp stond op het podium.
 the floor.lamp stood on the stage
- c'. *De schemerlamp zag zich nog niet op het podium staan.
 the floor.lamp saw REFL yet not on the stage stand

The animacy restriction suggests that the °matrix verb requires a subject that, in principle, is able to control the event described in the embedded clause. This would also account for the fact that the examples in (580) are odd.

- (580) a. [§]Jan liet zich sterven.
 Jan let REFL die
- b. [§]Jan liet de ramp zich overkomen.
 Jan let the disaster REFL happen

An appeal to a selectional restriction imposed by the matrix verb to account for the unacceptability of the primed examples in (579), however, is not compatible with the case absorption analysis as this analysis implies that there is *no* semantic relation between the verb *laten/zien* and the derived subject. We therefore have to assume that the subject is simply an argument of these verbs. This is also consistent with our earlier conclusion on the basis of the examples in (578) that the simplex reflexive is an argument of the embedded verb, given that the no co-argument restriction then correctly predicts °binding of *zich* by the subject of the construction to be possible. All in all, it seems that we can safely conclude that the suggestion that the examples in (577) are inherently reflexive constructions is incorrect.

4. Reflexive middle construction based on NOM-DAT verbs

We conclude with a discussion of the alternation in (581), in which the primed examples might also be analyzed as reflexive middles but in which the main verb is not a transitive but a NOM-DAT verb; cf. Section 2.1.3. If a NOM-DAT verb is embedded under the permissive verb *laten*, the dative object shows up as the matrix subject and a simplex reflexive obligatorily appears. One way of accounting for this is by assuming that the simplex reflexive absorbs the dative case of the embedded NOM-DAT verb; as a result, this object must be assigned nominative case and therefore shows up as the matrix subject in the inherently reflexive construction. It is important to note that the simplex reflexive in the primed examples cannot be replaced by a referential expression, which shows in turn that NOM-DAT verbs cannot normally be embedded as such under the permissive verb *laten*.

- (581) a. Die opmerking ontviel hem.
 that remark escaped him
- a'. Hij liet zich/*Marie die opmerking ontvallen.
 he let REFL/Marie that remark escape
 'He let the remark escape him.'
- b. De teugels ontglipten hem.
 the bridles escaped him
 'The bridles slipped from his grasp.'
- b'. Hij liet zich/*Marie de teugels ontglippen.
 he let REFL/Marie the bridles escape
 'He let the bridles escape him.'

The examples in (582) show that DO-subjects of NOM-DAT verbs cannot appear as the subject of the construction as a whole. This is, of course, in accordance with the conclusion we reached in the previous subsection; the simplex reflexive cannot absorb the case of the DO-subject given that this case is not assigned by the embedded NOM-DAT verb but by the matrix verb *laten*.

- (582) a. *Die opmerking liet zich hem ontvallen.
 that remark let REFL him escape
- b. *De teugels lieten zich hem ontglippen.
 the bridles let REFL him escape

The assumption that the primed examples in (581) are derived by dative case absorption may be problematic given that it is often assumed that dative case is an inherent case, which therefore cannot be absorbed; case absorption is only possible with structural cases like accusative. Sections 2.1.4 and 3.2.1.4 argue extensively, however, that dative case must be treated in a similar fashion as accusative case, that is, as a structural case, and Subsection IIIA, will discuss another inherently reflexive construction that potentially involves dative case absorption.

E. Conclusion

The previous subsections have shown that, in at least a subset of inherently reflexive constructions, the simplex reflexive can be considered a non-argument that has the capacity to absorb case. The main verb in these constructions will therefore not be able to assign accusative case to its internal argument, which must therefore be promoted to subject. The discussion has shown that this case absorption approach applies not only to single verbs but also to the more complex reflexive middle construction involving the exceptionally case marking verbs *laten* ‘to let’ and *zien* ‘to see’. We further suggested that case absorption is not restricted to accusative case, but may also involve dative case.

III. Some special cases

This subsection discusses some special inherently reflexive constructions, beginning with cases with a dative simplex reflexive. After that, we will discuss a number of inherently reflexive constructions that are derived by means of prefixation. We conclude with a special type of resultative construction.

A. Dative reflexives

Example (583a) shows that dative noun phrases normally cannot appear as simplex reflexives in simple clauses, whereas (583b) shows that this is easily possible if they are part of clauses embedded under the permissive verb *laten* ‘to let’ (provided, at least, that the subject of the embedded clause is not overtly present); italics indicate co-reference.

- (583) a. *Jan gaf *zich/zichzelf een boek.*
 Jan gave REFL/himself a book
 b. *Jan liet zich[?]/zichzelf een boek geven.*
 Jan let REFL/himself a book give
 ‘Jan let someone give him a book.’

This contrast is, of course, what we would expect on the basis of the no co-argument restriction on the binding of simplex reflexives. The simplex reflexive in (583a) is selected by the same verb as its antecedent and therefore bound by a co-argument. In example (583b), on the other hand, the matrix subject is not an argument of the embedded verb so that the reflexive is not bound by a co-argument. With this in mind, consider the examples in (584).

- (584) a. Hij herinnert zich de afspraak niet.
 he remembers REFL the appointment not
 ‘He doesn’t remember the appointment.’
- b. Hij kan zich die uitgave niet veroorloven.
 he can REFL that expense not afford
 ‘He can’t afford that expense.’
- c. Hij stelde zich Bas voor als clown.
 he imagined REFL Bas for as clown
 ‘He imagined Bas as a clown.’

The examples in (584) are inherently reflexive constructions, as is clear from the fact that the simplex reflexive does not function as an argument of the verb: it cannot be replaced by a lexical noun phrase like *Marie* and in its English rendering a reflexive need not be used. If this line of reasoning is correct and inherently reflexive constructions indeed involve case absorption, we can conclude that simplex reflexives are not only capable of absorbing accusative case, but that they can also absorb dative case; see the discussion of example (581) in Subsection IID, for a similar conclusion.

B. Inherently reflexive verbs prefixed with over- and ver-

There are at least three productive (semi-)morphological processes that may derive inherently reflexive verbs from regular simplex verbs: prefixation with *over-*, prefixation with *ver-*, and extension of the verb with the particle *in*. The semantic effects of these processes can be inferred from the glosses.

- | | |
|---|---|
| (585) a. Zij over-werkt zich.
she overworks REFL
‘He’s overstraining.’ | a’. Hij over-schreeuwt zich.
he over-shouts REFL
‘He overstrains his voice.’ |
| b. Hij ver-spreekt zich.
he mis-speaks REFL
‘He made a slip of the tongue.’ | b’. Zij ver-rijdt zich.
she mis-drives REFL
‘She takes the wrong turn.’ |
| c. Jan leest zich in.
Jan reads REFL IN
‘Jan is doing preliminary reading.’ | c’. De atleet loopt zich in.
the athlete runs REFL IN
‘The athlete is doing a warm-up.’ |

The examples in (586) show that if the input verb is transitive, the original direct object appears as a prepositional object (Everaert 1986); this suggests, again, that simplex reflexives absorb accusative case.

- | | |
|--|---------------------------------|
| (586) a. Els over-eet zich aan de appels.
Els over-eats REFL on the apples
‘Eva is gorging herself on the apples.’ | [cf. <i>Els eet de appels</i>] |
| b. Jan ver-tilt zich aan de kist.
Jan mis-lifts REFL to the trunk
‘Jan strains himself in lifting the trunk.’ | [cf. <i>Jan tilt de kist</i>] |
| c. Hij koopt zich in de zaak in.
he buys REFL in the business in
‘He’s buying a partnership in the business.’ | [cf. <i>Hij koopt de zaak</i>] |

C. Idioms

There are a number of idiomatic constructions such as (587), which are of a resultative nature. These constructions differ from the inherently reflexive resultative constructions discussed in Subsection I in that the agent of the action does not get assigned a certain property as a result of the activity denoted by the verb, but becomes the “possessor” of the entity denoted by the verb: Jan will have a lump, an accident or a delirium as the result of the activity of laughing, eating or drinking, respectively. The constructions in (587) would be consistent with the no co-argument restriction on the binding of simplex reflexives if the strings in square brackets were phrases headed by some empty element comparable to the verb *hebben* ‘to have’; at this moment we do not have any evidence to substantiate such a claim, however, and we therefore leave these examples as a problem for the current proposal.

- (587) a. Jan lacht [zich een bult/kriek].
 Jan laughs REFL a lump/KRIEK
 ‘Jan splits his sides with laughing.’
- b. Jan eet [zich een ongeluk].
 Jan eats REFL an accident
 ‘Jan is overeating.’
- c. Jan drinkt [zich een delirium].
 Jan drinks REFL a delirium
 ‘Jan drinks himself into a delirium.’

IV. Summary

The previous subsections have discussed inherently reflexive constructions. We argued that the syntactically relevant property of this set of verbs is that the reflexive does not function as an argument. This implies that we have to restrict the set of inherently reflexive constructions by excluding a number of constructions from this set that were previously included. We further reviewed some arguments in favor of the claim that the syntactic function of the simplex reflexive is to absorb accusative case (as a result of which the internal argument of the verb must be promoted to subject; cf. Burzio (1986) and Everaert (1986)). We also discussed some data that suggest that case absorption is not restricted to accusative case but may also involve dative case.

2.6. Bibliographical notes

The distinction between unergative and unaccusative verbs discussed in Section 2.1 is originally due to Perlmutter (1978) and Burzio (1986). For Dutch, this distinction has been elaborated upon by T. Hoekstra (1984a); the claim that some of the tests developed by Hoekstra (like selection of the perfect auxiliary *zijn* and attributive use of the past/passive participle) are sufficient but not necessary conditions for assuming unaccusative status of a verb is due to Mulder & Wehrmann (1989) and Mulder (1992). The properties of NOM-DAT verbs have been extensively discussed in Lenerz (1977), Koster (1978), and, especially, Den Besten (1985). The claim that a separate class of undative verbs should be distinguished was first made in

Broekhuis (1992) and further developed by Broekhuis & Cornips (1994/2012); a similar idea phrased in generative-semantic terms can be found in Janssen (1976).

The complementive constructions discussed in Section 2.2 have played an important role in the so-called Small Clause debate between Stowell (1983), who argues that secondary predicates form a constituent with their SUBJECT, and Williams (1980), who claims that the two just need to be in a °c-command relation within a specific local domain. An influential Dutch advocate of Stowell's proposal is T.Hoekstra (1984a), and Williams' proposal has been defended by Neeleman (1994b). This grammar follows Mulder & Wehrmann (1989) in assuming that locational PPs may function as complementives and thus diverge from other descriptive grammars, which normally consider all locational PPs to be adverbial phrases. The hypothesis that particles also function as complementives has been defended in Den Dikken (1995)? This assumption is controversial given that it is also argued that particle verbs constitute complex verbal heads; cf. Neeleman & Weerman (1993/1999) and references cited there. The two positions are not necessarily incompatible given that it has been argued that particles may reanalyze with or syntactically incorporate into the verb; see, respectively, Den Dikken (1995) and Koopman (1995) for discussion and references.

Much traditional research on PP-complements focused on the development of tests to distinguish these PPs from adverbially used ones; see, e.g., Van de Toorn (1971/1981), Zwaan (1972), Paardekoooper (1986) and Klooster (2001). Due to the fact that this work did not result in tests that unambiguously determine whether or not we are dealing with a PP-complement, this has led to a certain pessimism, which in turn has resulted in the practice that many grammars simply enumerate the V + PP collocations that involve PP-complements; see, e.g., Paardekoooper (1986) and Haeseryn et al. (1997). Some researchers have even concluded that the distinction between PP-complements and adverbial PPs should be given up entirely. For this we refer the reader especially to a series of publications by Schermer-Vermeer (1988, 1990, 1991, 1994, 2006 and 2007), who nevertheless maintains that there is a subset of "prepositional complements" in a wider sense that are characterized by a tight semantic relationship with the main verb; this set differs from the more restricted set of PP-complements discussed in this section in that it also includes (in our terminology) periphrastic indirect objects, PPs that are used as complementives, as well as a subset of adverbial phrases. Although we did not discuss this, we want to note here that many PP-complements were realized as genitive objects in earlier stages of the language; cf. Duinhoven (1989). Our discussion in Section 2.3 elaborates on work by, e.g., Koster (1973/1974), Van Riemsdijk (1978), T.Hoekstra (1984a), Mulder & Wehrmann (1989) and Den Dikken (1995).

There is virtually no literature on AP-complements, which also accounts for the fact that Section 2.4 is relatively short. The discussion of the causative psych-verbs in Section 2.5 is based on discussions found in Den Besten (1985), Belletti & Rizzi (1988), Everaert (1982/1986), Bennis (1986/2004), Grimshaw (1990), E. Hoekstra (1991), Broekhuis (1992), Mulder (1992), Pesetsky (1995), and Van der Putten (1986/1997). Comparison of these verbs and periphrastic causative constructions with *maken* 'to make' can be found, for instance, in E. Hoekstra (1991), Mulder

(1992) and Pesetsky (1995). Data on NOM-DAT verbs can be found in T.Hoekstra (1984a), Den Besten (1985) and Broekhuis (1992). Discussions on reflexive psychological verbs can be found in Bennis (1986), Everaert (1986), E.Hoekstra (1991), and Mulder (1992). Levin (1993) also discusses the properties of psych-verbs and provides many references about other languages.

There has been an ardent debate on the classification of NOM-ACC verbs. Some authors claim that they belong to the unergative transitive verbs; see, e.g., E.Hoekstra (1991), Mulder (1992), Pesetsky (1995) and Van der Putten (1997). Others suggest that they are unaccusatives (cf. Belletti & Rizzi 1988), while it has also been proposed that these verbs are ergatives, but not unaccusatives (Broekhuis 1992), or unergatives with respect to case marking and unaccusative with respect to theta-selection (Bennis 2004). The hypothesis that the causative psych-verbs are complex verbs composed of a (zero) causative verb and an embedded psychological predicate is taken from Pesetsky (1995); see also E.Hoekstra (1991), Mulder (1992) and Broekhuis (1992). All studies seem to fall short by not distinguishing between causative constructions with a cause and a causer subject.

There are not many studies specifically devoted to inherently reflexive constructions. Relevant discussion as well as references can be found in Burzio (1981/1986), Dobrovie-Sorin (2006), and, especially, Everaert (1986), which is also a rich source for the relevant Dutch data.

Chapter 3 Projection of verb phrases II: Verb frame alternations

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Introduction

Chapter 2 provided a classification of verbs based on the verb frames they occur in, that is, based on the number and the types of °complements they take. This chapter discusses the fact that some verbs may occur in more than one verb frame, a phenomenon that we will refer to as VERB FRAME ALTERNATION. Section 3.1 will begin with a brief characterization of the main types, which will be discussed in more detail in Sections 3.2 and 3.3. Section 3.4 concludes with the discussion of some cases which have been described as involving verb frame alternations, but which do not seem to fit in the restricted definition of the notion given above.

3.1. Main types

This section briefly introduces the main types of verb frame alternations that will be discussed in this chapter. Subsection I discusses a number of alternations that crucially involve the demotion, suppression or addition of an external °argument: passivization, middle formation and (anti-)causativization. Subsection II continues with a number of cases in which a noun phrase alternates with a PP, such as the well-known dative alternation. Levin (1993) and Van Hout (1996) include a number of important types of verb frame alternations that are not included in this chapter but discussed elsewhere; Subsection III will briefly illustrate some of these and refer the reader to the sections where they are more extensively discussed.

I. Alternations involving the external argument

It is common for verb frame alternations to affect the °external argument of the verb. The three main classes are given in (1); they will be briefly introduced in the subsections below and more extensively discussed in Section 3.2.

- (1) a. Passivization: demotion of the external argument to °adjunct status
 b. Middle formation: suppression of the external argument
 c. Causativization: addition of an external argument

A. Passivization

Passivization is illustrated by the examples in (2): it is characterized by the fact that it results in the demotion of the subject of the active construction, which may be left implicit or be expressed by means of an agentive *door*-PP.

- (2) a. Marie kust Jan. [active]
 Marie kisses Jan
 ‘Marie kisses Jan.’
 b. Jan wordt gekust (door Marie). [passive]
 Jan is kissed by Marie
 ‘Jan is kissed by Marie.’

The demotion to adjunct status of the subject may go hand in hand with the promotion of some other argument to subject. The construction in (2b) exemplifies the so-called REGULAR PASSIVE, which always involves promotion of the direct object, but there are also cases in which the indirect object is promoted to subject. Since the choice between the direct and the indirect object depends on the auxiliary,

the two types of passive in (3) are often referred to as, respectively, the *worden*-passive and the *krijgen*-passive.

- (3) a. Jan stuurt Marie het boek toe. [active]
 Jan sends Marie the book prt.
 b. Het boek wordt/is Marie toegestuurd. [worden-passive]
 the book is/has.been Marie prt.-sent
 c. Marie kreeg het boek toegestuurd. [krijgen-passive]
 Marie got the book prt.-sent

Dutch differs from English not only in allowing promotion of the direct object of a double object construction, as in (3b), but also in that it allows passivization of intransitive verbs. This gives rise to the passive construction in (4b), which is normally referred to as the IMPERSONAL PASSIVE given that it takes the non-referential pronoun *het* 'it' as its subject.

- (4) a. Jan lachte hard.
 Jan laughed loudly
 'Jan was laughing loudly.'
 b. Er werd hard gelachen (door Jan).
 there was loudly laughed by Jan

The different forms of passivization are discussed extensively in Section 3.2.1.

B. Middle formation

Middle formation is illustrated in the (a)-examples of (5) by means of the so-called REGULAR MIDDLE, in which the object of a transitive verb appears as the subject of the corresponding middle, and in the (b)-examples by means of the so-called ADJUNCT MIDDLE, in which the subject of the middle corresponds to the nominal part of an °adjunct-PP. The examples in (5) show that middle formation differs from passivization in that the external argument of the verb cannot normally be syntactically expressed by means of a *door*-phrase.

- (5) a. Jan leest het boek. [transitive]
 Jan reads the book
 a'. Dat boek leest gemakkelijk (*door Jan). [regular middle]
 that book reads easily by Jan
 b. Jan rijdt op zijn fiets/het fietspad. [transitive]
 Jan drives (on his bike/the bike.way)
 b'. Deze fiets/dit fietspad rijdt lekker (*door Jan). [adjunct middle]
 this bike/bike.way drives nicely by Jan

The agent seems nevertheless to be implied, which may be related to the obligatory presence of an evaluative modifier of the type *gemakkelijk* 'easily' or *lekker* 'nicely'; such modifiers semantically imply some participant that is responsible for the evaluation expressed by the adverb and which is taken to refer to the agent of the event denoted by the verb in the default case. Middles normally refer to some °individual-level property of their subject. The various types of middles are discussed in Section 3.2.2.

C. Causative alternation

The causative alternation is illustrated in (6) by means of the verb *breken* ‘to break’, which can be used in two different verb frames: causative *breken* is transitive, which means that it selects an external and an internal argument, whereas inchoative *breken* is unaccusative, that is, selects an internal argument only.

- (6) a. Jan breekt de vaas. [transitive]
 Jan breaks the vase
 b. De vaas breekt (*door Jan). [unaccusative]
 the vase breaks by Jan

The causative and the middle alternation are alike in that the verb does not require any morphological change and that the agent of the transitive construction cannot normally be expressed by means of an agentive *door*-phrase in the corresponding unaccusative construction. The causative alternation is more extensively discussed in Section 3.2.3.

II. Alternations involving noun phrases and PPs (DP-PP alternation)

A second major class of verb frame alternation involves the alternation between a noun phrase and a (locational) PP. The examples in (7) illustrate a well-known example of this, which is often referred to as DATIVE SHIFT given that the noun phrase that alternates with the PP is a °dative (indirect) object. Although this is normally not noted by traditional grammars, it seems that the so-called periphrastic indirect object is spatial in nature: example (7a) contains a change of location verb and the *aan*-PP refers to the new location of the referent of the direct object; example (7b) contains the motion verb *sturen* ‘to send’ and the *naar*-PP refers to the goal of the path covered by the referent of the direct object; example (7c) again involves a path but the *van*-PP refers to the source of the path covered by the referent of the direct object. For an extensive discussion of the distinction between the notions change of location and path we refer the reader to Section P1.3.1.1.

- (7) • Dative alternation
 a. Ik geef <Jan_{dat}> het boek <aan Jan>.
 I give Jan the book to Jan
 b. Ik stuur <Jan_{dat}> het boek <naar Jan> toe.
 I send Jan the book to Jan TOE
 c. Ik pak <Jan_{dat}> het boek <van Jan> af.
 I take Jan the book from Jan AF

Example (8) shows that it is also possible for an accusative noun phrase to alternate with a PP. There are several types of such TRANSITIVE-OBLIQUE ALTERNATIONS that correspond to systematic meaning differences: in examples such as (8a), for example, the theme of the transitive verb is affected by the activity denoted by the verb, whereas the theme of the PO-verb in examples such as (8b) is not necessarily affected by the activity denoted by the verb.

- (8) • Transitive-oblique alternation
- a. Jan schoot de haas.
Jan shot the hare
 - b. Jan schoot op de haas.
Jan shot at the hare

A somewhat more complex DP-PP alternation is illustrated in example (9), in which the locational PP *op de muur* ‘on the wall’ alternates with the accusative noun phrase *de muur* ‘the wall’. This alternation, which is known as the LOCATIVE ALTERNATION, goes hand in hand with a number of other changes: the verb *hangen* is prefixed with *be-* and the original accusative phrase, *de muur*, is realized as the nominal part of a *met*-PP.

- (9) • Locative alternation (type I)
- a. Jan hangt de posters op de muur.
Jan hangs the posters on the wall
 - b. Jan behangt de muur met posters.
Jan BE-hangs the wall with posters

Finally, DP-PP alternations may also involve the subject (^onominative argument) of the clause. Example (10) illustrates this by means of a second type of locative alternation. This construction resembles the adjunct middle mentioned in Subsection I but crucially differs from it in that the subject in (10a) is not a referential noun phrase but the non-referential pronoun *het* ‘it’.

- (10) • Locative alternation (type II)
- a. Het krioelt in de tuin van de mieren.
it swarms in the garden of the ants
‘The garden is swarming with ants.’
 - b. De tuin_{nom} krioelt van de mieren.
the garden swarms of the ants
‘The garden is swarming with ants.’

These different forms of DP-PP alternation are discussed in Section 3.3.

III. Alternations that will not be discussed in this chapter

Before we start our discussion of the verb frame alternations above, it is important to note that this chapter will not discuss a number of other verb frame alternations, because they are discussed elsewhere. The first type involves cases like (11a-c), in which a so-called cognate object is added to an otherwise intransitive clause or in which an internal argument of an otherwise (di-)transitive verbs is left implicit; these cases are discussed in Section 2.1. Cases in which a verb takes an optional PP-complement, like *wachten* in (11d), are discussed in Section 2.3.

- | | | | |
|---------|--|-----|--|
| (11) a. | Jan praat.
Jan talks | a'. | Jan praat onzin.
Jan talks nonsense |
| b. | Jan drinkt een kop koffie.
Jan drinks a cup [of] coffee | b'. | Jan drinkt.
Jan drinks |
| c. | Jan stuurde Marie een boek.
Jan sent Marie a book | c'. | Jan stuurde een boek.
Jan sent a book |
| d. | Jan wachtte op vader.
Jan waited for father | d'. | Jan wachtte.
Jan waited |

Obviously, we will not be concerned with optional adverbial phrases either. This means that we will not discuss the Dutch counterpart of Levin's (1993:34) understood body part alternation given that in Dutch the body part is normally expressed by means of an adverbial PP, and not by an object (as in English).

- | | |
|---------|--|
| (12) a. | Jan klapte (in zijn handen).
Jan clapped in his hands
'Jan clapped (his hand).' |
| b. | De hond kwispelde (met zijn staart).
the dog wagged with his tail
'The dog wagged (its tail).' |

The second type of alternation that will not be discussed in this chapter involves alternations that are triggered by the addition of °complementives (including verbal particles). The (a)- and (b)-examples in (13) show that this may result in, respectively, transitivity (the addition of a nominal argument) or an intransitive-unaccusative alternation. Alternations of this sort are discussed in Section 2.2.

- | | | |
|---------|---|----------------|
| (13) a. | De hond blaft (*zijn baas).
the dog barks his boss | [intransitive] |
| a'. | De hond blaft *(zijn baas) wakker.
the dog barks his boss awake | [transitive] |
| b. | Jan heeft/*is urenlang gewandeld.
Jan has/is for.hours walked
'Jan has been walking for hours.' | [intransitive] |
| b'. | Jan is/*heeft in vijf minuten naar het plein gewandeld.
Jan is/has within five minutes to the square walked
'Jan has walked to the square within five minutes.' | [unaccusative] |

The third type of alternation that will not be discussed is illustrated by the examples in (14), which show that the introduction of a simplex reflexive leads to suppression of the external argument of the transitive verb as well as promotion of the object to subject. Cases of this type are discussed in Section 2.5.2.

- | | | | |
|---------|---|-----|--|
| (14) a. | Jan verspreidde het gerucht.
Jan spread the rumor | b. | Marie waste Peter.
Marie washed Peter |
| a'. | Het gerucht verspreidde *(zich).
the rumor spread REFL | b'. | Peter waste zich.
Peter washed REFL |

3.2. Alternations involving the external argument

This section discusses alternations that in one way or another involve external arguments of verbs. We will discuss passivization in Section 3.2.1, middle formation in Section 3.2.2 and causativization in Section 3.2.3.

3.2.1. Passivization

This section discusses alternations between active and passive constructions. The characteristic property of these constructions is that the external argument of the verb is demoted to adjunct status, that is, that the external argument is no longer realized as the subject of the clause, but, for example, in an agentive *door*-PP. This demotion of the external argument seems to be the most important property of passivization, given that this immediately accounts for the fact that intransitive verbs differ from °unaccusative verbs in that only the former can undergo this process; unaccusative verbs cannot be passivized since they do not have an external argument. This is illustrated in (15).

- (15) a. Jan lacht. [intransitive]
 Jan laughs
 a'. Er wordt gelachen (door Jan).
 there is laughed by Jan
 b. Jan valt. [unaccusative]
 Jan falls
 b'. *Er wordt gevallen (door Jan).
 there is fallen by Jan

If the verb is (di-)transitive, the demotion of the external argument has the concomitant effect that one of the objects in the active construction is promoted to subject. If the verb is transitive, as in (16), it is the direct object that is promoted to subject.

- (16) a. Jan beoordeelt het boek. [active]
 Jan evaluates the book
 b. Het boek wordt/is (door Jan) beoordeeld. [passive]
 the book is/has.been by Jan evaluated

When the verb is ditransitive, as in (17), whether the direct or the indirect object is promoted to subject depends on the passive auxiliary that is used: if the passive auxiliary is *worden* or *zijn*, as in (17b), the direct object is promoted; if the auxiliary is *krijgen*, as in (17c), the indirect object is promoted.

- (17) a. Jan stuurt Marie het boek toe. [active]
 Jan sends Marie the book prt.
 b. Het boek wordt/is Marie toegestuurd. [worden-passive]
 the book is/has.been Marie prt.-sent
 c. Marie krijgt het boek toegestuurd. [krijgen-passive]
 Marie gets the book prt.-sent

Note in passing that it is sometimes claimed that the verb *zijn* in examples such as (17b) is not a passive but a perfect auxiliary, which is assumed to select an empty verb that corresponds to the past participle form of the “true” passive auxiliary *worden*. This assumption is supported by pointing out that the participle *geworden* can be used in southern varieties of Dutch; we will not discuss this claim here but return to it in Section 6.2.2.

It is generally assumed that the promotion of one of the objects to subject is due to the fact that the passive morphology on the participle “absorbs” one of the cases that would normally be assigned to an internal argument of the verb; the internal argument that is deprived of its case must therefore be assigned \circ nominative case, which is only possible if the external argument is demoted to adjunct. That it is indeed case assignment that is involved in the promotion of the direct/indirect object is clear from the fact that the nominal part of PP-complements like *naar Marie* in (18a) is not promoted to subject; since the nominal part of the PP-complement is assigned case by the preposition, there is no need for it to be assigned nominative case. See Section 3.2.1.3, sub IVB, for more discussion.

- (18) a. Jan kijkt naar Marie/haar.
 Jan looks at Marie/her
- b. Er wordt naar Marie/haar gekeken.
 there is at Marie/her looked
- b'. *Marie/zij wordt naar gekeken.
 Marie/she is at looked

Passive constructions that correspond to active constructions with an intransitive (PO-)verb do not have a derived subject (an internal argument marked with nominative case) and are for that reason often referred to as IMPERSONAL PASSIVES. Passive constructions that correspond to active constructions with a (di-)transitive verb, on the other hand, invariably have a subject and can therefore be referred to as PERSONAL PASSIVES. The personal passives can be further divided on the basis of whether the subject corresponds to the direct or the indirect object of the corresponding active construction. Since the former case is most frequent, it is sometimes referred to as the REGULAR PASSIVE; the latter case is referred to as the *KRIJGEN-PASSIVE*.

Table 1: Types of passive constructions

TYPE		SUBJECT CORRESPONDS TO	EXAMPLE	SECTION
impersonal passive		—	(15a') & (18b)	3.2.1.2
personal passive	regular passive	direct object	(16b) & (17b)	3.2.1.3
	<i>krijgen</i> -passive	indirect object	(17c)	3.2.1.4

The remainder of this section is organized as follows. Section 3.2.1.1 starts with a discussion of some general properties of the passive. Subsequently, the three types of passive constructions will be discussed in more detail in the sections indicated in the final column of Table 1.

3.2.1.1. General properties of passives

Before we discuss the three subtypes of passive constructions in Table 1 in detail, the following subsections will discuss a number of general properties of passivization.

1. Demotion of the external argument

The core property of the passive construction is the demotion of the external argument of the active verb to adjunct status. Since unaccusative verbs do not have an external argument, this immediately accounts for the fact that these verbs cannot be passivized. This is illustrated in (19) for the monadic unaccusative verbs *sterven* ‘to die’ and *drijven* ‘to float’, which select, respectively, the auxiliary *zijn* and the auxiliary *hebben* in the perfect tense; cf. Section 2.1.2, sub III E and III.

- (19) a. De man stierf onder verschrikkelijke omstandigheden.
 the man died in terrible circumstances
- a'. *Er werd (door de man) onder verschrikkelijke omstandigheden gestorven.
 there was by the man in terrible circumstances died
- b. De jongen drijft op het water.
 the boy floats on the water
- b'. *Er wordt (door de jongen) op het water gedreven.
 there is by the boy on the water floated

Example (20) shows the same thing for the NOM-DAT (dyadic unaccusative) verbs *opvallen* ‘to stand out/catch the eye’ and *tegenstaan* ‘to pall on’, which respectively select *zijn* and *hebben* in the perfect tense; cf. Section 2.1.3, sub E. The singly-primed examples show that impersonal passivization is excluded, and the doubly-primed examples show that *krijgen*-passivization is also excluded.

- (20) a. De jongen viel me op. [active]
 that boy stood.out me prt.
 ‘That boy caught my eye.’
- a'. *Er werd mij (door de jongen) opgevallen. [worden-passive]
 there was me by the boy stood.out
- a''. *Ik kreeg (door de jongen) opgevallen. [krijgen-passive]
 I got by the boy stood.out
- b. De jongen stond me erg tegen. [active]
 the boy palled me much on
 ‘The boy disgusts me.’
- b'. *Er werd mij (door de jongen) tegengestaan. [worden-passive]
 there was me by the boy on-palled
- b''. *Ik kreeg (door de jongen) tegengestaan. [krijgen-passive]
 I got by the boy on-palled

The examples in (21), finally, show the same thing for the °undative verbs *krijgen* and *hebben*, which are likewise characterized by the lack of an external argument; cf. Section 2.1.4.

- (21) a. Jan kreeg/heeft het boek.
 Jan got/has the book
 b. *Het boek werd (door Jan) gehad/gekregen.
 the book was by Jan had/gotten

The fact that the (in)transitive/unaccusative status of the verb determines whether or not passivization is allowed makes it impossible to give an exhaustive list of verbs that do or do not allow passivization. This can be readily illustrated by means of the verb *breken* 'to break', which can be used both as a transitive and as an unaccusative verb. The primed examples in (22) show that it does not make sense to say that *breken* does or does not allow passivization; all that can be said is that *breken* does allow passivization if it is used transitively, but not if it is used unaccusatively.

- (22) a. Jan breekt het raam. [transitive]
 Jan breaks the window
 a'. Het raam wordt (door Jan) gebroken.
 the window is by Jan broken
 b. Het raam breekt. [unaccusative]
 the window breaks
 b'. *Er wordt (door het raam) gebroken.
 there is by the window broken

It is generally assumed that the pragmatic function of passivization is that of backgrounding the subject of the active clause; see, e.g., Kirsner (1976). This is, of course, especially clear if the agent is left unexpressed, but the same effect is obtained if the agent is overtly realized as an agentive *door*-phrase. That passivization has this effect is related to the fact that the subject position of a clause is a typical topic position; by removing the agentive argument from this position, it is less likely that its referent will be construed as the entity that the discourse is about. This can be illustrated by the examples in (23); the question introduces Jan as a new discourse topic, which is presented as such in the primeless but not the primed (b)-example.

- (23) a. Wat is er met Jan? Hij kijkt zo blij.
 what is there with Jan he looks so happy
 'What is going on with Jan? He's looking so happy.'
 b. Hij heeft een nieuwe auto gekocht.
 he has a new car bought
 'He has bought a new car.'
 b'. #Er is door hem een nieuwe auto gekocht.
 there is by him a new car bought
 'A new car has been bought by him.'

II. The implicit agent argument

The demoted subject of the active construction can remain implicit but can normally also be made explicit by means of an optional agentive *door*-phrase. One

exception to this rule is the generic pronoun *men* in (24a); the reason for this is that *men* can only be used as the subject of a finite clause; cf. Section N5.2.1.1.1.

- (24) a. Men speelt daar graag.
 one plays there gladly
 ‘One likes to play there.’
 b. Er wordt daar graag (*door men) gespeeld.
 there is there gladly by one played

It is not entirely clear whether the same holds for the generic pronoun *je* ‘one’. An example such as (25a) can be passivized but it is not clear whether the implied agent can be interpreted in such a way that the agent is identical to the inalienable possessor of the teeth; adding a *door*-phrase with the generic pronoun *je* seems marked.

- (25) a. Je moet je tanden elke dag poetsen.
 one has.to one’s teeth every day brush
 ‘One has to brush one’s teeth every day.’
 b. Je tanden moeten elke dag (^{??}door je) gepoetst worden.
 one’s teeth has.to every day by one brushed be
 ‘One’s teeth have to be brushed every day.’

That the agent is implicitly present, even if the *door*-phrase is not realized, is clear from the distribution of agent-oriented adverbs like *expres/opzettelijk* ‘deliberately’. First consider the primeless examples in (26). These examples show that these adverbs require the subject of the clause to be an agent, as in (26a); if the subject of the clause is a theme, as in (26b), the use of these adverbs gives rise to an unacceptable result. The fact that *expres/opzettelijk* can be used in passive constructions such as (26a’) therefore suggests that the agent of the active sentence is still implicitly present.

- (26) a. Jan sloeg het bord expres/opzettelijk in stukken.
 Jan hit the plate deliberately to pieces
 ‘Jan hit the plate deliberately to pieces.’
 a’. Het bord werd expres/opzettelijk in stukken geslagen.
 the plate was deliberately to pieces hit
 b. *Het bord viel expres/opzettelijk in stukken.
 the plate fell deliberately to pieces

Something similar can be illustrated on the basis of the interpretation of the phonetically empty subject °PRO in infinitival clauses. The primeless examples in (27) show that PRO must be °controlled by some appropriate constituent in the main clause; the infinitival verb *pesten* ‘to pester’ requires an agentive subject and this condition is satisfied in (27a), in which PRO is controlled by the [+HUMAN] argument *Jan*, but not in (27b), in which PRO is controlled by the [-ANIMATE] argument *het bord* ‘the plate’. The fact that the passive construction in (27a’) is fully acceptable again strongly suggests that PRO is controlled by some implicit agent argument.

- (27) a. Jan sloeg het bord in stukken [om PRO Marie te pesten].
 Jan hit the plate to pieces COMP Marie to pester
 ‘Jan hit the plate to pieces in order to pester Marie.’
 a’. Het bord werd in stukken geslagen [om PRO Marie te pesten].
 the plate was to pieces hit COMP Marie to pester
 b. *Het bord viel in stukken [om PRO Marie te pesten].
 the plate fell to pieces COMP Marie to pester

Somewhat more controversial data are given in (28), in which the reciprocal *elkaar* seems to be bound by and the °supplementive *naakt* ‘nude’ seems to be predicated of the implicit agent. The percentage signs indicate that not all speakers accept examples like these.

- (28) a. %Er wordt in deze buurt op elkaar gelet.
 there is in this neighborhood for each.other watched
 ‘People are looking after each other in this neighborhood.’
 b. %Er wordt op dit strand naakt gezwommen.
 there is on this beach nude swum
 ‘People swim in the nude at this beach.’

Examples such as (28) are generally considered best in generic contexts, and furthermore require there to be no other nominal argument present that could be the antecedent of *elkaar* or be attributed the property denoted by the supplementive, as is clear from the fact that whereas the primeless examples in (29) are ambiguous, the primed examples are not; we indicated both the °binding and the predication relation by means of indices.

- (29) a. De jongens_i stelden de meisjes_j aan elkaar_{i/j} voor.
 the boys introduced the girls to each.other prt.
 ‘The boys introduced the girls to each other.’
 a’. De meisjes_j werden (door de jongens_i) aan elkaar_{j/*i} voorgesteld.
 the girls were by the boys to each.other prt.-introduced
 ‘The girls were introduced to each other (by the boys).’
 b. Jan_i bracht Marie_j dronken_{i/j} naar huis.
 Jan brought Marie drunk to home
 ‘Jan brought Marie home drunk (=while he/she was drunk).’
 b’. Marie_j werd (door Jan_i) dronken_{j/*i} naar huis gebracht.
 Marie was by Jan drunk to home brought
 ‘Marie was brought home drunk (while she was drunk) by Jan.’

The controversial status of the examples in (28) as well as the fact that it is impossible to establish a binding/predication relation with the (implicit) agent in the primed examples in (29) suggest that we are actually dealing with ungrammatical structures, which are nevertheless accepted by some speakers because they can readily be assigned a feasible interpretation thanks to the presence of the implicit agent. This shows that, regardless of their precise grammaticality status, the examples in (28) provide evidence in favor of an implicit agent in passive constructions.

The implicit agent in impersonal passive constructions is preferably interpreted as [+HUMAN]. This is clear from the fact that (30b) cannot readily be construed as the passive counterpart of (30a); (30b) instead implies that the agent is [+HUMAN]. The only way of overruling this reading is by overtly expressing the [-HUMAN] agent by means of an agentive *door*-phrase, as in (30b'). We added the % sign to these examples because examples like these are given as unacceptable in Pollman (1970/1975) and Kirsner (1976), but all our informants accept this example.

- (30) a. De nachtegalen floten lustig.
the nightingales whistled lustily
b. [#]Er werd lustig gefloten.
there was lustily whistled
b'. [%]Er werd lustig gefloten door de nachtegalen.
there was lustily whistled by the nightingales

The claim that the implicit agent is preferably construed as [+HUMAN] also accounts for the fact reported in Haeseryn et al. (1997:1417) that speakers tend to object to the primed examples in (31): since the activities denoted by the verbs *grazen* 'to graze' and *kwaken* 'to quack' are normally not performed by people, a [+HUMAN] interpretation of the implicit agent gives rise to a semantically incoherent result. If the [-HUMAN] agent is overtly expressed by means of a *door*-phrase, these passive constructions again become fully acceptable for our informants.

- (31) a. De koeien grazen in de wei.
the cows graze in the meadow
a'. ^{\$}Er wordt in de wei gegraasd.
there is in the meadow grazed
b. De eenden kwaken in de sloot.
the ducks quack in the ditch
b'. ^{\$}Er wordt in de sloot gekwaakt.
there is in the ditch quacked

Note that the preference for a [+HUMAN] implicit agent does not hold in constructions such as (32), in which the passive verb is transitive; these examples are fully acceptable for all speakers despite the fact that the default interpretation is that the agent is non-human.

- (32) a. Onze eieren worden elke ochtend vers gelegd.
our eggs are each morning freshly laid
'Our eggs (e.g. the ones we sell) are laid freshly every morning.'
b. De sla in onze tuin wordt (door slakken) aangevreten.
the lettuce in our garden is by snails prt.-eaten
'The lettuce in our garden is eaten away (by snails).'

According to the more or less standard account of passivization in generative grammar (Jaeggli 1986 and Roberts 1987), the agent (external argument of the verb) is never left implicit but syntactically realized as the passive morphology on the passive participle; see Subsection V for more discussion. If this is correct, the semantic effects in (30) and (31) can be accounted for by assuming that the default

interpretation of the passive morphology is [+HUMAN]. This would raise the question, however, of why we do not find a similar effect in (32). This may be related to the fact that providing the right contextual information is often sufficient to override the default [+HUMAN] interpretation of the implicit argument, as is clear from the following example taken from a story about sparrows from a bird journal by Adri de Groot, in which the impersonal passives are given in italics (http://vogeldagboek.nl/html/Vogeldagboek/2002/Jun02_Lot2.html); the translation is given in the active form.

- (33) *Er werd gevreeën, gevochten,* nieuwe nesten werden gebouwd,
 there was made.love fought new nests were build
jonge vogels werden gevoederd, er werd gezongen, uitgerust.
 young birds were fed there was sung prt.-rested
 ‘The sparrows mated, fought; they built new nests and fed their young; they sang and rested.’

Note in passing that the claim that the agent is syntactically expressed by the passive morphology implies that the optional *door*-phrase cannot be seen as an alternative realization of the agent but simply functions as an °adjunct that provides additional descriptive information about the external argument expressed by the passive morphology on the participle. There is thus no syntactic rule of subject demotion that places the subject of the active clause in an agentive *door*-phrase in the passive construction (as was assumed in early generative grammar).

III. Additional restrictions on the demoted subject?

Although the hypothesis that the presence of an external argument is a *necessary* condition for passivization seems firmly grounded, it is not clear whether the presence of an external argument is a *sufficient* condition for passivization. It might be that passivization requires that the external argument meets a number of additional constraints. The following subsections discuss three of such constraints that have been proposed in the literature, but conclude that there is little evidence supporting them.

A. Animateness of the demoted subject

It is often claimed that there is an animateness constraint on passivization. According to this constraint, passivization is only possible if the subject of the active clause is [+ANIMATE]. Evidence in favor of such a constraint comes from examples such as (34), adapted from Pollman (1975), which show that in a passive construction such as *Er werd gefloten* the nominal part of the optional *door*-phrase must refer to a [+ANIMATE] entity.

- (34) a. Jan/De ketel floot in de keuken.
 Jan/the kettle whistled in the kitchen
 ‘Jan/The kettle was whistling in the kitchen.’
 b. Er werd in de keuken gefloten (door Jan/*de ketel).
 there was in the kitchen whistled by Jan/the kettle
 ‘Someone was whistling in the kitchen.’

A first reason for doubting that there is an animacy restriction on passivization is that passivization is possible if the [-ANIMATE] subject is construed as agentive. Some clear examples are given in (35).

- (35) a. Deze dijken houden de zee tegen.
 these dikes stop the sea prt.
 a'. De zee wordt door deze dijken tegengehouden.
 the sea is by these dikes prt.-stopped
 b. Mijn computer verwerkt de gegevens erg snel.
 my computer processes the data very quickly
 b'. De gegevens worden erg snel verwerkt door mijn computer.
 the data are very quickly processed by my computer

A more technical problem is that it is hard to demonstrate that the inanimate subject *de ketel* is an external °argument of the verb in (34a). The only remaining sufficient conditions for assuming intransitive status for the verb *fluiten* in (34b) is not met: agentive ER-nominalizations normally do not denote inanimate entities—the noun *fluit* ‘whistler’ cannot be used to refer to boiling kettles; observe that this test must be handled with care given that the affix *-er* can also be used to derive instrumental nouns like *opener* ‘(bottle/can) opener’. Furthermore, there is some evidence that the status of the verb *fluiten* depends on the type of subject it takes. Section 2.2.3 has shown that the addition of a °complementive to an intransitive verb also requires the addition of a second participant, which functions as the °logical SUBJECT of the complementive. With unaccusative verbs, on the other hand, the number of participants remains the same since the subject of the clause itself must function as the SUBJECT of the complementive, although the SUBJECT of the complementive may replace the subject of the unaccusative verb, as is indicated by means of subscripts in (36c); something similar holds for transitive constructions, in which the SUBJECT of the complementive may replace the object of the verb, as indicated by means of subscripts in (36b). We will not discuss this here but refer the reader to Section 2.2.3, sub I and II, for a detailed discussion of the generalizations in (36).

- (36) a. intransitive verbs: NP V \Rightarrow NP V NP Predicate
 b. transitive verbs: NP V NP_i \Rightarrow NP V NP_i_j Predicate
 c. unaccusative verbs: NP_i V \Rightarrow NP_i_j V Predicate

The examples in (37) show that the question as to whether *fluiten* requires an additional participant depends on whether the subject of the verb is [+ANIMATE] or [-ANIMATE]. In the former case, addition of a second participant in the form of an accusative object is required, which shows that the subject is the external argument of the verb, whereas in the latter case addition of a second participant is excluded, which suggests that the inanimate subject *de ketel* is not the external argument of the verb.

- (37) a. De jongen floot zijn hond naar binnen.
 the boy whistled his dog inside
 b. *De ketel floot de kok naar de keuken.
 the kettle whistled the cook into the kitchen

Example (38a), in which the subject of the clause functions as the SUBJECT of the complementive, is not very felicitous either, but this seems related to our world knowledge rather than to grammaticality: it is simply hard to imagine that the kettle gets broken by whistling. It seems useful to note in this connection that verbs of sound emission can be used as motion verbs with a complementive PP; in the (b)-examples in (38) the subject of the clause clearly functions as the SUBJECT of the locational/directional PP, and *fluiten* must therefore be analyzed as an unaccusative verb; see Section 2.2.3, sub II, for more discussion.

- (38) a. ^SDe ketel floot kapot.
 the kettle whistled broken
 b. De kogel floot vlak over mijn hoofd.
 the bullet whistled just over my head
 ‘The bullet went just over my head with a whistling sound.’
 b’ De vuurpijl floot de lucht in.
 the skyrocket whistled the air into
 ‘The skyrocket went into the air with a whistling sound.’

The discussion in this subsection has shown that the animacy restriction on passivization, although appealing at first sight, is certainly not beyond doubt. It might be the case that, generally speaking, inanimate noun phrases cannot be used as external arguments unless they are clearly causative or agentive in nature. The discussion is, however, not sufficient to show that this is indeed true (see Section 3.2.1.3, sub IC, for potential counterevidence), but we would still like to suggest this as a working hypothesis for future research.

B. Agentivity of the subject

Verbs of cognition like *kennen/weten* ‘to know’ also resist passivization, despite the fact that these verbs are normally assumed to take an external argument; cf. Van Voorst (1988). In order to account for the impossibility of (39b), it is often claimed that the subject of the clause must be an agent or a cause in order to license passivization. Since the subject of (39a) clearly does not have one of these roles, the impossibility of passivization follows.

- (39) a. Jan weet/kent het antwoord.
 Jan knows the answer
 ‘Jan knows the answer.’
 b. *Het antwoord wordt (door Jan) geweten/gekend.
 the answer is by Jan known

Assuming an agentivity restriction on passivization meets the same objections as the animateness restriction, namely that there is little evidence that the subject in (39a) is an external argument; Section 2.1.4 has shown that the standard tests for diagnosing the external argument fail with these verbs and that it might be the case

that the subject of verbs like these is actually not an external, but an internal (experiencer) argument of the verb.

C. Controllability by the subject

A slightly weaker version of the agentivity restriction claims that passivization requires that the verb has a subject that controls the denoted activity. Examples such as (40) suggest that such a restriction does not apply either. The fact that agent-oriented adverbs like *expres/opzettelijk* ‘deliberately’ yield unacceptable results in the active, primeless examples strongly suggests that subjects of verbs like *luisteren* ‘to listen’ and *lijden* ‘to suffer’ do not control the activities, but passivization of these verbs is possible nevertheless.

- (40) a. Het publiek luisterde (*opzettelijk) ademloos.
 the audience listened on purpose breathlessly
 ‘The audience listened breathlessly.’
- a’. Er werd (door het publiek) ademloos geluisterd.
 there was by the audience breathlessly listened
- b. Arme studenten lijden (*opzettelijk) heel wat.
 poor students suffer on purpose very much
 ‘Poor students suffer a lot.’
- b’. Er wordt (door arme studenten) heel wat geleden.
 there is by poor students very much suffered

D. Conclusion

This subsection has discussed a number of constraints on passivization that have been proposed in the literature: the subject of the active construction must be animate, agentive, or at least able to control the event denoted by the verb. We have seen that there is in fact little evidence to support such constraints, although it still remains to be seen whether it is possible to give a syntactic account of the unacceptability of the passive constructions that motivated these constraints.

IV. The derived subject: externalization of the internal argument?

Since passivization results in promotion to subject of one of the objects of the active verb (provided that there is one), it is sometimes claimed that one of the functions of passivization is the “externalization” of internal arguments of the active verb. This would correctly describe what is happening in the (a)-examples in (41), but seems entirely besides the point in describing the change in the (b)-examples; Section 2.2 has extensively argued that the accusative DP *de kruimels* ‘the crumbs’ in (41b) is not an internal argument of the verb *vegen* but the SUBJECT (external argument) of the complementive PP *van de tafel af* ‘from the table’.

- (41) a. De dokter onderzoekt Jan.
 the doctor examines Jan
- a’. Jan wordt onderzocht (door de dokter).
 Jan is examined by the doctor

- b. Jan veegde de kruimels *(van de tafel af).
 Jan wiped the crumbs from the table AF
- b'. De kruimels werden (door Jan) van de tafel af geveegd.
 the crumbs were by Jan from the table AF wiped

The only thing that the examples in (41) show is that, in contrast to the active verb, the passive participle is unable to assign °accusative case to the noun phrases *Jan* and *de kruimels*, which must therefore be promoted to subject in order to receive nominative case.

V. The participle form of the main verb

The examples in (42) show that in passive constructions, the main verb normally takes the form of a passive participle. This has given rise to the hypothesis that it is the participle's morphology that is responsible for the demotion of the external argument and the concomitant promotion of one of the objects in (42b&c).

- (42) a. Er wordt (door de jongens) *gelachen*. [impersonal passive]
 there is by the boys laughed
- b. Het boek wordt Peter (door zijn collega's) *aangeboden*. [regular passive]
 the book is Peter by his colleagues prt.-offered
- c. Peter krijgt het boek (door zijn collega's) *aangeboden*. [*krijgen* passive]
 Peter gets the book by his colleagues prt.-offered

Subsection II already mentioned that the standard approach to passivization in generative grammar (Jaeggli 1986 and Baker et al. 1989) is that the passive morphology on the participle actually *is* the external argument of the verb. The fact that the passive morphology reduces the case-assigning property of the main verb is then accounted for by assuming that the "missing" case is assigned to the external argument, that is, to the passive morphology itself. This is sometimes referred to as CASE ABSORPTION.

Although this hypothesis seems to account for the majority of cases, it has been challenged on the basis of °AcI-constructions such as (43), in which the infinitival clauses are headed by a transitive verb like *zingen* 'to sing'; see, e.g., De Geest (1972), Vanden Wyngaerd (1994) and Bennis (2000). The crucial thing is that example (43a), in which all arguments of the infinitival verb are expressed, alternates with example (43b), in which the subject of the infinitival clause is demoted: it can be left out or be expressed by means of an agentive *door*-phrase.

- (43) a. Jan laat [de kinderen een liedje zingen].
 Jan makes the children a song sing
 'Jan makes the children sing a song.'
- b. Jan laat [een liedje zingen (door de kinderen)].
 Jan makes a song sing by the children

If demotion of the external argument is indeed the defining property of passivization, we should conclude that the infinitival clause in (43b) is the passive counterpart of the infinitival clause in (43a). This conclusion is also supported by the fact that the alternation is not possible with unaccusative verbs; the (a)-examples in (44) show that the alternation is possible with intransitive PO-verbs

like *kijken naar* ‘to look (at)’, but excluded with unaccusative verbs like *verdwijnen* ‘to disappear’.

- (44) a. Jan laat [de dokter naar zijn wonden kijken].
 Jan makes the doctor at his wounds look
 ‘Jan makes the doctor look at his wounds.’
- a’. Jan laat [naar zijn wonden kijken ([?]door de dokter)].
 Jan makes at his wounds look by the doctor
- b. De goochelaar laat [zijn assistente in het niets verdwijnen].
 the magician makes his assistant into the nothing disappear
 ‘The magician makes his assistant vanish into thin air.’
- b’. *De goochelaar laat [in het niets verdwijnen (door zijn assistent)].
 the magician makes into the nothing disappear by his assistant

If we are indeed justified in considering the infinitival clauses in the primed examples of (44) to be the passive counterparts of the infinitival clauses in the corresponding primeless examples, which still needs to be firmly established, we can conclude that passive morphology is not a defining property of passivization. The question of what determines the morphological shape of the verb must then be considered an unsolved problem; we refer the reader to Section 5.2.3.3 for more discussion of examples like (43) and (44).

VI. A note on adjectival passives

Some sentences are ambiguous between a regular and an adjectival passive reading. The ambiguity is due to the fact that past/passive participles can be interpreted either as a verbal or as an adjectival element. The verbal/adjectival nature of the participle can be detected by its position relative to the verbs in clause-final position: if the participle is verbal in nature, it can either precede or follow these verbs; if the participle is adjectival, it must precede these verbs. We refer the reader to Section 6.2.2 for a more extensive discussion of the word order in the clause-final °verb cluster of passive constructions.

- (45) a. dat de bibliotheek is gesloten. [verbal passive]
 that the library is closed
 ‘that the library has been closed.’
- b. dat de bibliotheek gesloten is. [verbal or adjectival passive]
 that the library closed is
 ‘that the library has been closed’ or ‘that the library is closed (= not open)’

The two constructions also differ semantically in that the verbal passive has a dynamic reading (the verbal participle denotes an event), whereas the adjectival passive has a stative reading (the adjectival participle denotes a property of the subject of the clause). This can be made clear by adding adverbial phrases that favor one of the readings. Adverbial phrases like *al jaren* ‘for years’, for instance, favor the stative reading and therefore cannot be added to (45a), which is necessarily construed as a verbal passive. This is shown in (46).

- (46) a. *?dat de bibliotheek al jaren is gesloten. [verbal passive]
 that the library for years is closed
 b. dat de bibliotheek al jaren gesloten is. [adjectival passive]
 that the library for years closed is

Adverbial phrases like *gisteren* ‘yesterday’, on the other hand, favor the dynamic reading and therefore block the adjectival reading of (45b); example (47b) can only be interpreted as a verbal passive construction.

- (47) a. dat de bibliotheek gisteren is gesloten. [verbal passive]
 that the library yesterday is closed
 b. dat de bibliotheek gisteren gesloten is. [verbal passive]
 that the library yesterday closed is

The examples in (48) show that the adjectival reading can also be blocked by the presence of an agentive *door*-phrase.

- (48) a. dat de bibliotheek door de burgemeester is gesloten. [verbal passive]
 that the library by the mayor is closed
 b. dat de bibliotheek door de burgemeester gesloten is. [verbal passive]
 that the library by the mayor closed is

The fact that the adverbial phrase *al jaren* ‘for years’ and the agentive *door*-phrase trigger different readings accounts for the fact that they cannot be simultaneously present, as shown by the unacceptability of example (49a). Since the adverbial phrase *gisteren* ‘yesterday’ and the *door*-phrase both favor the verbal reading, these two can readily be combined, as is shown by (49b).

- (49) a. *dat de bibliotheek al jaren door de burgemeester gesloten/gesloten is.
 that the library for years by the mayor closed/closed is
 b. dat de bibliotheek gisteren door de burgemeester gesloten/gesloten is.
 that the library yesterday by the mayor closed/closed is

The adjectival passive construction is normally analyzed as a copular construction. For a more elaborate discussion of the adjectival reading of past/passive participles the reader is referred to Section A9.

3.2.1.2. *The impersonal passive*

This section discusses the impersonal passive in more detail. Subsection I starts by discussing the verb types that may enter the impersonal passive construction. Section 3.2.1.1, sub I, has already shown that unaccusative verbs are normally excluded in passive constructions, but there seem to be a number of exceptional cases, which will be discussed in Subsection II.

I. Verbs entering the impersonal passive construction

The impersonal passive is found with verbs that do not take a nominal direct object in the active voice. This set includes (pseudo-)intransitive verbs like *lachen* ‘to laugh’, *lezen* ‘to read’ and *voetballen* in (50a), intransitive PO-verbs like *spreken*

(over) ‘to talk about’ in (50b), and verbs with a clausal direct object like *vertellen* ‘to tell’ in (50c).

- (50) a. Marie lacht/leest/voetbalt.
 Marie laughs/reads/plays.soccer
 ‘Marie is laughing/reading/playing soccer.’
- a’. Er wordt (door Marie) gelachen/gelezen/gevoetbald.
 there is by Marie laughed/read/played.soccer
- b. Wij spraken lang over dat voorstel.
 we talked long about that proposal
 ‘We talked about that proposal for a long time.’
- b’. Er werd (door ons) lang over dat voorstel gesproken.
 there was by us long about that proposal talked
- c. Jan vertelde (mij) [dat het boek gestolen was].
 Jan told me that the book stolen was
 ‘Jan told (me) that the book was stolen.’
- c’. Er werd (mij) (door Jan) verteld [dat het boek gestolen was].
 there was me by Jan told that the book stolen was

The primed examples in (50) show that, since impersonal passives lack a subject (nominative DP), °expletive *er* ‘there’ can be inserted. In main clauses, this is normally obligatory unless some topicalized constituent occupies the sentence-initial position. If the topicalized phrase is an °adjunct, as in (51), *er* is optional.

- (51) a. Op het grasveld wordt (er) veel gevoetbald.
 on the field is there a.lot played.soccer
- b. Tijdens die vergadering werd (er) lang over dat voorstel gesproken.
 during the meeting was there long about that proposal talked
- c. Door Peter werd (er) verteld [dat het boek gestolen was].
 by Peter was there told that the book stolen was

If the topicalized phrase is an internal argument, as in (52), *er* is often obligatorily omitted; this holds especially if the internal argument has the form of a clause.

- (52) a. Over dat voorstel werd (°er) tijdens die vergadering lang gesproken.
 about that proposal was there during that meeting long talked
- b. [Dat het boek gestolen was] werd (*er) door Peter verteld.
 that the book stolen was was there by Peter told

The difference between constructions with and without expletive *er* in the °middle field of the clause seems to be related to the presence of a °presupposition (“old” information): the presence of *er* indicates that the sentence does not contain a presupposition, whereas the absence of *er* indicates that there is a presupposition; cf. Bennis (1986). In (51) and (52), the presuppositions are the topicalized phrases, but topicalization is not a prerequisite for dropping *er*, as is clear from the fact that *er* can also be omitted in the embedded clauses in (53), in which topicalization is excluded; *er* is only required if the phrases in question express new information.

- (53) a. dat (er) op het grasveld veel gevoetbald wordt.
 that there on the field a.lot played.soccer is
 b. dat (er) tijdens die vergadering lang over dat voorstel gesproken werd.
 that there during the meeting long about proposal talked was
 c. dat (er) door Peter verteld werd [dat het boek gestolen was].
 that there by Peter told was that the book stolen was

That the presence of *er* in the middle field depends on the presence of a presupposition is especially clear from the examples in (54). These examples show that the pronominal indirect object *mij* ‘me’ blocks expletive *er* if it does not occur in sentence-initial position. This effect is due to the fact that the referents of referential personal pronouns are normally part of the presupposition of the clause. The numbers in square brackets support the judgments given in (54) by providing the results of a Google search (7/24/2011) on the strings [*er werd/is mij verteld*], [*dat er mij verteld werd/is*], [*dat er mij werd/is verteld*], and [*dat mij verteld werd/is*]/[*dat mij werd/is verteld*].

- (54) a. Er werd mij verteld dat het boek gestolen was. [375,000]
 there was me told that the book stolen was
 b. *dat er mij verteld werd dat het boek gestolen was. [14]
 that there me told was that the book stolen was
 b'. dat mij verteld werd dat het boek gestolen was. [38,250]
 that me told was that the book stolen was

With regard to (50c) it can further be noted that active clauses with a clausal direct object give rise to the impersonal passive only if there is no °anticipatory pronoun. In other words, example (55a) only gives rise to the personal passive in (55b), with the anticipatory pronoun *het* promoted to subject.

- (55) a. Jan heeft het verteld dat het boek gestolen was.
 Jan has it told that the book stolen was
 b. Het werd door Jan verteld dat het boek gestolen was.
 it was by Jan told that the book stolen was

II. Exceptional behavior of unaccusative verbs

Section 3.2.1.1, sub I, claimed that the demotion of the external argument of the verb is the core property of passivization on the basis of the fact that unaccusative verbs cannot be passivized. This subsection discusses a number of special cases, in which an unaccusative verb can be found in the impersonal passive.

A. Unaccusative verbs used as intransitives

In certain special contexts, which we will refer to as stage contexts, it is possible to use certain unaccusative verbs as intransitive verbs; cf. Perlmutter (1978) and Van Hout (1996). The verbs *vallen* ‘to fall’ and *sterven* ‘to die’ no longer denote uncontrolled processes in such contexts, but controlled activities. For completeness’ sake, note that expressing the “actors” of the activity in an agentive *door*-phrase seems to give rise to a less felicitous result.

- (56) a. In het tweede bedrijf werd er op tijd gevallen.
 in the second act was there on the.right.moment fallen
 'In the second act the actor(s) fell at the right moment.'
- a'. [?]In het tweede bedrijf werd (er) door die acteur op tijd gevallen.
- b. In deze uitvoering wordt er op magistrale wijze gestorven.
 in this performance is there in masterly way died
 'In this performance, the actor(s) die in a masterly way.'
- b'. [?]In deze uitvoering wordt (er) door de acteur op magistrale wijze gestorven.

B. Non-eventive use of impersonal passives

Impersonal passives derived from unaccusative verbs can at least marginally be used to denote an outstanding defining property of certain spatially or temporally defined situations. As can be seen by comparing the primeless and primed examples of (57), such impersonal passives normally require a degree modifier like *ontzettend veel* 'terribly much'. The primed examples show that these passive constructions degrade if they contain an agentive *door*-phrase.

- (57) a. In de derde wereld wordt ^{*}([?]ontzettend veel) gestorven.
 in the third world is terribly much died
- a'. ^{*}In de derde wereld wordt door kinderen ontzettend veel gestorven.
 in the third world is by children terribly much died
- b. Tijdens die wedstrijd werd ^{*}([?]ontzettend veel) gevallen.
 during that match was terribly much fallen
 'During that match there was a lot of falling.'
- b'. ^{*}Tijdens die wedstrijd werd door Cruijff ontzettend veel gevallen.

C. Questions and exclamatives with impersonal passives

Impersonal passives of unaccusative verbs can sometimes be found in questions and exclamatives that express a strong wish or a command. Example (58) illustrates this for the verb *vertrekken* 'to leave'. Cases like these do not allow an agentive *door*-phrase.

- (58) a. Wordt er vandaag nog (^{*}door ons) vertrokken, of wat?
 is there today still by us left or what
 'Are we still going to leave today?'
- b. En nu wordt er (^{*}door ons) vertrokken!
 and now is there by us left
 'And now we'll leave!'

D. Exceptional verbs

A small number of (apparent) unaccusative PO-verbs can occur in the impersonal passive. Example (59) illustrates this for *stoppen (met)* 'to stop (with)'. That *stoppen* is unaccusative is clear from the fact that it takes the perfect auxiliary *zijn*, which is sufficient for assuming unaccusative status. Some other verbs behaving like *stoppen* are *beginnen (met)* 'to start (with)', *doorgaan (met)* 'to carry (on)', *ingaan (op)* 'to comply (with)', *uitgaan (van)* 'to assume' and *vooruitlopen (op)* 'to be ahead (of)'. These verbs are more extensively discussed in Section 2.3.2, sub IV.

- (59) a. De oliemaatschappij stopt met de proefboringen.
 the oil.company stops with the exploratory.drillings
 b. Er wordt met de proefboringen gestopt.
 there is with the exploratory.drillings stopped

3.2.1.3. *The regular passive*

This section discusses personal passive constructions, that is, passive constructions with a derived subject. Two cases of personal passives should be distinguished: regular *worden*-passives such as (60b), which involve promotion to subject of the direct objects of the corresponding active constructions, and so-called *krijgen*-passives such as (60c), which involve promotion to subject of the indirect objects. This section is concerned with the regular passive; the *krijgen*-passive will be discussed in Section 3.2.1.4.

- (60) a. Marie_{nom} biedt hem_{dat} het boek_{acc} aan.
 Marie offers him the book prt.
 b. Het boek_{nom} wordt hem_{dat} (door Marie) aangeboden. [regular passive]
 the book is him by Marie prt.-offered
 c. Hij_{nom} krijgt het boek_{acc}-aangeboden (door Marie). [krijgen-passive]
 he gets the book prt.-offered by Marie

I. Verbs entering the regular passive

This subsection discusses the types of verbs that may enter the regular passive. Since the core property of the passive is the demotion of the external argument, it does not really come as a surprise that the core cases of the regular passive involve verbs with an agentive or causer subject. There are, however, several special cases, which will also be discussed in this subsection.

A. Verbs with an agentive subject

Since agents are typically [+ANIMATE] entities, the regular passive involves the demotion of an animate subject in the majority of cases, as in the (a)-examples in (61). However, Section 3.2.1.1, sub III, has shown that, if an inanimate entity is construed as agentive, passivization is possible as well. This is illustrated again by the (b)-examples.

- (61) a. Jan bestudeert het passief.
 Jan investigates the passive
 ‘Jan is investigating the passive.’
 a’. Het passief wordt door Jan bestudeerd.
 the passive is by Jan investigated
 ‘The passive is investigated by Jan.’
 b. Die machine sorteert het huisafval.
 that machine sorts.out the household.garbage
 ‘That machine sorts out the household garbage.’
 b’. Het huisafval wordt door die machine gesorteerd.
 the household.garbage is by that machines sorted.out

B. Verbs with a causer/cause subject

A causer can be considered a special kind of agent, and it is therefore not surprising that verbs with a causer subject can also be passivized. This is illustrated here by means of the transitive verb *breken* ‘to break’ in the (a)-examples in (62). The demoted subject of the causative verb can also be inanimate as long as it is construed as the causer of the event; this is shown in the (b)-examples.

- (62) a. Jan breekt de vaas.
 Jan breaks the vase
- a'. De vaas wordt (door Jan) gebroken.
 the vase is by Jan broken
- b. Die machine breekt het afgekeurde porselein.
 that machine breaks the disapproved china
 ‘That machine breaks the disapproved china.’
- b'. Het afgekeurde porselein wordt door die machine gebroken.
 the disapproved china is by that machine broken

The primed examples in (63) suggest that causative object experiencer psych-verbs like *irriteren* ‘to irritate’ and *overtuigen* ‘to convince’ (cf. Section 2.5.1.3, sub II) can also be passivized. This requires, however, that the *met*-PP referring to the cause (the means by which the causer brings about the mental state of the experiencer) is not overtly realized.

- (63) a. Jan_{Caus} irriteert haar_{Exp} met zijn gezeur_{Cause}.
 Jan irritates her with his nagging
- a'. Zij wordt door Jan geïrriteerd (*met zijn gezeur).
 she is by Jan irritated with his nagging
- b. Jan_{Caus} overtuigt haar_{Exp} met zijn verhaal_{Cause}.
 Jan convinces her with his story
- b'. Zij wordt door Jan overtuigd (*met zijn verhaal).
 she is by Jan convinced with his story

A typical property of the psych-verbs in (63) is that the cause can also be realized as the subject of the active construction, as in the primeless examples of (64). The primed examples again suggest that passivization of such causative psych-constructions is possible.

- (64) a. Zijn gezeur_{Cause} irriteert haar_{Exp}.
 his nagging irritates her
- a'. Zij wordt door zijn gezeur geïrriteerd.
 she is by his nagging irritated
- b. Zijn verhaal_{Cause} overtuigde haar_{Exp}.
 his story convinced her
- b'. Zij werd door zijn verhaal overtuigd.
 she was by his story convinced

The claim that we are dealing with passives in the primed examples in (63) and (64) presupposes that the *door*-PPs are agentive phrases similar to the ones we find in unequivocal passive examples. This seems, however, to be at odds with the fact that the *door*-phrases in (64) contain an inanimate, non-agentive noun phrase.

Furthermore there is an alternative analysis according to which the *door*-phrases function as causative adjuncts comparable to the ones we find in unaccusative constructions like *De ruit brak door de harde wind* ‘The window broke due to the hard wind’. A final reason for doubting the passive analysis of the primed examples in (63) and (64) is that the verb *worden* can be replaced by *raken* ‘to get’, which is typically used with a copular-like function.

- (65) a. Zij raakte/werd door Jan/zijn gezeur geïrriteerd.
 she got/became by Jan/his nagging irritated
 b. Zij raakte/werd door Jan/zijn verhaal overtuigd.
 she got/became by Jan/his story convinced

The examples in (65) strongly suggest that the verb *worden* in (63) and (64) is also used as a copular verb meaning “become”. If so, we would expect that in embedded clauses the participle must precede the finite verb. The judgments on the primed examples in (66) show, however, that this expectation is not really borne out; for at least some speakers the order *worden*-participle is considerably better than the order *raken*-participle.

- (66) a. dat zij door Jan/zijn gezeur geïrriteerd raakte/werd.
 that she by Jan/his nagging irritated got/became
 a'. dat zij door Jan/zijn gezeur *raakte/[%]werd geïrriteerd.
 b. dat zij door Jan/zijn verhaal overtuigd raakte/werd.
 that she by Jan/his story convinced got/became
 b'. dat zij door Jan/zijn verhaal *raakte/[%]werd overtuigd.

We therefore conclude that it is not entirely clear on the basis of the currently available evidence whether we are dealing with passive or copular (adjectival passive) constructions in the primed examples in (63) and (64); see Section 2.5.1.3, sub IID, for more relevant discussion.

We conclude with a discussion of a set small set of causative non-experiencer verbs exhibiting behavior more or less similar to that of object experiencer psych-verbs like *irriteren* ‘to irritate’, cf. Section 2.5.1.3, sub V. A typical example is the verb *verduidelijken* ‘to clarify’ in (67), which, like *irriteren*, allows the subject of the active construction to be either a causer or a cause.

- (67) a. Jan_{Causer} verduidelijkte de stelling met een voorbeeld_{Cause}.
 Jan clarified the thesis with an example
 a'. De stelling werd (door Jan) met een voorbeeld verduidelijkt.
 the thesis was by Jan with an example clarified
 b. Dit voorbeeld_{Cause} verduidelijkt de stelling aanzienlijk.
 this example clarifies the thesis considerably
 b'. De stelling wordt door dit voorbeeld aanzienlijk verduidelijkt.
 the thesis is by this example considerably clarified

It is again not clear whether the primed examples are passive counterparts of the primeless examples, given that the *door*-phrase is causative in nature. This is especially evident in this case given that some of these causative verbs may also take a causative *door*-phrase in the active voice. As a result there is no doubt that the *door*-phrase in (68c) can be construed as causative.

- (68) a. Jan redde de situatie door zijn doortastend optreden.
 Jan saved the situation by his vigorous action
 b. Zijn doortastend optreden redde de situatie.
 his vigorous action saved the situation
 c. De situatie werd gered door zijn doortastend optreden.
 the situation was saved by his vigorous action

If (68c) were a passive construction and if the *door*-phrase in this example were the same type of phrase as the *door*-phrase in (68a), we would expect that we may add an additional agentive *door*-phrase in (68c). Our intuitions given in (69) are not entirely clear and depend on the precise positions of the two *door*-phrases.

- (69) a. ^{??}Door zijn doortastend optreden werd de situatie_{nom} door Jan gered.
 by his vigorous act was the situation by Jan saved
 b. ^{??}De situatie_{nom} werd door Jan door zijn doortastend optreden gered.
 c. ^{??}De situatie_{nom} werd door zijn doortastend optreden door Jan gered.
 d. ^{*?}Door Jan werd de situatie_{nom} door zijn doortastend optreden gered.

It seems premature to us to draw any conclusions from the examples in (69); again it is not clear on the basis of the currently available evidence whether we are dealing with a passive or a copular (adjectival passive) construction in the primed examples in (67).

C. Other verbs

There are various types of non-agentive/non-causative verbs with inanimate subjects that nevertheless do allow passivization. Some examples are given in (70). Other verbs of this type are *begrenzen* 'to bound', *omcirkelen* 'to encircle', *omlijsten* 'to frame', *omringen* 'to surround', *overdekken* 'to cover', and *overwoekeren* 'to overgrow'. Observe that the passive counterparts of the stative primeless examples in (70) require the *door*-phrase to be present; if it is absent the passive verbs receive an agentive, activity reading.

- (70) a. De snelwegen omringen dat huis aan alle kanten.
 the highways surround that house at all sides
 a'. Dat huis wordt aan alle kanten [#](door snelwegen) omringd.
 that house is at all sides by highways surrounded
 b. Tal van rivieren doorsnijden het land.
 many of rivers crisscross the land
 'A great number of rivers crisscross the land.'
 b'. Het land wordt [#](door tal van rivieren) doorsneden.
 the land is by many of rivers crisscrossed
 'A great number of rivers crisscross the land.'

Other non-agentive verbs that can be found in the regular passive are verbs taking an object with propositional content like *aantonen* 'to demonstrate', *bewijzen* 'to prove', *demonstreren* 'to show/demonstrate', *bepalen* 'to determine', *impliceren* 'to imply' as well as the verb *vormen* 'to make up'. The examples in (71) show that in these cases too, the passive constructions must contain a *door*-PP.

- (71) a. Die maatregelen impliceren een grotere werkloosheid.
 these measures imply a greater unemployment
 ‘These measures imply greater unemployment.’
- a’. Een grotere werkloosheid_{nom} wordt *(door die maatregelen) geïmpliceerd.
 a greater unemployment is by these measures implied
- b. Twaalf dozijn vormt een gros_{acc}.
 twelve dozen makes.up a gross
 ‘Twelve dozen make up a gross.’
- b’. Een gros_{nom} wordt gevormd *(door twaalf dozijn).
 a gross is made.up by twelve dozen

The (a)-examples in (72) show that measure verbs like *duren* ‘to last’, *kosten* ‘to cost’, *tellen* ‘to count’ and *wegen* ‘to weigh’ with a non-agentive subject cannot be passivized. If the verb denotes an activity, as in the (b)-examples, passivization is possible.

- (72) a. Peter weegt 100 pond.
 Peter weighs 100 pound
- a’. *100 pond wordt/worden (door Peter) gewogen.
 100 pound is/are by Peter weighed
- b. Peter weegt de appels.
 Peter weighs the apples
- b’. De appels worden (door Peter) gewogen.
 the apples are by Peter weighed
 ‘The apples are being weighed by Peter.’

The difference between the two sets of examples could in principle be attributed to the non-agentive nature of the subject in (72a), but it is sometimes also assumed that it is the nature of the nominal complement (here: *100 pond*) that is relevant; it is not a direct object but a predicatively used phrase comparable to the adjective *zwaar* in *Jan weegt zwaar* ‘Jan weighs heavy’.

II. *The derived subject of the regular passive*

This subsection discusses a number of properties of derived subjects in regular passive constructions.

A. *The thematic role of the derived subject*

Since regular passivization results in promotion to subject of the theme argument of the active verb, it is sometimes claimed that an important function of regular passivization is “externalization” of the internal argument of the active verb. Section 3.2.1.1, sub IV, has already shown that this cannot be correct; the obligatoriness of the ^ocomplementives *van de tafel af* ‘from the table’ and *kapot* ‘broken’ in the primeless examples in (73) shows that the accusative noun phrases are SUBJECTs (external arguments) of these phrases, and not internal arguments of the verb *vegen*.

- (73) a. Jan veegde de kruimels *(van de tafel af).
 Jan wiped the crumbs from the table AF
- a'. De kruimels werden (door Jan) van de tafel af geveegd.
 the crumbs were by Jan from the table AF wiped
- b. Jan veegde de bezem *(kapot).
 Jan brushed the broom broken
- b'. De bezem werd (door Jan) kapot geveegd.
 the broom was by Jan broken brushed

Section 3.2.1.1, sub IV, concluded from this that, in contrast to the active verb, the passive participle is unable to assign °accusative case to the noun phrase *de kruimels/de bezem*, which must therefore be promoted to subject in order to receive nominative case. That we are not dealing with externalization of the internal argument is also clear from the fact that arguments that are not assigned accusative case but surface in the form of a PP cannot be promoted to subject; intransitive PO-verbs only give rise to impersonal passivization; see Subsection IVB.

- (74) a. Wij spraken lang over die jongen/hem.
 we talked a.long.time about that boy/him
 'We talked about that boy/him for a long time.'
- b. Er werd (door ons) lang over die jongen/hem gesproken.
 there was by us long about that boy/him talked
- b'. *Die jongen/Hij werd (door ons) lang over gesproken.
 that boy/he was by us a.long.time about talked

The (a)-examples in (75) show the same thing for complement clauses. Note in passing that the °expletive *er* in (75a') does not have the syntactic function of subject, that is, it is not an °anticipatory pronoun introducing the embedded clause. This function is restricted to the pronoun *het* in the (b)-examples. The passive examples in (75) thus differ in that the passive construction in (75a') is an impersonal passive, whereas the one in (75b') is a regular passive.

- (75) a. Jan zei dat het boek gestolen was.
 Jan said that the book stolen was
 'Jan said that the book was stolen.'
- a'. Er werd (door Jan) gezegd dat het boek gestolen was.
 there was by Jan said that the book stolen was
- b. Jan zei het dat het boek gestolen was.
 Jan said it that the book stolen was
 'Jan said it that the book was stolen.'
- b'. Het werd (door Jan) gezegd dat het boek gestolen was.
 it was by Jan said that the book stolen was

B. Placement of the derived subject (nominative-dative inversion)

In English, the derived subject is not only assigned nominative case but also obligatorily placed in the regular subject position of the clause. The latter does not hold for Dutch: the derived subject may remain in its original position, that is, the position normally occupied by the direct object of the active verb. This can readily

be demonstrated by means of the passive counterparts of the active ditransitive construction in (76a); the derived object may either follow or precede the indirect object, an option that is not available to the subject of active constructions (like *Jan* in (76a)).

- (76) a. dat Jan de kinderen_{dat} dat mooie boek_{acc} aangeboden heeft.
that Jan the children that beautiful book prt.-offered has
'that Jan offered the children that beautiful book.'
- b. dat de kinderen_{dat} dat mooie boek_{nom} aangeboden werd.
that the children that beautiful book prt.-offered was
- b'. dat dat mooie boek_{nom} de kinderen_{dat} aangeboden werd.
that that beautiful book the children prt.-offered was

The difference between the two (b)-examples in (76) is related to the information structure of the clause: if the derived subject surfaces in its original position, as in (76b), it typically belongs to the °focus ("new" information) of the clause, whereas it is presented as part of the °presupposition ("old" information) of the clause if it is placed in the canonical subject position, as in (76b'). That this is the case is supported by the distribution of (non-specific) indefinite noun phrases like *een mooi boek* 'a beautiful book', which typically belong to the focus, and referential personal pronouns like *het* 'it', which typically belong to the presupposition of the clause; the examples in (77) show that the former normally follow and the latter precede the indirect object.

- (77) a. dat de kinderen een mooi boek/*het aangeboden werd.
that the children a beautiful book/it prt.-offered was
'that a beautiful book was offered to the children.'
- b. dat het/*een mooi boek de kinderen aangeboden werd.
that it/a beautiful book the children prt.-offered was
'that it was offered to the children.'

The examples in (76) and (77) show that the placement of the derived subject into the regular subject position is subject to conditions similar to °scrambling of nominal objects; cf. Section N8.1.3. This is not really surprising given that the placement of subjects of active clauses is also subject to similar conditions. This is illustrated in example (78a), in which the position of the adverbial phrase *gisteren* 'yesterday' shows that the subject does not have to occupy the canonical subject position right-adjacent to the complementizer. The (b)- and (c)-examples show that the information structure of the clause is also involved in this case. Note in passing that the presence of *er* in (78b) depends on whether *gisteren* 'yesterday' is presented as part of the focus or the presupposition of the clause; cf. N8.1.4. Note further that we assume a more or less neutral intonation pattern; example (78b') becomes acceptable if the noun phrase *een student* is assigned contrastive focus.

- (78) a. dat <die student> gisteren <die student> weer belde.
 that that student yesterday again phoned
 b. dat (er) gisteren een student belde.
 that there yesterday a student phoned
 b'. ??dat een student gisteren belde.
 c. dat <hij> gisteren <*hij> belde.
 that he yesterday phoned

For completeness' sake, it can further be observed that in some cases the derived subject can never be placed in the regular subject position. This holds for passive counterparts of idiomatic expressions like (79a&b), in which the obligatory presence of the expletive *er* 'there' suggests that the derived subject is not in the canonical subject position. The reason for this is probably that the derived subject is not referential, and therefore cannot be part of the presupposition of the clause.

- (79) a. dat Jan een stokje voor dat plan stak.
 that Jan a stick in.front.of that plan put
 'Jan forestalled that plan.'
 a'. dat ??(er) een stokje voor dat plan gestoken werd.
 that there a stick in.front.of that plan put was
 b. dat Peter de draak_{acc} met Els stak.
 that Peter the dragon with Els stabbed
 'Peter always made fun of Els.'
 b'. dat ?(er) de draak_{nom} met Els werd gestoken.
 that there the dragon with Els was stabbed

C. Grammatical function of the promoted object in the active clause

The derived subject in regular passives normally corresponds to the accusative phrase in the corresponding active clause. In some cases, however, it seems that °dative phrases can also be promoted to subject in the regular passive.

1. Transitive, ditransitive and intransitive PO-verbs

English and Dutch differ with respect to the original grammatical function of the object that is promoted to subject in passive constructions. This does not, of course, hold for regular passives of transitive clauses, given that the direct object is the only available one in such cases.

- (80) a. Marie_{nom} slaat haar_{acc}.
 Marie beats her
 b. Zij_{nom} wordt/is (door Marie) geslagen.
 she is/have.been by Marie beaten
 'She is/has been beaten (by Marie).'

English and Dutch do differ, however, if the verb is ditransitive. In English, the derived subject may correspond to either the direct or the indirect object, depending on whether the indirect object is realized as a noun phrase or a PP. In Dutch, on the other hand, it is normally the direct object that is promoted to subject, as is shown in the examples in (81).

- (81) a. Ik bood de boeken aan Jan aan. [prepositional indirect object]
 I offered the books to Jan prt.
 a'. De boeken werden aan Jan aangeboden.
 the books were to Jan prt.-offered
 'The books were offered to Jan.'
- b. Ik bood Jan/hem de boeken aan. [dative indirect object]
 I offered Jan/him the books prt.
 b'. De boeken werden Jan/hem aangeboden.
 the books were Jan/him prt.-offered
- b''. *Jan/Hij werd de boeken aangeboden.
 Jan/he was the books prt.-offered

The promoted objects in (80) and (81) are internal arguments of the verbs. Recall from Subsection A, however, that externalization of internal arguments is not the core property of passivization given that intransitive PO-verbs or verbs selecting a clause only give rise to impersonal passivization. It is therefore not the thematic but the case assignment relation between the verb and its objects that is relevant.

2. Ditransitive verbs with a clausal direct object

Although regular passivization normally involves promotion of the accusative noun phrase to subject, there seem to be some, at least marginally acceptable, cases that involve the promotion of an indirect object to subject. This is, for instance, the case with object °control verbs like *verzoeken* 'to request' in (82). Besides the expected impersonal passive construction in (82b), the construction in (82c) is regularly produced. Other object control verbs that seem to allow promotion of the indirect object are *aanraden* 'to recommend', *beletten* 'to prevent', *verbieden* 'to prohibit', *verwijten* 'to blame' and *vragen* 'to ask'.

- (82) a. Peter_{nom} verzocht de studenten/hun [PRO het terrein te verlaten].
 Peter requested the students/them the premises to leave
 'Peter asked the students to leave.'
- b. Er werd de studenten/hun verzocht het terrein te verlaten.
 there was the students/them requested the premises to leave
- c. °De studenten/zij werden verzocht het terrein te verlaten.
 the students/they were requested the premises to leave

The judgments of our informants do not really change if the complement clause in (82) is replaced by a PP-complement; see also Section 2.3.3, sub IID, where it is shown that PO-verbs with a dative object exhibit this behavior in general.

- (83) a. Peter heeft zijn schuldeisers/hun om uitstel van betaling verzocht.
 Peter has his creditors/them for suspension of payment requested
 'Peter has asked his creditors/them for suspension of payment.'
- b. Er is zijn schuldeisers/hun om uitstel van betaling verzocht.
 there is his creditors/them for suspension of payment requested
- c. °Zijn schuldeisers/Zij worden om uitstel van betaling verzocht.
 his creditors/they are for suspension of payment requested

However, if the complement clause in (82) is replaced by a pronominal noun phrase, promotion of the indirect object leads to a severely degraded result. This suggests that promotion of the indirect object is only possible if no accusative noun phrase is present.

- (84) a. Peter heeft de studenten/hun dat verzocht.
Peter has the students/them that requested
'Peter has asked that of the students/them.'
- b. Dat is de studenten/hun verzocht.
that is the students/them requested
- c. *De studenten/Zij zijn dat verzocht.
the students/they are that requested

It is tempting to speculate that the acceptability of the (c)-examples in (82) and (83) is the result of a reanalysis process that started with an incorrect analysis of examples such as (85); since the object and the subject form of the politeness pronoun are identical, this may have led to misinterpretation of *u* 'you' as a subject pronoun.

- (85) U wordt verzocht [PRO de rekening zo spoedig mogelijk te voldoen].
you are requested the bill as soon as possible to pay
'You are requested to pay the bill as soon as possible.'

It has also been suggested that the acceptability of the (c)-examples in (82) and (83) is due to the fact that the verb *verzoeken* 'to request' has a meaning akin to that of the transitive PO-verb *uitnodigen* (*tot*) 'to invite'; see *Onze Taal* (www.onzetaal.nl/advies/reizigers.php). It is highly unlikely, however, that *verzoeken* is a transitive PO-verb if it selects a complement clause, as in (82), given that example (84) has already shown that the pronominalized form of the complement clause is a pronoun and not a pronominal PP; this shows unequivocally that we are dealing in (82) with a regular ditransitive verb and not with a PO-verb.

3. Ditransitive verbs like *voeren* 'to feed' and *betalen* 'to pay'

The generalization that promotion to subject of the indirect object is (only) possible if no accusative noun phrase is present may also shed light on the exceptional behavior of verbs like *voeren* 'to feed', *betalen* 'to pay', *vergeven* 'to forgive' and *voorlezen* 'to read aloud to'. Consider the examples in (86). Example (86a) shows that the verb *voeren* can be used as a ditransitive verb, and the singular inflection on the auxiliary in (86a') shows that its passive counterpart involves promotion to subject of the accusative phrase *brood*. The verb *voeren* is somewhat special, however, in that it has a cognate direct object that can be left implicit, as shown in example (86b); in this case the indirect object can, or actually must, be promoted to subject.

- (86) a. Jan voerde de eendjes_{dat} brood_{acc}.
Jan fed the ducks bread
- a'. Er werd/*werden de eendjes_{dat} brood_{nom} gevoerd.
there was/were the ducks bread fed

- b. Jan voerde de eendjes_{dat/acc?}.
 Jan fed the ducks
- b'. De eendjes_{nom} werden/werd gevoerd.
 the ducks were/was fed

Example (87) provides similar examples for the verb *betalen* 'to pay'; in the (a)-examples the verb is ditransitive and it is the direct object *een hoog loon* rather than the indirect object *de werknemers* that must be promoted to subject; in the (b)-examples the direct object is omitted and now it is the noun phrase *de werknemers* that must be promoted to subject; cf. Van den Toorn (1971).

- (87) a. Els betaalt de werknemers_{dat} een hoog loon_{acc}.
 Els pays the employees a high salary
- a'. Er wordt/*worden de werknemers_{dat} een hoog loon_{nom} betaald.
 there is/are the employees a high salary paid
- b. Els betaalde de werknemers_{dat/acc?} niet op tijd.
 Els paid the employees not in time
- b'. De werknemers_{nom} werden/*werd niet op tijd betaald.
 the workers were/was not in time paid

If one does not want to appeal to the idea that promotion of the indirect object is possible if no accusative noun phrase is present, one would be forced to assume that the objects *de eendjes* and *de werknemers* have different grammatical functions in the (a)- and (b)-examples, namely that of indirect and direct object, respectively. Such a view might be undesirable given that these objects have a similar semantic role in all cases, namely that of recipient, but we cannot rule out this possibility beforehand.

4. Verbs corresponding to German verbs with a dative complement

Another reason for accepting the generalization that promotion of the indirect object is possible if no accusative noun phrase is present comes from verbs like *assisteren* 'to assist', *gehoorzamen* 'to obey', *helpen* 'to help', *huldigen* 'to honor', and *volgen* 'to follow'. The primed examples in (88) show that these verbs all allow personal passivization in Dutch, even though the Standard German counterparts of these verbs take a dative object; see Drosdowski (1995:608-9) for an extensive list of such verbs. One might, of course, assume that the syntactic function of the objects in the Dutch examples simply differs from those in the corresponding German constructions, but then we would have to conclude that the assignment of syntactic functions may differ considerably even among closely related languages.

- (88) a. De jongens gehoorzaamden de agent.
 the boys obeyed the policeman
- a'. De agent werd (door de jongens) gehoorzaamd.
 the policeman was by the boys obeyed
- b. Jan helpt mijn vader.
 Jan helps my father
- b'. Mijn vader wordt (door Jan) geholpen.
 my father is by Jan helped

For completeness' sake, note that a special problem is constituted by the verb *danken* in (89a), which also takes a dative object in German. In Dutch, this verb resists both impersonal and personal passivization. Perhaps the unacceptability of the constructions in (89b&c) is due to the fact that *danken* is somewhat formal. The more usual form is *bedanken* (which clearly takes an accusative object in Dutch).

- (89) a. Ik dank hem voor zijn hulp.
I thank him for his help
b. *Er werd hem gedankt voor zijn hulp.
there was him thanked for his help
c. *Hij werd gedankt voor zijn hulp.
he was thanked for his help

5. Idiomatic ditransitive constructions

Promotion of the indirect object is sometimes also accepted with some more or less fixed expressions that include a direct object. Consider example (90a) with the collocation *iemand slagen toebrengen* 'to beat someone'. The expected passive form of this example is given in (90b), in which the direct object *enkele slagen* functions as the subject of the passive construction, as is clear from the fact that it agrees in number with the auxiliary verb *worden*. However, if the noun phrase *de jongen* is placed in clause-initial position, many speakers also accept singular agreement on the auxiliary, which suggests that this noun phrase is promoted to subject.

- (90) a. De agent bracht de jongen/hem_{dat} enkele slagen_{acc} toe.
the policeman gave the boy/him several blows prt.
'The police officer gave the boy/him some blows.'
b. Er werden/*[?]werd de jongen/hem_{dat} enkele slagen_{nom} toegebracht.
there were/was the boy/hem several blows prt.-given
c. De jongen werden/*[?]werd enkele slagen toegebracht.
the boy were/was several blows prt.-given

It should be noted, though, that speakers who allow (90c) with singular agreement on the verb do *not* allow replacement of *de jongen* by the subject pronoun *hij*, which might indicate that promotion of the indirect object is actually ungrammatical, and that the acceptance (and production) of singular agreement is a reflex of some parsing error; sentence-initial *de jongen* can of course be replaced by the object pronoun *hem* but then the verb must exhibit plural agreement, just as in (90b).

Actually, many speakers are very uncertain about their judgments on the passive counterparts of collocations like *iemand slagen toebrengen*. The same thing holds for collocations like *iemand de stuipen op het lijf jagen* 'to give someone a scare' in (91), which seems to involve a possessive dative.

- (91) a. De agent joeg de jongen de stuipen op het lijf.
the police officer gave the boy the spasms on the body
'The police officer gave the boy a scare.'
b. De jongen werd/*[?]werden de stuipen op het lijf gejaagd.
the boy was/were the spasms on the body given

Examples of this type may be of a somewhat different nature, however, given that there are attested examples such as (92b). This example was found in two different contexts in two different newspapers, where the verb is singular and thus agrees neither with the possessor nor with the direct object *de stuipen*. The passive (b)-examples in (91) and (92) thus suggest that some speakers no longer construe the noun phrase *de stuipen* as a direct object but as part of a phrasal verb (cf. Schermer-Vermeer 1991:261-2) and that we are dealing with impersonal passives.

- (92) a. De Fed joeg beleggers/hun de stuipen op het lijf.
 the Fed caused.to.have investors/them the spasms on the body
 ‘The Fed gave investors/them a scare.’
 b. Beleggers/hun werd de stuipen op het lijf gejaagd door ...
 investors/them was the spasms on the body given by ...

We tested this by means of a Google search (1/27/2014) on the singular search strings [*wordt/werd de stuipen op het lijf gejaagd*] ‘is/was given a scare’, which resulted in 59 hits: we checked these manually and found 12 cases such as (92b) with a plural noun phrase and one case with the plural object pronoun *ons* ‘us’. This seems consistent with an impersonal passive analysis. For completeness’ sake, we also performed a Google search on the plural search string [*worden/werden de stuipen op het lijf gejaagd*] ‘are/were given a scare’. These resulted in 76 hits, but a manual check revealed that in *virtually all* cases the noun phrase preceding the finite verb *worden/werden* was plural as well. This fact suggests that such examples should be analyzed not as regular passives with the noun phrase *de stuipen* as subject, but as passives in which the dative possessor is promoted to subject. We will not digress on this surprising conclusion, which is also supported by the fact noted in (92b) that plural agreement is marked if the noun phrase preceding the finite verb is singular, and leave it to future research to investigate it in more detail.

6. Conclusion

The discussion in the previous subsections has shown that subjects of regular passives normally correspond to accusative objects in active constructions. It also seems possible, however, to promote an indirect object to subject provided that no accusative noun phrase is available, e.g., if the direct object is a clausal complement or if it is omitted. The fact that many verbs related to German verbs with a dative complement allow regular passivization in Dutch also suggests that promotion of indirect objects is possible. Perhaps idiomatic ditransitive verbal expressions like *iemand slagen toebrengen* ‘to beat someone’ or *iemand de stuipen op het lijf jagen* ‘to give someone a scare’ may be used to show the same thing, but the evidence is much weaker because the judgments on the relevant passive examples are less clear and other factors may interfere.

III. Meaning differences between active and passive sentences

Although the semantic relation between verbs and their internal arguments is basically the same in active and passive constructions, the following subsections will show that passivization may give rise to changes in interpretation. Sometimes

this change of interpretation is also dependent on the actual position of the derived subject in the clause.

A. The interpretation of subject-oriented adverbs

The interpretation of certain adverbs is sensitive to grammatical function and thus sensitive to passivization; the adverb *graag* in (93) is related to the agent in the active sentence in (93a), but to the theme in the passive construction in (93b).

- (93) a. Jan_{nom} licht Marie_{acc} graag in.
 Jan informs Marie gladly prt.
 'Jan likes to inform Marie.'
- b. Marie_{nom} wordt graag door Jan ingelicht.
 Marie is gladly by Jan prt.-informed
 'Marie likes to get informed by Jan.'

B. Binding

The examples in (94) illustrate that passivization may affect the °binding possibilities of pronouns. The possessive pronoun *haar* 'her' in the active example in (94a) can be construed either as coreferential with *Marie* or as referring to some other person previously mentioned in the discourse, e.g., *Els*. In the passive sentence in (94b), on the other hand, the possessive pronoun is preferably interpreted as referring to some previously mentioned person, e.g., *Els*.

- (94) a. Marie_{nom} kust haar verloofde_{acc}.
 Marie kisses her fiancé
- b. Haar verloofde_{nom} wordt door Marie gekust.
 her fiancé is by Marie kissed
 'Her fiancé is being kissed by Marie.'

More or less the same thing is shown by the examples in (95a&b): whereas the reciprocal pronoun *elkaar* 'each other' can be licitly bound by the indirect object in (95a), this is not possible in (95b). The example in (95c) shows, however, that this depends not only on passivization but also on word order; if the subject is not moved into the canonical subject position but stays in its underlying position following the indirect object, binding by the indirect object remains possible.

- (95) a. dat ik de meisjes elkaars werk toonde.
 that I the girls each other's work showed
- b. ?dat elkaars werk de meisjes getoond werd.
 that each other's work the girls shown was
- c. dat de meisjes elkaars werk getoond werd.
 that the girls each other's work shown was

The examples in (96) also show that it is a combination of passivization and word order that determines the interpretation of the sentence. In the active sentence in (96a), the possessive pronoun *zijn* 'his' can be interpreted as bound by the quantifier *iedereen* 'everyone' or it can refer to some entity previously mentioned in the discourse. The former interpretation gives rise to the so-called BOUND VARIABLE reading, in which the pronoun functions as a variable in the semantic

representation of the sentence: $\forall x$ (x kissed x's brother). The latter interpretation will be called the INDEPENDENT reading given that the pronoun functions as a referential expression in the semantic representation: $\forall x$ (x kissed his_(=Jan) brother). The passive sentence in (96b) does not allow a bound variable reading of the pronoun, which can thus only be interpreted as referring to some previously mentioned person: $\forall x$ (his_(=Jan) brother was kissed by x). But again, word order seems to play a role; if the subject is not moved into the canonical subject position but stays in its underlying position following the *door*-phrase, as in (96c), the bound variable reading of the pronoun is easier to get (although it is not fully felicitous due to the fact that the quantifier is the complement of a PP and that pronominal binding from such a position is somewhat marginal in general).

- (96) a. dat iedereen_{nom} zijn broer_{acc} kuste. [bound/independent reading]
 that everybody his brother kissed
 b. dat zijn broer_{nom} door iedereen gekust werd. [independent reading only]
 that his brother by everybody kissed was
 c. dat door iedereen zijn broer_{nom} gekust werd. [independent/bound reading]
 that by everybody his brother kissed was

The examples in (94) and (96) have shown that binding is blocked by passivization if the derived subject moves into the canonical subject position. Binding can, however, also be affected by passivization. Example (97a) shows that a possessive pronoun embedded in a subject cannot be bound by the direct object: this example can only be construed with an independent reading of the pronoun *zijn*. In the corresponding passive construction in (97b), on the other hand, both the independent and the bound variable reading are available. Observe, however, that the derived subject must be moved into the canonical subject position in order to make the bound reading available: example (97c) only licenses the independent reading of the pronoun.

- (97) a. dat zijn broer iedereen uitnodigde. [independent reading only]
 that his brother everyone invited
 b. dat iedereen door zijn broer uitgenodigd werd. [independent/bound reading]
 that everyone by his brother invited was
 c. dat door zijn broer iedereen uitgenodigd werd. [independent reading only]
 that by his brother everyone invited was

C. Scope

Passivization may affect the relative scope of quantified phrases. Consider the examples in (98). In (98a) the universal quantifier *iedereen* has scope over the indefinite noun phrase *twee talen*, that is, the languages spoken may differ from person to person. In the passive construction in (98b), on the other hand, the scope relations are reversed, that is, the sentence expresses that there are two languages that are spoken by all persons under discussion. This reversal of scope requires that the derived subject be moved into the regular subject position: example (98c), in which the derived subject remains in its base-position, has the same scope relation as (98a).

- (98) a. Iedereen spreekt twee talen. [∀ > ∃]
 everybody speaks two languages
 b. Twee talen worden door iedereen gesproken. [∃ > ∀]
 two languages are by everybody spoken
 c. Er worden door iedereen twee talen gesproken. [∀ > ∃]
 there are by everybody two languages spoken

IV. Special cases of the regular passive

This subsection briefly discusses a number of more special cases of passivization. We start with a discussion of passivization of clauses with a modal verb, which is followed by some brief remarks on passivization of intransitive PO-verbs. We conclude with a discussion of causative and perception verbs in °AcI-constructions.

A. Constructions with modal verbs

If an active clause contains a modal verb, passivization is normally possible. The modal verb remains the finite verb of the clause and the passive auxiliary is realized as an infinitive, but seems to be optional.

- (99) a. Jan moet de muur schilderen.
 Jan must the wall paint
 ‘Jan must paint the wall.’
 b. De muur moet geschilderd (worden).
 the wall must painted be
 ‘The wall must be painted.’

Examples such as (99b) without the auxiliary are often assumed to involve an empty counterpart of the passive auxiliary. There is, however, reason for assuming that such an analysis is on the wrong track. Given that passive constructions can normally contain an agentive *door*-phrase, the postulation of an empty passive auxiliary would wrongly predict that this °adjunct phrase can also appear in examples such as (100) if *worden* is not present.

- (100) De muur moet door Jan geschilderd *(worden).
 the wall must by Jan painted be
 ‘The wall must be painted by Jan.’

Example (100) therefore suggests that the participle in the construction without *worden* is not a passive participle but a predicatively used adjective; cf. *De muur moet geel* ‘the wall must be made yellow’. That we are dealing with an adjectival participle can perhaps also be supported by the examples in (101); whereas the unequivocal verbal participle in (101a) can either precede or follow the verbs in clause-final position, the participle in (101b) prefers the preverbal position, which is a hallmark for non-verbal status.

- (101) a. dat de muur <geschilderd> moet worden <geschilderd>.
 that the wall painted must be
 b. dat de muur <geschilderd> moet <^{??}geschilderd>.
 that the wall painted must

More support for assuming that the participle functions as a predicatively used adjective when *worden* is not present is that it seems possible to coordinate it with other predicatively used phrases like the PP *in de lak* in (102).

- (102) dat deze deur [[geschuurd] en [in de lak]] moet.
 that this door sanded and in the lacquer must
 ‘that this door must be sanded and be lacquered.’

Constructions in which modal verbs take an adjective as their complement are more extensively discussed in Section A6.2.5.2.

B. Intransitive PO-verbs

Passivization of intransitive PO-verbs like *rekenen op* ‘to count on’ in (103a) always involves the impersonal passive in (103b); passive constructions such as (103c), in which the complement of a preposition is promoted to subject, are unacceptable (but see the discussion of (105) below).

- (103) a. Jan rekt op zijn vader.
 Jan counts on his father
 b. Er werd op zijn vader gerekend.
 there was on his father counted
 c. *Zijn vader werd op gerekend.
 his father was on counted

Quirk et al. (1985: Section 3.69) and Huddleston & Pullum (2002:1433) show that English often allows passivization of the sort in (103c). It is tempting to relate this to the fact that English does not allow impersonal passives; English passivization of the sort in the primed examples in (104) could then receive a functional explanation by assuming that it compensates for the unavailability of impersonal passivization.

- (104) a. My mother approved of the plan.
 a'. The plan was approved of by my mother.
 b. Someone has slept in this bed.
 b'. The bed has been slept in.

Some Dutch speakers accept the string in (103c). This does not mean, however, that these speakers (marginally) allow promotion to subject of the complement of a preposition. They instead interpret example (103c) as a case of °left dislocation; the structure is as given in (105) with the pronominal part of the PP *daar ... op* ‘on him’ omitted. That the noun phrase *zijn vader* in (105a) is not a subject is clear from at least two facts. First, example (105b) shows that replacing this noun phrase by a subject pronoun severely degrades the result. Second, given that left dislocation only occurs in main clauses, the unacceptability of (105c) shows that we correctly predict that the surface string *Zijn vader werd op gerekend* in (105a) does not have an embedded counterpart.

- (105) a. %Zijn vader, ~~daar~~ werd op gerekend.
 his father there was on counted
 b. *Hij werd op gerekend.
 he was on counted
 c. *dat zijn vader gisteren op werd gerekend.
 that his father yesterday on was counted

That the noun phrase in sentence-initial position does not function as a subject in such examples is also clear from the fact that this noun phrase does not agree in number with the finite verb; cf. Klooster (2001:324). For all Dutch speakers example (106b') is unacceptable both with and without the pronominal part of the PP; this contrasts sharply with the following English example from Huddleston & Pullum: *These problems weren't faced up to by the committee.*

- (106) a. Jan rekt op zijn ouders.
 Jan counts on his parents
 b. Zijn ouders %(daar) werd op gerekend.
 his parents there was on counted
 b'. *Zijn ouders (daar) werden op gerekend.
 his parents there were on counted

C. *AcI-constructions*

Section 3.2.1.1, sub IV, has shown that accusative noun phrases can be promoted to subject in the regular passive, regardless of whether they are internal arguments of the passivized verbs or not. There are, however, specific additional restrictions on the accusative noun phrase. First consider example (107). The accusative noun phrase *de vaas* is not an argument of the verb *slaan* 'to hit' but of the predicative adjective *kapot* 'broken'. However, since the verb is responsible for case assignment to this noun phrase, passivization results in its promotion to subject.

- (107) a. Jan slaat de vaas kapot.
 Jan hits the vase broken
 b. De vaas wordt kapot geslagen.
 the vase is broken hit

Given this analysis of (107b), we would expect something similar to happen if we passivize the causative/missive verb *laten* 'to make/let' in (108a); since *laten* is generally taken to assign \circ accusative case to the external argument of the verb *dansen*, we expect the latter to appear as the nominative subject of the clause after passivization. Example (108a') shows, however, that regular passivization is impossible. The (b)-examples in (108) provide similar examples with the perception verb *horen*.

- (108) a. Marie liet hem_{acc} dansen.
 Marie make/let him dance
 'Marie made him dance.'
 a'. *Hij_{nom} werd laten/gelaten dansen.
 he was let_{inf}/let_{part} dance

- b. Els hoorde hen_{acc} een liedje zingen.
 Els heard them a song sing
 'Els heard them sing a song.'
- b'. *Zij_{nom} werden een liedje horen/gehoord zingen.
 they were a song hear/heard sing

It is not immediately clear what the unacceptability of the primed examples shows. For example, it might be that the problem is situated in the assumption that the verb assigns accusative case to the subject of the infinitival clause. However, if this assumption were wrong and this argument were assigned case by some other means, we would expect impersonal passivization to be possible, but the examples in (109) show that impersonal passivization is impossible as well.

- (109) a. *Er werd hem laten/gelaten dansen.
 there was him let_{inf}/let_{part} dance
- b. *Er werd een liedje horen/gehoord zingen.
 there was a song hear/heard sing

This means that some independent reason must be found for the impossibility of passivization. The constructions with the participles *gelaten* and *gehoord* might be excluded by the fact that they are part of the °verbal complex; as in the perfect-tense constructions in (110), the verb is expected to surface as an infinitive (the so-called °*infinitivus-pro-participio* effect).

- (110) a. Marie heeft hem_{acc} laten/*gelaten dansen.
 Marie has him let_{inf}/let_{part} dance
 'Marie has made him dance.'
- b. Els heeft hen_{acc} een liedje horen/*gehoord zingen.
 Els has them a song hear/heard sing
 'Els has heard them sing a song.'

Evidence in favor of this claim is that German, which does allow participles in such verb sequences, also allows passivization of the sort in the primed examples in (108); cf. Reis (1976) and Rutten (1991:121).

- (111) a. dass die Kinder schlafen gelassen wurden.
 that the children sleep let_{part} were
- b. dass das Buch liegen gelassen wurde.
 that the book lie let_{part} was

This leaves us with the constructions with the infinitival forms *laten* and *horen*; the impossibility of these constructions might be accounted for by appealing to the hypothesis discussed in Section 3.2.1.1, sub I/II, that passive morphology is needed in order to demote the external argument of the verb or to absorb case; see Bennis & Hoekstra (1989b).

D. *The geacht worden-construction*

The examples in (112) in a sense pose the opposite problem. The primeless examples in (112) seem to be cases in which the subject of the infinitival clause is promoted to subject of the °matrix clause. However, the expected active

counterparts of these constructions in the primed examples are unacceptable; see Section 5.2.2.2, sub III, for a more detailed discussion of this construction.

- (112) a. Ik_i word geacht [t_i dat te weten].
 I am supposed that to know
 'I'm supposed to know that.'
- a'. *Mijn collega's achten [mij_{acc} dat te weten].
 my colleagues suppose me that to know
- b. Zij_i worden verondersteld [t_i te kunnen zwemmen].
 they are supposed to be able to swim
 'They're supposed to be able to swim.'
- b'. *Wij veronderstellen [hen_{acc} te kunnen zwemmen].
 we suppose them to be able to swim

The unacceptability of the primed examples would follow if the verbs *achten* and *veronderstellen* are not able to assign accusative case to the subject of the infinitival clause (which might be related to the fact that these verbs differ from the causative and perception verbs in that they do not trigger °verb clustering but °extraposition of the infinitival clause). If so, the primed examples can be used to support the claim that the core property of passivization is the demotion of the external argument of the verb and not absorption of accusative case, as was argued in Section 3.2.1.1. For completeness' sake, we want to note that there is one exception to the rule that the active verb *achten* cannot assign accusative case to the subject of its infinitival complement: this involves the idiomatic expression in (113), in which *achten* alternates with the verb *menen*.

- (113) Elk acht/meent [zijn uil_{acc} een valk te zijn].
 each supposes/supposes his owl a falcon to be
 'Everyone believes his [...] to be better than it actually is.'

3.2.1.4. The krijgen-passive

This section discusses a second type of personal passive construction, the so-called *KRIJGEN-PASSIVE*. The name of this passive construction is due to the fact that it involves the auxiliary *krijgen* 'to get' instead of *worden/zijn*. It is further characterized by the fact that it is not the direct object that is promoted to subject but the indirect object. Example (114) provides some examples of this construction.

- (114) a. Marie_{Subject} biedt hun_{IO} het boek_{DO} aan.
 Marie offers them the book prt.
- a'. Zij_{Subject} krijgen het boek_{DO} aangeboden.
 they get the book prt.-offered
 'They are offered the book.'
- b. Jan_{Subject} schonk hem_{IO} een glas bier_{DO} in.
 Jan poured him a glass beer prt.
 'Jan gave (poured) him a glass of beer.'
- b'. Hij_{Subject} kreeg (door Jan) een glas bier_{DO} ingeschonken.
 he got by Jan a glass beer prt.-poured
 'He was given (poured) a glass of beer.'

In the literature the *krijgen*-passive is also called the semi-passive. The reason for this is that it is often claimed that the *krijgen*-passive is not a syntactic but a lexical rule because it is idiosyncratically constrained in several respects. The prototypical ditransitive verb *geven* 'to give', for example, can undergo regular passivization but not *krijgen*-passivization. For completeness' sake, note that derived indefinite subjects like *een cadeautje* 'a present' in (115b) normally remain in their original base position and need not be moved into the regular subject position right-adjacent to the finite verb in second position.

- (115) a. Jan_{Subject} geeft de kinderen_{dat} een cadeautje_{DO}.
 Jan gives the children a present
- b. Er werd de kinderen_{IO} een cadeautje_{Subject} gegeven.
 there was the children a present given
- b'. *De kinderen_{Subject} kregen een cadeautje_{DO} gegeven.
 the children got a present given

Section 3.2.1.3 has shown, however, that regular passivization is also subject to various kinds of idiosyncratic constraints, so that it is not at all clear whether the difference in grammaticality between the two (b)-examples in (115) can be used to support the presumed difference in status between the two types of passivization.

This section is organized as follows. Subsection I discusses the verb types that can undergo *krijgen*-passivization and shows that, contrary to what is sometimes assumed in the literature, the *krijgen*-passive is fairly productive; for this reason, we will assume that *krijgen*-passivization is a syntactic rule. Subsection II discusses the role of the passive auxiliary *krijgen*. Subsection III concludes with a brief discussion of the °adjunct-PP expressing the demoted subject of the corresponding active construction.

1. The verb

Krijgen-passivization is less common than regular passivization. In our view, the reason for this is *not* that this process is idiosyncratically constrained but simply that the set of verbs that are eligible to this process is a relatively small subset of the verbs that are eligible for regular passivization. While regular passivization is possible with intransitive, transitive and ditransitive verbs, *krijgen*-passivization requires the presence of an indirect object and is thus possible with ditransitive verbs only.

- (116) a. Er werd (door de jongens) gelachen. [regular passive]
 there was by the boys laughed
 (unavailable in English)
- b. De hond_{Theme} werd (door de jongens) geknuffeld. [regular passive]
 the dog was by the boys cuddled
 'The dog was cuddled (by the boys).'
- c. De prijs_{Theme} werd de meisjes_{goal} (door Jan) overhandigd. [regular passive]
 the reward was the girls by Jan prt.-handed
 'The reward was handed to the girls (by Jan).'
- c'. De meisjes_{goal} kregen de prijs_{Theme} (door Jan) overhandigd. [*krijgen*-passive]
 the girls got the reward by Jan prt.-handed
 'The girls were handed the reward (by Jan).'

All in all, it seems that the majority of ditransitive verbs with a recipient/goal argument can undergo *krijgen*-passivization. Example (119) provides a small sample of such verbs; see Van Leeuwen (2006: Table 2) for a more extensive list of verbs based on extensive corpus research.

- (119) • Ditransitive verbs with a goal object allowing *krijgen*-passivization
- a. Transmission verbs: *aanbieden* ‘to offer’, *aanreiken* ‘to hand’, *betalen* ‘to pay’, *bezorgen* ‘to deliver’, *doneren* ‘to donate’, *nabrengen* ‘to deliver subsequently’, *opdragen* ‘to dedicate’, *opleggen* ‘to impose’, *opspelden* ‘to pin on’, *overdragen* ‘to hand over’, *overhandigen* ‘to pass over’, *presenteren* ‘to present’, *retourneren* ‘to return’, *toedienen* ‘to administer’, *toekennen* ‘to assign’, *toemeten* ‘to allot’, *toestoppen* ‘to slip’, *toewijzen* ‘to assign’, *uitbetalen* ‘to pay out’, *uitreiken* ‘to hand’, *vergoeden* ‘to reimburse’, *voorschrijven* ‘to prescribe’, *voorzetten* ‘to serve’, etc.
 - b. Communication verbs: *bijbrengen* ‘to teach’, *meedelen* ‘to announce’, *onderwijzen* ‘to teach’, *toewensen* ‘to wish’, *uitleggen* ‘to explain’, *vertellen* ‘to tell’, *voorlezen* ‘to read aloud’

It should be noted, however, that the verbs in (119a) must denote actual transmission of the theme argument in order to be able to undergo *krijgen*-passivization. This will become clear from the examples in (120): (120a) implies actual transmission of the package to Marie, and *krijgen*-passivization is possible; example (120b), on the other hand, is idiomatic and does not imply transmission of *de rillingen*, and *krijgen*-passivization is excluded.

- (120) a. Jan bezorgde Marie/haar het pakje.
 Jan delivered Marie/her the package
 ‘Jan brought Marie the package.’
- a’. Marie/Zij kreeg het pakje bezorgd.
 Marie/she got the package delivered
 ‘Marie was brought the package.’
- b. De heks bezorgde Marie/haar de koude rillingen.
 the witch delivered Marie/her the cold shivers
 ‘The witch gave Marie the creeps.’
- b’. *Marie/Zij kreeg de koude rillingen bezorgd.
 Marie/she got the cold shivers delivered

Although the two lists in (119) show that *krijgen*-passivization is quite productive with ditransitive verbs with a recipient/goal argument, it is still true that a small subset of such verbs does not allow it. Example (121) provides a sample, which includes the proto-typical ditransitive verb *geven* ‘to give’.

- (121) • Ditransitive verbs with a goal object not allowing *krijgen*-passivization
- a. Transmission verbs: *geven* ‘to give’, *schenken* ‘to offer’, *sturen* ‘to send’, *verschaffen* ‘to provide’, *zenden* ‘to send’
 - b. Communication verbs: *schrijven* ‘to write’, *vertellen* ‘to tell/narrate’, *zeggen* ‘to say’

The first question that we want to raise is: Why is it precisely the prototypical ditransitive verb *geven* 'to give' that resists *krijgen*-passivization? When we compare *geven* to the verbs in (119a), we see that this verb is special in that it is neutral with respect to the *mode* of transmission; whereas all verbs in (119a) make to a certain extent explicit how the transmission is brought about, *geven* does not. As a result, the *krijgen*-passive in (122b) may be blocked by the simpler construction in (122c), which is also neutral with respect to the mode of transmission.

- (122) a. Jan geeft de kinderen_{goal} een cadeautje_{Theme}.
 Jan gives the children a present
 'Jan is giving the children a present.'
- b. *De kinderen_{goal} kregen een cadeautje_{Theme} gegeven.
 the children got a present given
- c. De kinderen kregen een cadeautje.
 the children got a present
 'The children were given/got a present.'

In this context, it is interesting to observe that adding meaning to the verb *geven* by combining it with a verbal particle improves the acceptability of examples such as (122b). Apparently, the particle adds sufficient information about the mode of transmission to license *krijgen*-passivization.

- (123) a. Marie gaf hem_{goal} het zout_{Theme} door/aan.
 Marie gave him the salt prt./prt.
 'Marie passed/handed him the salt.'
- b. Hij_{goal} kreeg het zout_{Theme} door[?]/aan gegeven.
 he got the salt prt./prt. given
 'He was handed the salt.'

Although this may be less conspicuous than in the case with *geven*, the other transmission verbs in (121a) also seem more or less neutral with respect to the mode of transmission. And, like *geven*, the verbs *sturen* 'to send' and *zenden* 'to send' do allow *krijgen*-passivization if a particle is added. This is shown for *sturen* in (124); see also Coleman (2006:264).

- (124) a. Els stuurde Marie_{goal} een mooie brief_{Theme} (toe).
 Els sent Marie a beautiful letter prt.
 'Els sent Marie a beautiful letter.'
- b. Marie_{goal} kreeg een mooie brief_{Theme} *(toe) gestuurd.
 Marie got a beautiful letter prt. sent
 'Marie was sent a beautiful letter.'

We therefore conclude that *krijgen*-passivization is fully productive with verbs of transmission and communication provided that they specify the mode of transmission.

B. Indirect object is the source

The examples in (125) show that *krijgen*-passivization contrasts sharply with regular passivization if the indirect object is a source, that is, the argument where

the transmitted theme originates. Whereas regular passivization is fully acceptable, *krijgen*-passivization gives rise to an unacceptable result (although it is possible in certain regional varieties of Dutch; see Broekhuis & Cornips 2012).

- (125) a. Jan pakte Marie/haar_{Source} het boek_{Theme} af.
 Jan took Marie/her het book prt.
 ‘Jan took the book from Marie.’
- b. *Marie/zij_{Source} kreeg het boek_{Theme} afgepakt. [krijgen-passive]
 Marie/she got the book prt.-taken
- c. Het boek_{Theme} werd Marie/haar_{Source} afgepakt. [regular passive]
 the book was Mare/her prt.-take
 ‘The book was taken from Marie.’

Colleman (2006:265) suggests that the impossibility of examples such as (125b) is due to the fact that the intended interpretation is incompatible with the meaning of the main verb *krijgen* ‘to receive’, and he suggests that this also accounts for the fact that verbs expressing a denial of transmission like *onthouden* ‘to withhold’, *ontzeggen* ‘to refuse’ and *weigeren* ‘to refuse’ resist *krijgen*-passivization as well; cf. (126b). Note that regular passivization is again acceptable.

- (126) a. Jan weigerde haar het boek.
 Jan refused her the book
 ‘Jan denied her the book.’
- b. *Zij kreeg het boek geweigerd. [krijgen-passive]
 she got the book refused
- c. Het boek werd haar geweigerd. [regular passive]
 the book was her refused
 ‘She was denied the book.’

It is not clear, however, whether Colleman’s claim can be fully maintained given that it is not hard to find examples with *weigeren/ontzeggen* ‘to refuse’ on the internet that are also accepted by our Standard Dutch informants; some adapted/simplified examples are given in (127).

- (127) a. dat hij een levensverzekering geweigerd kreeg.
 that he a life insurance refused got
 ‘that he was refused life insurance.’
- b. [een kliniek] waar een kankerpatiënt een abortus geweigerd kreeg
 a clinic where a cancer.patient an abortion refused got
 ‘[a clinic] where a cancer patient was refused an abortion’
- c. dat hij de toegang ontzegt kreeg.
 that he the entrance denied got
 ‘that he was denied entrance.’
- d. Zulke ouders mogen de voogdij ontzegt krijgen.
 such parents may the guardianship deprived got
 ‘Such parents may be deprived of guardianship.’

C. Indirect object is a benefactive

There is an extremely small set of verbs in Standard Dutch that take a benefactive indirect object. The prototypical example is *inschenken* ‘to pour in’ in (128a). As can be seen in (128a), this verb allows *krijgen*-passivization. The benefactive is normally optional in Dutch, although the verb *kwijtschelden* ‘to remit’ in (128b) seems to be an exception to this rule. Note that these examples do not necessarily involve a goal argument given that the pronoun in the (b)-examples is not the recipient of the direct object.

- (128) a. Jan schenkt Els_{benefactive} een kop koffie_{Theme} in.
 Jan pours Els a cup coffee prt.
 ‘Jan pours Els a cup of coffee.’
- a’. Els_{benefactive} krijgt een kop koffie_{Theme} ingeschonken.
 Els gets a cup coffee prt.-poured
 ‘Els was poured a cup of coffee (by Jan).’
- b. De gemeente schold hem de belasting kwijt.
 the municipality remitted him the taxes prt.
 ‘The municipality remitted his taxes.’
- b’. Hij kreeg de belasting kwijtgescholden.
 he got the taxes prt.-remitted
 ‘His taxes were remitted.’

D. Indirect object is a possessor

The examples in (129) show that *krijgen*-passivization is also allowed with inalienable possession constructions, that is, with constructions in which the indirect object acts as an inalienable possessor of the complement of a locational PP; See Section 3.3.1.4 for more extensive discussion.

- (129) a. Marie zet hem_{possessor} het kind op de knie.
 Marie puts him the child on the knee
 ‘Marie is putting the child on his knee.’
- b. Hij_{possessor} krijgt het kind op de knie gezet.
 he gets the child on the knee put
 ‘The child was put on his knee.’

The direction of transmission of the theme also plays a role in this case: in (129a), the theme is transmitted to the referent of the indirect object, which therefore also acts as a kind of recipient, and *krijgen*-passivization is possible; in (130a), on the other hand, the theme is removed from the referent of the indirect object, which therefore also acts as a kind of source, and *krijgen*-passivization is excluded in Standard (but possible in certain regional varieties of) Dutch.

- (130) a. Peter trekt hem_{possessor} een haar uit zijn baard.
 Peter pulls him a hair out.of his beard
 ‘Peter pulls a hair out of his beard.’
- b. *Hij krijgt een haar uit zijn baard getrokken.
 he gets a hair out.of his beard pulled
 ‘Someone (Peter) pulls a hair out of his beard.’

E. A special case of the krijgen-passive

The previous subsections have discussed the *krijgen*-passive of several types of ditransitive verbs. This subsection discusses a special case of *krijgen*-passivization, which is illustrated in the primed examples in (131); cf. Janssen (1976:12). These examples are remarkable given that the corresponding active constructions in the primeless examples do not contain an indirect object.

- (131) a. Ik stuur de hond op hem af.
 I send the dog on him prt.
 'I set the dog on him.'
- a'. Hij kreeg de hond op zich afgestuurd.
 he got the dog on REFL prt.-sent
- b. Peter heeft een pakje naar Els toegestuurd.
 Peter has a package to Els prt. sent
 'Peter sent a package to Els.'
- b'. Els kreeg een pakje naar zich toegestuurd.
 Els got a package to REFL prt.-sent

If the primed examples of (131) were derived by promotion of an indirect object, we would expect the examples in (132) to be acceptable, but they are not.

- (132) a. *Ik stuur hem de hond op zich af.
 I send him the dog on REFL prt.
- b. *Peter heeft Els een pakje naar zich toegestuurd.
 Peter has Els a package to REFL prt.-sent

To our knowledge, the unacceptability of examples such as (132) has not been discussed in the literature. We leave this for future research while suggesting that the ungrammaticality of the examples in (132) may be due to the fact illustrated by (133) that the weak reflexive *zich* is normally subject-oriented and therefore cannot be construed with the indirect object in these examples.

- (133) a. Jan legt het boek voor zich.
 Jan puts the book in.front.of REFL
 'Jan is putting the book in front of himself.'
- b. Jan houdt de honden bij zich.
 Jan keeps the dogs with REFL
 'Jan is keeping the dogs near him.'

The requirement that the subject of the simplex reflexive be a subject is satisfied in the primed examples in (131), but not in the examples in (132).

F. An apparent case of krijgen-passivization

It is important to note that not all clauses with *krijgen* and a participle can mechanically be analyzed as *krijgen*-passives. Example (134a), for example, involves the main verb *krijgen*, discussed in Section 2.1.4, and the optional participle *gewassen* may function as a °supplementive that modifies the direct object *de glazen* 'the glasses'. In fact, example (134a) is ambiguous and can also be construed as a resultative construction with the participle functioning as a

°complementive that is predicated of the accusative DP *de glazen*. This reading is less prominent, but can be highlighted by using adverbial phrases like *gemakkelijk* ‘easily’ or *met moeite* ‘with difficulty’; see Sections A.6.2.1, sub II, for a more extensive discussion of this construction. That the participle *gewassen* in (134) is not a passive participle is also supported by the fact that it can be replaced by an adjective like *schoon* ‘clean’.

- (134) a. Jan krijgt de glazen_{acc} (gewassen/schoon).
 Jan received the glasses washed/clean
 ‘Jan received the glasses while they were washed/clean.’
- b. Jan krijgt de glazen gemakkelijk/met moeite gewassen/schoon.
 Jan gets the glasses easily/with difficulty washed/clean
 ‘Jan is having (no) difficulties in getting the glasses washed/clean.’

G. Conclusion

The previous subsections have shown that *krijgen*-passivization is a fairly productive rule, although there are a number of systematic constraints on its application in Standard Dutch. Verbs of transmission (including those of communication) can normally be passivized with *krijgen* provided that two conditions are met: (i) the verb indicates what the mode of transmission is, and (ii) the referent of the indirect object is the recipient/goal (and not the source) of transmission. Further, we have seen that *krijgen*-passivization is possible with more than one type of indirect object: recipients/goals, beneficiaries and possessives can all be promoted to subject under *krijgen*-passivization; only sources are exempt from this process. This suggests that, contrary to what is normally assumed, *krijgen*-passivization is a productive syntactic rule, just like the “regular” form of passivization.

II. The role of the auxiliary

Subsection I has shown that *krijgen*-passivization is a productive process, which suggests that the more traditional view that attributes this process to the lexicon is not viable and that a more syntactic approach is in order. Now, consider the prototypical cases in (135), which show again that it is the direct object that raises in the regular passive and the indirect object that raises in the *krijgen*-passive.

- (135) a. Jan bood hun het boek aan.
 Jan offered them the book prt.
 ‘Jan offered them the book.’
- b. Het boek werd/is hun aangeboden. [regular passive]
 the book was/has.been them prt.-offered
 ‘The book was offered to them.’
- b'. *Zij werden/zijn het boek aangeboden.
 they were/have.been the book prt.-offered
- c. Zij_{nom} kregen het boek aangeboden. [krijgen-passive]
 they got the book prt.-offered
 ‘They were offered the book.’
- c'. *Het boek kreeg hun_{dat} aangeboden.
 the book got them prt.-offered

The obvious question that the passive constructions in (135) raise is what determines which of the two internal arguments is promoted to subject. It seems that just three crucial aspects are relevant in the syntactic description of the two types of passive construction. The first aspect concerns the form of the main verb: the two constructions both require the main verb to take the form of a passive participle. The second aspect concerns the auxiliary: the auxiliary in the regular passive is *worden* ‘to be’ or *zijn* ‘to have been’, whereas it is *krijgen* in the *krijgen*-passive. The third aspect involves the object that is promoted to subject (if any): the theme argument in the regular passive, and the recipient/goal argument in the *krijgen*-passive.

The fact that the form of the main verb is the same in the two constructions makes it pretty implausible that this form is related to the question of which object is promoted to subject. This just leaves the option that there is a one-to-one relation between the choice of auxiliary and the choice of object that will be promoted to subject. We can make this more precise by formulating the hypothesis in (136).

- (136) The case assigning properties of the passive auxiliaries determine which object of a ditransitive verb will be promoted to subject:
- a. Passive participles are unable to assign case.
 - b. The auxiliaries *worden* and *zijn* are unaccusative verbs and thus unable to assign $^{\circ}$ accusative case; the direct object is promoted to subject.
 - c. The auxiliary *krijgen* is an $^{\circ}$ undative verb and thus unable to assign $^{\circ}$ dative case; the indirect object is promoted to subject.

The claim in (136a) is part of a tradition that started with Jaeggli (1986) and Baker et al. (1989), according to which passive participles do not have the ability to assign case; see Section 3.2.1.1, sub II, for discussion. This means that the “surviving” object must be assigned case by the auxiliary.

The fact that it is the theme argument that must be promoted to subject in the regular passive construction can now be related to the fact that *worden* and *zijn* are $^{\circ}$ unaccusative verbs (which is clear from the fact that they form their present tense with the auxiliary *zijn*) and cannot assign accusative case in any of their other uses. The examples in (137), for example, show that the copulas *worden* and *zijn* cannot assign accusative case to the external argument of the predicative part of the construction, for which reason this argument must be promoted to subject of the entire construction in order to be assigned nominative case.

- (137) a. ___ wordt/is [Jan ziek] [no accusative case]
 b. Jan_i wordt/is [_{t_i} ziek]. [promotion to subject]
 ‘Jan becomes/is ill.’

The fact that it is the recipient/goal/benefactive/possessor argument that must be promoted to subject in the *krijgen*-passive can now be made to follow from the fact that main verb *krijgen* is an undative verbs and is thus unable to assign dative case; cf. Section 2.1.4. That the theme argument can be realized as the direct object of the passive construction is, of course, related to the fact that main verb *krijgen* is able to assign accusative case.

- (138) a. ____ kreeg Marie het boek_{acc} aangeboden [no dative case]
 b. Marie_i kreeg *t_i* het boek aangeboden. [promotion to subject]
 Marie got the book prt.-offered
 ‘Mare was offered the book.’

Obviously, the fact that the recipient/goal argument is realized as the indirect object in the regular passive implies that *worden* and *zijn* are able to assign dative case. This seems to be supported by copular constructions like (139a&b), in which the dative experiencer is licensed by the adjectival predicate and the degree modifier *te* ‘too’ is assigned dative case. For completeness’ sake, we also added the more or less idiomatic constructions in (139c&d), in which the predicates are, respectively, nominal and prepositional in nature.

- (139) a. Dat probleem_i is mij_{dative} [_{SC} *t_i* bekend].
 that problem is me known
 ‘That problem is known to me.’
 b. Het geluid_i werd/was mij_{dative} [_{SC} *t_i* te hard].
 the sound became/was me too loud
 ‘The sound became/was too loud for me.’
 c. Dat_i is mij_{dative} [_{SC} *t_i* een raadsel].
 that is me a riddle
 ‘That is a mystery to me.’
 d. Dat_i is mij_{dative} [_{SC} *t_i* om het even].
 that is me OM HET EVEN
 ‘This is all the same to me.’

Note, however, that in some analyses, it is assumed that the dative case in (139a) is assigned by the adjective *bekend*; cf. Van Riemsdijk (1983). If this is correct, we should conclude that at least this example does not support our claim that copular verbs can assign dative case; see A2.2.1 and A3.1.3.2 for a more detailed and careful discussion of dative phrases of the sort in (139). Better evidence for assuming that copular verbs are able to assign dative case is provided by the alternation in (140) that can be found in, e.g., Heerlen Dutch, in which a possessor is realized as a dative in the regular copular construction with *zijn/worden*, but as a nominative in the corresponding semi-copular construction with *hebben/krijgen*. The most likely analysis of such examples is that the copular verbs *zijn* and *worden* in (140a) assigns dative case to the possessor but no accusative case to the possessee, while the semi-copular verbs *hebben/krijgen* in (140b) assigns accusative case to the possessee, but no dative case to the possessor; see Cornips (1994:121-2), Broekhuis & Cornips (2012), and Section A6.2.1, sub II, for more discussion. Unfortunately, similar examples cannot be constructed for Standard Dutch given that this variety does not allow this type of inalienable possession construction.

- (140) a. Jan/Hem_{dative} zijn/worden de handen_{nom} vies. [Heerlen Dutch]
 Jan/him are/worden the hands dirty
 ‘Jan’s/His hands are dirty.’
 b. Jan/Hij_{nom} heeft/krijgt de handen vies. [Heerlen Dutch]
 Jan/he has/gets the hands dirty
 ‘Jan’s/His hands are dirty.’

III. The demoted subject

Krijgen-passivization demotes the subject of the active sentence. Just as in the cases of impersonal and regular passivization, the demoted subject may remain implicit or be overtly expressed by means of an adjunct-PP. Example (141) shows that, in many cases, the adjunct-PP takes the form of a *door*-phrase.

- (141) a. De burgemeester/Hij biedt haar het boek aan.
 the mayor/he offers her the book prt.
 ‘The mayor/He offers her the book.’
- a'. Zij krijgt het boek ([?]door de burgemeester) aangeboden.
 she gets the book by the mayor prt.-offered
- b. Marie zet hem_{dat} de kinderen op de knie.
 Marie puts him the children onto the knee
 ‘Marie puts the children on his knee.’
- b'. Hij krijgt de kinderen (door Marie) op de knie gezet.
 he gets the children by Marie onto the knee put
- c. Els schonk hem_{dat} een glas bier in.
 Els poured him a glass [of] beer prt.
 ‘Els poured him a glass of beer.’
- c'. Hij kreeg een glas bier ([?]door Els) ingeschonken.
 he got a glass beer by Els prt.-poured

The question marks in (141a'&c') indicate, however, that expressing the agent by means of a *door*-phrase sometimes gives rise to a slightly marked result. This may be due to the fact that the *door*-phrase is in competition with the *van*-phrases in (142). When we compare the primed examples in (141) with the examples in (142), we see that the *door*-phrase only gives rise to an unmarked result when a *van*-phrase cannot be used.

- (142) a. Hij krijgt (van de burgemeester) het boek aangeboden.
 he gets from the mayor the book prt.-offered
- b. Hij krijgt (*van Marie) de kinderen op de knie gezet.
 he gets from Marie the children onto the knee put
- c. Hij kreeg ([?]van Els) een glas bier ingeschonken.
 he got from Els a glass [of] beer prt.-her poured

That the *van*-PP and the *door*-PP are in competition is clear from the fact that they cannot be simultaneously present; this strongly suggests the two PPs have a similar function in the *krijgen*-passive. Note in this connection that the German counterpart of *van* is also used in regular passives: *Das kranke Kind wird von der Nachbarin gepflegt* ‘The child was nursed by the neighbor’.

- (143) *Hij krijgt van Marie door Jan die boeken aangeboden.
 he gets from Marie by Jan those books prt.-offered

It is not clear what determines whether a *door*- or a *van*-PP phrase is preferred. It might be related to the question to what extent the meaning of the main verb *krijgen* ‘to receive’ is still recognized in the auxiliary form: main verb *krijgen* can be combined with a *van*-PP denoting a source, but not with an agentive *door*-phrase.

- (144) Jan krijgt het boek van/*door Marie.
 Jan gets the book from/by Marie

3.2.1.5. Bibliographical notes

Passivization has always been in the center of attention of linguistic research and it is impossible to do full justice to the available literature. We therefore simply select a number of important papers. A very brief review of the treatment of passivization in generative grammar can be found in Roberts (1999): whereas passivization was originally accounted for by means of a construction-specific transformation that derived passive clauses from active clauses, it was shown at later stages that passivization involves the interaction of a set of independently motivated operations that also apply in other constructions. This has led to the standard analysis (initiated by Jaeggli 1986 and Baker et al. 1989) that the core property of passivization is the demotion of the subject and concomitant absorption of accusative case; the other properties, like the promotion of the object of the active sentence to subject of the passive sentence, follow from more general principles like the Case Filter. Besides Haeseryn et al. (1997), Den Besten (1981/1985) is a rich source for the relevant passivization data. The *krijgen*-passive is less frequently discussed; the discussion in this section is based on the discussion in Broekhuis & Cornips (1994/2012). Other relevant discussion can be found in Coleman (2006), Van Leeuwen (2006), and Landsbergen (2009).

3.2.2. Middle Formation

This section discusses a second type of verb frame alternation that involves the external argument of verbs, and which is normally referred to as MIDDLE FORMATION. The middle is one of the three voices that are typically found in the Indo-European language family: active, middle and passive. Whereas passivization involves the demotion of the external argument to adjunct status, middle formation involves the complete removal of the external argument from the verb frame, as is clear from the impossibility of adding an agentive *door*-phrase to the middle construction in (145).

- (145) a. Jan snijdt het brood. [transitive verb]
 Jan cuts the bread
 b. Vers brood snijdt moeilijk (*door Jan). [middle]
 freshly.baked bread cuts not.easily by Jan
 ‘Freshly baked bread doesn’t cut easily.’

Middles are further characterized by a lack of specific time reference, in the sense that the constructions refer to an °individual-level property of their subject, and by the fact that they contain some evaluative modifier like *gemakkelijk* ‘easily’. Middle formation can be divided into four main types: regular, adjunct, impersonal and complex reflexive middles; cf. Ackema & Schoorlemmer (2006). Section 3.2.2.1 will begin by briefly characterizing these four subtypes and specify a number of properties they all share. Sections 3.2.2.2 to 3.2.2.5 will discuss the four main types in more detail.

3.2.2.1. *General properties of middle constructions*

This section briefly characterizes the four main types of middle constructions (regular, adjunct, impersonal and complex reflexive middles) and will then discuss a number of properties that they all share.

I. *The regular middle construction*

The most common type of middle formation is illustrated in (146). The regular middle construction in (146b) has the following syntactic properties: the middle verb corresponds to a transitive verb; the subject of the middle construction corresponds to the direct object of the corresponding transitive construction; the middle construction normally requires an adverbial phrase like *gemakkelijk*.

- (146) a. Els leest dit boek. [transitive verb]
 Els reads this book
 b. Dit boek leest *(gemakkelijk). [regular middle]
 this book reads easily

In contrast to the other subtypes discussed in the subsections below, the regular middle construction can also be found in English.

II. *The adjunct middle construction*

The adjunct middle construction differs from the regular middle construction in two respects: the middle verb corresponds to an intransitive verb, and the subject of the middle construction corresponds to the nominal complement of an adverbial PP in the intransitive construction. Like the regular middle construction, the adjunct middle construction normally contains an adverbial phrase like *gemakkelijk*.

- (147) a. Peter zit op deze stoel. [intransitive verb]
 Peter sits on this chair
 b. Deze stoel zit *(gemakkelijk). [adjunct middle]
 this chair sits easily

III. *The impersonal middle construction*

The impersonal middle construction resembles the adjunct middle construction but differs from it in that it does not contain a subject corresponding to the nominal complement of an adverbial PP. Instead, the middle construction has an impersonal subject, the °expletive *het* ‘it’, and an obligatory adjunct PP. In this case an adverbial phrase like *gemakkelijk* is normally present as well.

- (148) a. Peter zit op deze stoel. [intransitive verb]
 Peter sits on this chair
 b. Het zit *(gemakkelijk) op deze stoel. [impersonal middle]
 it sits easily on this chair

IV. *The reflexive middle construction*

The last subtype is the reflexive middle construction in (149b). It differs from the other middle constructions in that it is syntactically more complex. It involves a form of the permissive verb *laten* ‘to let’ followed by an embedded infinitival

clause that is headed by a transitive verb. The subject of the clause corresponds to the accusative object of the embedded verb. Further, the construction contains the simplex reflexive pronoun *zich* which seems to replace the object of the embedded verb and is interpreted as coreferential with the subject of the sentence. This reflexive pronoun cannot be replaced by a referential expression and in this sense we are dealing with inherently reflexive constructions; cf. Section 2.5.2. Reflexive middles normally contain an adverbial phrase like *gemakkelijk*, although it can be omitted more easily than in other types of middle constructions.

- (149) a. Jan raadt de oplossing. [transitive verb]
 Jan guesses the solution
 ‘Jan guesses the solution.’
- b. De oplossing laat zich gemakkelijk raden. [reflexive middle]
 the solution lets REFL easily guess
 ‘It is easy to guess the solution.’

V. General properties of middles

Middle verbs correspond to verbs denoting activities and accomplishments, but middle constructions themselves are stative in nature. This is clear from the fact that a middle construction such as (150b) cannot be used to refer to a specific °eventuality, as is clear from the fact that it cannot be used as an answer to a question such as (150a).

- (150) a. Wat gebeurt er? [question]
 ‘What is happening?’
- b. #Dit boek leest gemakkelijk. [answer]
 this book reads easily

Instead of referring to some event, middles refer to an °individual-level property of the subject of the construction: (150b) expresses that the book under discussion has the inherent property that it can be read. Middle constructions normally contain an adverbially used adjective that can be seen as an evaluative modifier of this property: the adverb *gemakkelijk* ‘easily’ in (150b) expresses that the book has a high degree of readability. Such evaluative modifiers belong to a set of adjectives that optionally take an experiencer *voor*-PP, which is taken as the norm for the assessment expressed by the adjective; cf. *gemakkelijk voor Jan* ‘easy for Jan’. The middle construction normally provides a generic statement, and the experiencer phrase is therefore generally left implicit: a middle construction such as *Dit boek leest gemakkelijk* ‘This book reads easily’ expresses the quasi-universal reading that the book is easy for anyone in the given domain of discourse, as is shown by the validity of the reasoning in (151a). This quasi-universal reading of middles may also be held accountable for the fact that example (151b) is felt as a contradiction in neutral contexts (although the example seems to improve considerably for some speakers if the subject is stressed, which then emphasizes Peter’s lack of skill). Note that the quasi-universal reading is also clear from the fact that middles allow exception clauses headed by the generic pronoun *je* ‘one’.

- (151) a. Dit boek leest gemakkelijk en dus kan Peter het ook lezen.
 this book reads easily and therefore can Peter it also read
 ‘This book reads easily, and therefore Peter can read it too.’
- b. ^{\$}Dit boek leest gemakkelijk, maar Peter kan het niet.
 this book reads easily but Peter can it not
 ‘This book reads easily, but Peter can’t (read it).’
- c. Dit boek leest gemakkelijk, behalve als je moe bent.
 this book reads easily except when one tired are
 ‘This book reads easily, except when one is tired.’

Note, finally, that the implied experiencer of the evaluative modifier is also construed as the (potential) agent of the event denoted by the verb *lezen* ‘to read’ on its activity reading.

3.2.2.2. *The regular middle construction*

Subsection I discusses a number of properties of the regular middle construction, such as the fact that the middle verb must be derived from a transitive verb. If the middle verb is related to a transitive verb that also has an unaccusative counterpart, the regular middle and unaccusative construction can easily be confused, and Subsection II will therefore develop a number of tests for distinguishing the two. Subsection III concludes by comparing the regular middle constructions with a number of constructions that are semantically close to it.

I. Properties of regular middles

This subsection discusses a number of properties of regular middle constructions. Subsection A starts with a discussion of the verb types that can be used as input for regular middle formation. Subsection B characterizes the meaning of the regular middle and shows that the verb phrase in this construction normally functions as an individual-level predicate. Subsection C discusses the evaluative modifier that is typically found in this construction, and Subsection D discusses a number of properties of the subject of the middle construction. It is often assumed that the subject must be an internal argument of the middle verb: Subsection E argues on the basis of the acceptability of so-called resultative middles that this assumption is incorrect. Subsection F concludes with a discussion of a special case in which the verb phrase in the regular middle normally functions not as an individual-level but as a stage-level predicate.

A. The input verb is transitive

Verbs in regular middle constructions are related to transitive verbs. The examples in (152) show that regular middles are like regular passive constructions in that the direct object of the corresponding transitive verb surfaces as the subject. This is clear from the form of the pronoun in the (a)-examples and subject-verb agreement in the (b)-examples.

- (152) a. De jongens verven die muur/hem_{acc}. [transitive]
 the boys paint that wall/him
 ‘The boys are painting that wall/it.’
- a’. Die muur/Hij_{nom} verft gemakkelijk. [middle]
 that wall/he paints easily
- b. Jan leest die dissertaties. [transitive]
 Jan reads those theses
 ‘Jan is reading those theses.’
- b’. Die dissertaties lezen gemakkelijk. [middle]
 those theses read easily

The examples in (153) show that the regular middles in (152) differ from passives in that they do not allow expression of the subject of the corresponding transitive verb by means of an agentive *door*-phrase. Nevertheless, the notion of agent still seems to be implied in the middle constructions given that the implied experiencer of the evaluative modifier is typically interpreted as the agent; we will return to this in Subsection C.

- (153) a. *Die muur/Hij_{nom} verft gemakkelijk door de jongens.
 that wall/he paints easily by the boys
- b. *Die dissertaties lezen gemakkelijk door Jan.
 those theses read easily by Jan

Regular middle formation sometimes has subtle side effects. The examples in (154) show, for example, that the regular middle construction licenses the use of the particle *weg* ‘away’, which seems to be used especially in contexts of (excessive) consumption; see also the discussion of example (197c) in Subsection E. To our knowledge such side effects have not been investigated so far and we therefore leave them to future research.

- (154) a. Jan leest die thrillers (*weg).
 Jan reads those thrillers away
 ‘Jan is reading those thrillers.’
- b. Die thrillers lezen lekker (weg).
 those thrillers read nicely away
 ‘Those thrillers make easy reading (can be consumed in large quantities).’

Intransitive (PO-)verbs like *lachen* ‘to laugh’ and *wachten (op)* ‘to wait (for)’ in the examples in (155) cannot undergo regular middle formation, which shows that the verb must have a nominal complement that can surface as the subject of the middle construction (although Section 3.2.2.4 will show that under specific strict conditions impersonal middles may nevertheless arise).

- (155) a. Jan lacht. [intransitive verb]
 Jan laughs
- a’. *Het/Er lacht gemakkelijk.
 it/there laughs easily

- b. Jan wacht op de post. [intransitive PO-verb]
 Jan waits for the post
- b'. *De post wacht gemakkelijk (op).
 the post waits easily for

The examples in (156) show that \circ monadic unaccusative verbs like *vertrekken* 'to leave' and undative verbs like *weten/kennen* 'to know' also resist regular middle formation. This shows that the verb must have an external argument in order to allow regular middle formation, and that it is not sufficient for a verb to have an internal theme argument; it must also be possible to realize this argument as a direct object—in fact, Subsection E will argue that it is not the term internal argument that is relevant for middle formation but the term direct object.

- (156) a. Marie vertrekt vroeg.
 Marie leaves early
- a'. *Het vertrekt gemakkelijk vroeg.
 it leaves easily early
- b. Jan weet het antwoord op deze vraag.
 Jan knows the answer to this question
- b'. *Het antwoord op deze vraag weet gemakkelijk.
 the answer to this question knows easily

The above has established that regular middle formation requires that the verb be transitive. This leads to the expectation that ditransitive verbs also allow regular middle formation, but example (157b) shows that this expectation is not borne out: regular middle formation is excluded if the input verb takes a nominal indirect object. The primed (b)-example is added to show that regular middle constructions in which the indirect object is promoted to subject are excluded as well.

- (157) a. Jan gaf de kar een zet.
 Jan gave the cart a push
- b. *Zo'n zet geeft de kar gemakkelijk. [promotion of direct object]
 such a push gives the cart easily
- b'. *De kar geeft gemakkelijk een zet. [promotion of indirect object]
 the cart gives easily a push

The examples in (158) show that regular middle formation is blocked not only in double object constructions but also in constructions with a periphrastic indirect object; regular middle constructions such as (158b) are marginally acceptable at best with the *aan*-PP present.

- (158) a. Marie vertelt altijd lange verhalen aan kinderen.
 Marie tells always long stories to children
- b. Lange verhalen vertellen niet gemakkelijk (*[?]aan kinderen).
 long stories tell not easily to children
 'It isn't easy to tell long stories to children.'

Indirect objects are never promoted to subject, not even in cases in which some speakers allow them to be promoted in passive constructions, like with the verb *verzoeken* when it takes an infinitival direct object clause, as in (159).

- (159) a. Jan verzocht de leveranciers_i [om PRO_i de waren snel te leveren].
 Jan requested the suppliers COMP the goods soon to deliver
 ‘Jan asked the suppliers to deliver the goods soon.’
- b. %De leveranciers_i werden verzocht [om PRO_i de waren snel te leveren].
 the suppliers were requested COMP the goods soon to deliver
 ‘The suppliers were asked to deliver the goods soon.’
- c. *De leveranciers_i verzoeken gemakkelijk [om PRO_i de waren snel te leveren].
 the suppliers requested easily COMP the goods soon to deliver

B. The meaning of the regular middle construction

The meaning expressed by the regular middle is rather complex. The construction as a whole refers to some inherent property of the subject referent; example (160a), for instance, expresses that the wall has the property that it can be painted. The adverbially used adjective *gemakkelijk* ‘easily’ functions as an evaluative modifier of this property ascribed to the subject of the clause: the implicit experiencer of the adjective functions as a universal quantifier that ranges over all relevant entities in the domain of discourse. All in all, this means that the meaning of example (160a) can be paraphrased as in (160b).

- (160) a. Die muur verft gemakkelijk.
 that wall paints easily
- b. Die muur kan door iedereen gemakkelijk geverfd worden.
 that wall can by everybody easily painted be
 ‘That wall can easily be painted by everybody.’

Another example is given in (161a). The proper noun *Vergilius* refers to a body of literary work that has the inherent property that it is easy to translate (for those that have sufficient knowledge of Latin). The meaning of this example can therefore be paraphrased as in (161b).

- (161) a. Vergilius vertaalt gemakkelijk.
 Vergil translates easily
- b. Vergilius kan door iedereen gemakkelijk vertaald worden.
 Vergil can by everybody easily translated be
 ‘Vergil can easily be translated by everybody (who knows Latin).’

In short, regular middle constructions are generic in nature; the verb phrase functions as an °individual-level predicate in the sense that it does not refer to a specific state of affairs but describes an inherent property of the subject of the construction. This receives more support from the following facts.

1. Time adverbs

Since the use of punctual time adverbs like *gisteren* ‘yesterday’ in (162b) is incompatible with the generic interpretation of the clause, it normally yields a marginal result (see Subsection F for a more detailed discussion). The use of an

adverb like *altijd* ‘always’ in (162c), on the other hand, is fully compatible with such a generic interpretation and consequently gives rise to a fully acceptable result. The examples in (163) show the same thing as those in (162).

- (162) a. Jan verfde gisteren de muur.
 Jan painted yesterday the wall
- b. ^{??}Die muur verfde gisteren gemakkelijk.
 that wall painted yesterday easily
- c. Die muur verft altijd gemakkelijk.
 that wall paints always easily
- (163) a. Jan vertaalt Vergilius.
 Jan translates Vergil
- b. ^{??}Vergilius vertaalde gisteren gemakkelijk.
 Vergil translated yesterday easily
- c. Vergilius vertaalt altijd gemakkelijk.
 Vergil translates always easily

2. *The position and interpretation of indefinite subjects*

The examples in (164) show that indefinite plural subjects in regular middle constructions are incompatible with insertion of °expletive *er* ‘there’. They therefore do not receive a non-specific but a generic interpretation.

- (164) a. Deuren verven gemakkelijk.
 doors paint easily
- b. *Er verven deuren gemakkelijk.
 there painted doors easily

This is consistent with the assumption that predicates of regular middle constructions are individual-level predicates, given that the examples in (165) show that the same thing holds for adjectival individual-level predicates like *voedzaam* ‘nutritious’.

- (165) a. Bonen zijn voedzaam.
 beans are nutritious
- b. *Er zijn bonen voedzaam.
 there are beans nutritious

3. *The progressive aan het + infinitive construction*

Since regular middle constructions do not refer to specific events, they are not compatible with the progressive *aan het* + infinitive construction. Compare the ungrammatical progressive middle construction in (166b) with the equally ungrammatical English gerund **The wall is painting easily*.

- (166) a. Jan is de muur aan het verven.
 Jan is the wall AAN HET paint
 ‘Jan is painting the wall.’
- b. *De muur is gemakkelijk aan het verven.
 the wall is easily AAN HET paint

4. Regular middles cannot be the complement of a perception verb

The contrast between the two examples in (167) shows that regular middles differ from their corresponding transitive constructions in that they cannot function as infinitival complements of a perception verb. This is due to the fact that the complement of the perception verb is dependent on the tense of the higher verb: it must refer to an event that applies simultaneously with the event referred to by the verb in the main clause and this is incompatible with the generic meaning of the regular middle construction.

- (167) a. Ik zag Marie de muur verven.
 I saw Marie the wall paint
 b. *Ik zag de muur gemakkelijk verven.
 I saw the wall easily paint

5. Pseudo-cleft construction

The examples in (168) show that, in contrast to transitive verbs, regular middle verbs cannot occur in °pseudo-cleft constructions. This is probably due to their non-eventive nature: the verb *doen* forces an activity reading on the middle verb, and thus an agentive reading on its subject *die muur* ‘that wall’.

- (168) a. Wat Jan deed was de muur verven.
 what Jan did was the wall paint
 ‘What Jan did was paint the wall.’
 b. *Wat die muur deed was gemakkelijk verven.
 what that wall did was easily paint

The contrast between (168a) and (168b) is replicated in (169a) and (169b), in which the verb *gebeuren* likewise forces an eventive interpretation on the preceding sentence.

- (169) a. Jan verfde de muur. Dat is gisteren gebeurd.
 Jan painted the wall. that is yesterday happened
 ‘Jan painted the wall. That happened yesterday.’
 b. Die muur verfde erg gemakkelijk. *Dat is gisteren gebeurd.
 that wall painted very easily. that is yesterday happened

C. The evaluative modifier

Regular middle constructions generally contain an adverbial phrase like *gemakkelijk* ‘easily’ or *moeilijk* ‘difficult’ that functions as an evaluative modifier of the property expressed by the middle verb. In (170) we provide a small sample of adjectives that can occur as adverbial modifiers in regular middles.

- (170) Adjectives that can be used as evaluative modifiers of regular middle constructions: *fantastisch* ‘fantastic’, *gemakkelijk* ‘easily’, *heerlijk* ‘lovely’, *lastig* ‘difficult’, *lekker* ‘nicely’, *moeilijk* ‘difficult’, *moeizaam* ‘laborious’, *plezierig* ‘pleasantly’, *prettig* ‘pleasantly’, *probleemloos* ‘without any problem’

The adjectives in (170) are all predicative and able to be predicated of an embedded clause, as is clear from the fact that they can all be used as the °complementive in a copular construction. It seems that this option is a prerequisite for entry into the middle construction; the (b)-examples in (171) show that adverbial phrases like *met gemak* ‘with ease’, which cannot be used in copular constructions, cannot be used in middles either.

- (171) a. Die muur verft gemakkelijk.
that wall paints easily
- b. Het is gemakkelijk [om PRO die muur te verven].
it is easy COMP that wall to paint
‘It is easy to paint that wall.’
- b'. *Die muur verft met gemak.
that wall paints with ease
- b''. *Het is met gemak [om PRO die muur te verven].
it is with ease COMP that wall to paint

The evaluation expressed by the adjective can be positive, as in (172a), or negative, as in (172b).

- (172) a. Die muur verft gemakkelijk/lekker/probleemloos.
that wall paints easily/nicely/without.any.problem
- b. Die muur verft moeilijk/moeizaam.
that wall paints with difficulty/laboriously

The default interpretation is that the evaluation given is that of the speaker, but the examples in (173) show that this can be overridden by adding a PP headed by *volgens* ‘according to’.

- (173) a. Deze muur verft volgens Peter gemakkelijk.
this wall paints according.to Peter easily
- b. Vergilius vertaalt volgens Peter gemakkelijk.
Vergil translates according.to Peter easily

Adjectives like *gemakkelijk* belong to a set of adjectives that optionally take an experiencer *voor*-PP, which is taken as the norm for the assessment expressed by the adjective; cf. *Deze som is gemakkelijk voor Jan* ‘this calculation is easy for Jan’. However, this experiencer *voor*-phrase cannot normally be overtly expressed in middle constructions.

- (174) a. Zo'n muur verft gemakkelijk/moeilijk/plezierig (*voor Jan).
such.a wall paints easily/with.difficulty/pleasantly for Jan
- b. Zo'n boek vertaalt gemakkelijk/moeilijk/plezierig (*voor Jan).
such.a book translates easily/with.difficulty/pleasantly for Jan

This may be related to the fact that the experiencer of the adjective is interpreted as coreferential with the implied agent of the transitive verb that served as the input for middle formation. As a result, the restriction expressed by the experiencer PP *voor Jan* in (174) may be incompatible with the generic interpretation of the middle

construction as a whole: if a wall paints easily or if a book translates easily, this is claimed to hold for all possible agents, not only for Jan. This account of the unacceptability of the *voor*-phrases in (174) seems to be supported by the fact that the results improve considerably if we replace the complement of the *voor*-PPs by a generic noun phrase.

- (175) a. Zo'n muur verft gemakkelijk/moeilijk/plezierig
 such.a wall paints easily/with.difficulty/pleasantly
 (voor ervaren schilders/^oeen ervaren schilder).
 for experienced painters/an experienced painter
- b. Zo'n boek vertaalt gemakkelijk/moeilijk/plezierig
 such.a book translates easily/with.difficulty/pleasantly
 (voor ervaren vertalers/^oeen ervaren vertaler).
 for experienced translators/an experienced translator

Note in passing that example (174a) also improves if the *voor*-PP is placed in a position preceding the adverb, as in (176a), if it is assigned contrastive °focus accent, as in (176b), or if it is preceded by the focus particle *zelfs* 'even', as in (176c). These examples no longer have a generic interpretation: it is only for Jan that the wall is said to be easy to paint. It is, however, not clear whether we are dealing with an experiencer *voor*-phrase in these examples given that *voor*-PPs can also be used as restrictive adverbial modifiers; cf. Section N2.2.1 for discussion.

- (176) a. dat <voor Jan> zo'n muur <voor Jan> gemakkelijk <*voor Jan> verft.
 that for Jan such a wall easily paints
- b. Deze muur verft voor JAN gemakkelijk.
 this wall paints for Jan easily
- c. Deze muur verft gemakkelijk, zelfs voor amateurs.
 this wall paints easily even for amateurs

That we are dealing with adverbial *phrases* is clear from the fact illustrated by (177) that the adverbs in the regular middle construction allow modification. If the degree modifier *te* 'too' is used, the experiencer can be optionally expressed as a °dative phrase; since the experiencer in (177c) is also taken as the agent of the input verb, the construction is not necessarily interpreted generically.

- (177) a. Die muur verft erg gemakkelijk.
 that wall paints very easily
- b. Die muur verft niet gemakkelijk genoeg.
 that wall paints not easily enough
- c. Die muur verft (mij) te gemakkelijk.
 that wall paints me too easily
 'That wall paints too easily for me.'

The examples in (178) show that the adverb can also appear as an equative, a comparative or a superlative.

- (178) a. Deze muur verft even gemakkelijk als die deur.
 this wall paints as easily as that door
 b. Die muur verft gemakkelijker dan die deur.
 that wall paints more easily than that door
 c. Zo'n gladde muur verft het gemakkelijkst.
 such a smooth wall paints the easiest

There is a smaller subset of regular middles that need not contain a modifier of the type in (170). First, there is a small set of adjectives that can be used in regular middles despite the fact that they normally do not select an experiencer *voor*-PP, including *snel* 'quickly', *traag* 'slowly', *licht* 'without difficulty' and *zwaar* 'with difficulty'. Like the adjectives in (170), they express some inherent property of the subject from the perspective of the speaker or some other entity in the domain of discourse.

- (179) a. Deze muur verft snel/traag.
 this wall paints quickly/slowly
 'Painting of this wall proceeds quickly/slowly.'
 b. Deze muur verft licht/zwaar.
 this wall paints without/with difficulty
 'Painting of this wall takes little/much effort.'

Second, regular middles may contain the negative adverb *niet* 'not'. In such cases it is expressed that the subject of the sentence lacks the property denoted by the verb phrase. In example (180b) negation is expressed by means of the idiomatic phrase *voor geen meter* 'hardly at all'.

- (180) a. Deze muur verft niet.
 this wall paints not
 b. Die muur verft voor geen meter.
 that wall paints hardly

The evaluative modifier can also be absent if the evaluation is expressed by some other means. In (181a), the emphatic accent on the verb expresses that the subject exhibits the property denoted by the verb to a high degree. In (181b), the evaluation is expressed by means of comparison; the thesis is claimed to be very exciting and highly readable. The comparison is sometimes idiomatic in nature; an example is given in (181c), in which the phrase *als een trein* 'like a train' expresses that the thesis has the property that it can be read very fast.

- (181) a. Deze muur VERFT! Pfff!
 this wall paints phew
 b. Die dissertatie leest als een detective.
 that thesis reads like a detective.story
 c. Die dissertatie leest als een trein.
 that thesis reads like a train

D. Semantic restrictions on the arguments of the input verb

Subsection A has shown that the input verb for regular middle formation must be transitive: intransitive, unaccusative, undative and ditransitive verbs are all excluded. This subsection shows that there are also a number of restrictions of a more semantic nature.

1. The input verb denotes an activity that can be performed by humans

The verb *herkauwen* ‘to ruminate’ in (182) denotes an activity that cannot be performed by humans; such verbs cannot readily be used as the input for regular middle formation and seem to be possible in anthropomorphic contexts only.

- (182) a. De koe herkauwt het gras.
 the cow ruminates the grass
 b. #Dit gras herkauwt lekker.
 this grass ruminates nicely

A possible exception may be found in examples such as (183b) with “agentive” instruments, which could in principle be derived from either of the two (a)-examples, but the fact that it may contain an instrumental *met*-PP suggests that (183a) is the actual source.

- (183) a. Wij vertalen teksten naar het Engels met een computerprogramma.
 we translate texts into the English with a computer.program
 ‘We translate texts into English with the help of a computer program.’
 a’. Dit computerprogramma vertaalt teksten naar het Engels.
 this computer.program translates texts into the English
 ‘This computer program translates texts into English.’
 b. Deze teksten vertalen sneller in het Engels (met dit programma).
 these texts translate quicker into the English with this program
 ‘These texts translate faster into English with this program.’

2. Affectedness or inherent property of the derived subject?

It has been suggested that regular middles require that the derived subject be affected by the event denoted by the verb. In an intuitive sense, a wall is affected by the act of painting it, so that the middle construction *De muur schildert gemakkelijk* ‘the wall paints easily’ is possible. A language, on the other hand, is not affected by someone learning it, which is held responsible for the fact that the middle construction in (184b) is marginal at best.

- (184) a. Jan leert Frans.
 Jan learns French
 b. ??Frans leert gemakkelijk.
 French learns easily
 ‘French learns easily.’

The postulation of such an affectedness constraint also correctly accounts for the fact that perception verbs like *horen* ‘to hear’ in (185a) and verbs of saying like *zeggen* ‘to say’ in (185b) do not allow regular middle formation either.

- (185) a. Els hoort rare geluiden.
 Els hears strange noises
 a'. *Rare geluiden horen gemakkelijk.
 weird noises hear easily
 b. Marie zegt vaak zulke dingen.
 Marie says often such things
 b'. *Zulke dingen zeggen lekker.
 such things say nicely

It is not clear, however, how the primed examples in (186) can escape the affectedness constraint: a book, for example, is no more affected by being read than a language is affected by being learned or a sound by being heard.

- (186) a. Els leest dit boek. a'. Dit boek leest gemakkelijk.
 Els reads this book this book reads easily
 b. Jan zingt dit lied. b'. Dit lied zingt lekker.
 Jan sings this song this song sings nicely

It might be the case that it is not affectedness that is involved, but that the restriction is instead related to the fact discussed in Subsection B that the middle construction as a whole expresses an inherent property of the referent of its subject. Since all books have a certain degree of readability and all songs have a degree of singability, this would account for the acceptability of the primed examples in (186). This proposal would also account for the difference in acceptability between the two (b)-examples in (187), which would be left unexplained by an affectedness restriction: whereas it is an inherent property of clothes that they can or cannot be washed easily, this is not a property normally attributed to babies.

- (187) a. Jan wast die kleren/baby's.
 Jan washes those clothes/babies
 b. Die kleren wassen gemakkelijk.
 those clothes wash easily
 b'. ^sBaby's van acht maanden wassen gemakkelijk.
 babies of eight months wash easily

It is possible, however, to favor an inherent property reading by providing sufficient context. In a discussion on babies one may state that babies of three months old are so tender that they are extremely difficult to wash. In reply, an example such as (187b') could very readily be used: cf. *Baby's van acht maanden daarentegen wassen gemakkelijk* 'Babies of eight months, on the other hand, wash easily'. Example (187b') is therefore not ungrammatical but just infelicitous out of context.

3. *The derived subject is presented as a passive entity*

The subject of the regular middle construction is presented as a passive entity; if the subject is [+HUMAN], the referent is represented as an entity without control over the event or even without freedom of volition. This accounts for the fact that examples such as (188) have a condescending flavor. That person names cannot easily be used as subject in the middle construction might be related to this fact.

- (188) a. Dat soort jongens/[?]Jan versiert gemakkelijk.
 that sort boys/Jan picks.up easily
 'It is easy to pick up that sort of boy.'
 b. Dat soort patiënten/[?]Jan opereert gemakkelijk.
 that sort patients/Jan operates easily
 'That sort of patient operates easily.'

E. Resultative middles; the semantic role of the derived subject

The subjects of the regular middle constructions discussed in the preceding subsections all correspond to the theme argument of the corresponding transitive verb. From this, we might hypothesize that the subject of the regular middle construction must be the internal theme argument of the verb, which, in turn, would predict that the middle construction gives rise to an ungrammatical result if the object in the corresponding transitive construction is selected by some other element in the clause. This subsection shows that, despite appearances, this prediction is *not* correct. First consider the examples in (189) and (190), which seem to support the suggested hypothesis. The English examples in (189) show that the subject of the regular middle construction cannot correspond to an accusative noun phrase that functions as the subject of an infinitival clause.

- (189) a. I believe John to be a fool.
 b. *John believes to be a fool easily.

Comparable examples cannot be given for Dutch since it does not allow the construction in (189a). This is different from the primeless examples in (190), in which the direct object is generally considered the external argument of the °complementive (that is, the predicative noun phrase/AP); the primed examples show that English and Dutch behave alike in not allowing regular middle counterparts of such constructions.

- (190) a. I consider John a fool/kind.
 a'. *John considers a fool/kind easily.
 b. Ik vind Jan een idioot/aardig.
 I consider Jan an idiot/nice
 b'. *Jan vindt gemakkelijk een idioot/aardig.
 Jan considers easily an idiot/nice

The examples in (191) further show that the same thing holds for °AcI-constructions in which the accusative object functions as the subject of the embedded infinitive; note that such constructions do not enter passivization either.

- (191) a. Jan hoort vliegtuigen overvliegen.
 Jan hears airplanes over-fly
 'Jan is hearing airplanes fly over.'
 b. *Vliegtuigen horen gemakkelijk overvliegen.
 airplanes hear easily over-fly

The examples in (189) to (191) thus support the hypothesis that the subject of a middle verb must be an internal argument of the corresponding transitive verb, but

there is also a problem for this hypothesis: some resultative constructions do have middle counterparts, as is shown by the examples in (192).

- (192) a. John hammers the metal flat.
 a'. The metal hammers flat easily.
 b. Jan slaat het metaal plat.
 Jan hits the metal flat
 b'. Het metaal slaat gemakkelijk plat.
 the metal hits easily flat

In order to save the hypothesis it has been claimed that the accusative noun phrase *the metal/het metaal* enters not only into a predicative relation with the adjective *flat/plat* but also with the verb *to hammer/slaan*, that is, the accusative noun phrase is not only the SUBJECT of the adjective but also an internal argument of the verb; see Levin & Rappaport Hovav (1995: Section 2.2.1) and references cited there. Empirical support for this assumption is that English (192a) is also acceptable without the adjective; cf. *John hammers the metal*. A problem is, however, that the supposed thematic relation between the verb and the accusative noun phrase is not present in all resultative constructions that have regular middle counterparts; dropping the complementive *plat* 'flat' in the Dutch example in (192b) in fact gives rise to a degraded result at best and is entirely impossible in examples such as (193a). This shows that the object is not assigned a °thematic role by the verbs in these examples, and thus refutes the claim that the object must be an internal argument of the transitive verb for middle formation to be possible.

- (193) a. Jan loopt het gras *(plat).
 Jan walks the grass flat
 b. Het gras loopt gemakkelijk plat.
 the grass walks easily flat

Similarly, the fact that particles in particle verb constructions are often obligatorily present has been used to argue that accusative noun phrases in such constructions are arguments of the particles and not of the verbs. But, again, middle constructions do readily arise with these particle verbs; see the primed examples in (194).

- (194) a. Jan vult de formulieren *(in).
 Jan fills the forms in
 a'. Die formulieren vullen gemakkelijk in.
 these forms fill easily in
 b. Jan zet de tent *(op).
 Jan puts the tent up
 'Jan is putting up the tent.'
 b'. Deze tent zet gemakkelijk op.
 this tent puts easily up

For completeness' sake, the examples in (195) show that like simple unaccusative constructions, resultative unaccusative constructions do not allow regular middle formation. This shows again that middle formation requires that the input verb has an external argument.

- (195) a. Jan rijdt met een sportauto naar Groningen.
 Jan drives with a sports.car to Groningen
 'Jan drives to Groningen in a sports car.'
- b. *Het rijdt met een sportauto gemakkelijk naar Groningen.
 it drives with a sports.car easily to Groningen

The fact the object that is promoted to subject in the regular middle construction need not be assigned a thematic role by the verb but can be introduced by some other predicative element strongly suggests that middle formation is not a lexical, but a syntactic process. This not does, of course, imply that there are no semantic restrictions on middle formation. On the contrary, the contrast between the examples in (189) and (190), on the one hand, and (192), on the other, can be made to follow from the previously established restriction that the input verb must denote an activity, and the contrast between the examples in (194) and those in (196) below shows that the middle verb must refer to some inherent property of the derived subject; see the discussions in Subsections A and D.

- (196) a. Jan lacht die domoren *(uit).
 Jan laughs those idiots prt.
 'Jan is laughing at those idiots.'
- b. *Die domoren lachen gemakkelijk uit.
 those idiots laugh easily prt.

To conclude, it should be noted that there are certainly more restrictions on middle formation than those mentioned above: although *opeten* 'to eat up' denotes an activity and we could readily imagine that *gemakkelijk opeten* would refer to some inherent property of rice, the middle formation in (197b) is nevertheless excluded. Perhaps this is due to the fact that middle verbs denoting some form of consumption are often used with the particle *weg*; see example (197c) and the discussion of example (154) in Subsection A.

- (197) a. Els eet de rijst (op).
 Els eats the rice prt.
 'Els finishes the rice.'
- b. *Rijst eet meestal gemakkelijk op.
 rice eats generally easily prt.
- c. Rijst eet meestal gemakkelijk [?](weg).
 rice eats generally easily prt.

But there is certainly more going on given that middle formation is also excluded in resultative constructions such as (198), in which the PP *onder the tafel* is predicated of the noun phrase *die studenten* 'those students'.

- (198) a. Jan dronk [die studenten onder de tafel].
 Jan drank those students under the table
 'Jan drank those students under the table.'
- b. ^{*?}Die studenten drinken (niet) gemakkelijk onder de tafel.
 those students drink not easily under the table

Since we do not have any further insights to offer, we leave the formulation of the precise conditions under which resultative construction can or cannot undergo middle formation to future research.

F. Non-generic uses of the regular middle construction

Subsection B has shown that regular middle constructions normally receive a generic interpretation, as is clear from the fact that punctual time adverbs like *gisteren* ‘yesterday’ cannot be used, in contrast to time adverbs referring to a longer span of time; cf. (162b&c), repeated here as (199).

- (199) a. [?]Die muur verfde gisteren gemakkelijk.
 that wall painted yesterday easily
 b. Die muur verft altijd gemakkelijk.
 that wall paints always easily

It should be noted, however, that (199a) improves considerably if the adverbial phrase *gemakkelijk* is modified by an °intensifier like *erg* ‘very’, as in (200a), or if it is given in a form other than the positive degree, as in (200b). In such examples, the verb phrase no longer denotes an °individual-level but a stage-level property of the subject; the examples explicitly compare the degree of “paintability” at different moments in time. Adverbs like *nog* ‘still’ or *al* ‘already’ may also improve the result by explicitly stating that the relevant property has changed.

- (200) a. Die muur verfde gisteren erg gemakkelijk.
 that wall painted yesterday very easily
 b. Die muur verfde gisteren gemakkelijker dan vandaag.
 that wall painted yesterday more easily than today
 c. Die muur verfde gisteren nog gemakkelijk.
 that wall painted yesterday still easily

Whereas it is readily imaginable that the degree of paintability of a certain object depends on additional circumstances and can thus be construed as a stage-level property, this is less likely when it comes to the degree of “translatability” of a specific body of literary work. The fact that the marginal example [?]*Vergilius vertaalde gisteren gemakkelijk* in (163b) does not improve by degree modification or comparative formation does not really come as a surprise; examples such as (201) are unacceptable when *Vergilius* is construed as referring to the whole body of work (which is the default reading if these examples are uttered out of the blue). However, these examples seem to become fully acceptable if the context makes it possible to construe Vergil’s work as divided into a series of texts that differ in degree of translatability and if *Vergilius* refers to only one of these texts.

- (201) a. Vergilius vertaalde gisteren erg gemakkelijk.
 Vergil translated yesterday very easily
 b. Vergilius vertaalde gisteren gemakkelijker dan vandaag.
 Vergil translated yesterday more easily than today

The discussion in this subsection strongly suggests that the generic interpretation of the verb phrase in regular middles can be overruled when the adverbial evaluative modifier provides sufficient evidence that a stage-level interpretation is intended.

II. Regular middles and unaccusative constructions

The regular middle constructions discussed in Subsection I are normally relatively easy to identify, but this becomes much harder if the transitive verb that functions as the input of regular middle formation also has an °unaccusative counterpart; cf. Section 3.2.3 for a discussion of such alternations. Consider the examples in (202) and (203): the (a)-examples involve transitive, the (b)-examples unaccusative, and the (c)-examples middle verbs.

- (202) a. Jan sluit de deur [transitive]
 Jan closes the door
- b. De deur sluit automatisch. [unaccusative]
 the door closes automatically
- c. De deur sluit gemakkelijk/moeilijk/prettig/... [middle]
 the door closes easily/with.difficulty/pleasantly/...
- (203) a. Jan brak de glazen [transitive]
 Jan broke the glasses
- b. Die glazen breken vanzelf. [unaccusative]
 those glasses break spontaneously
- c. Die glazen breken gemakkelijk. [middle]
 those glasses break easily

The main difference in surface form between the (b)- and (c)-examples is that the latter contain adverbial phrases that function as evaluative modifiers of the properties denoted by the verb phrases. At first sight, this seems sufficient given that unambiguously unaccusative constructions normally do not seem to allow that type of adverbial modification, as shown by the examples in (204).

- (204) a. *De jongen arriveert gemakkelijk/moeilijk/prettig/...
 the boy arrives easily/with.difficulty/pleasantly/...
- b. *De fles valt gemakkelijk/moeilijk/prettig/...
 the bottle falls easily/with.difficulty/pleasantly/...

The problem is, however, that adjectives like *gemakkelijk* sometimes also occur in unaccusative constructions such as (205). In cases like these, the interpretation of the adverbial phrase is sufficient to show that we are not dealing with a regular middle construction: it is clearly not interpreted as an evaluative modifier of some inherent property of the subject of the construction due to the fact that the verb phrase simply refers to some specific state of affairs.

- (205) De jongen arriveert gemakkelijk op tijd.
 the boy arrives easily in time
 'It is easy for the boy to arrive in time.'

In other cases, however, the interpretation of the adverb is not sufficient: the unaccusative sentences in (206), for example, seem to refer to some characteristic property of the subject of the clause and the meaning of the adverbial phrase comes much closer to that of an evaluative modifier.

- (206) a. Deze fles valt gemakkelijk om.
 this bottle falls easily over
 'This bottle is inclined to tip over.'
- b. Die soep kookt gemakkelijk over.
 that soup boils easily over
 'That kind of soup tends to boil over.'
- c. Die aardappels branden gemakkelijk aan.
 those potatoes burn easily prt.
 'That type of potatoes burn easily.'
- d. Die granaten ontploffen gemakkelijk.
 those grenades explode easily
 'That type of grenades explode easily.'

For this reason we will try to develop a number of tests that may help to tell the unaccusative and middle constructions in (202) and (203) apart. Although judgments are sometimes subtle, the following subsections will show that the two constructions do differ in several respects. We conclude with a concrete case study where the tests to be developed can be fruitfully put to use.

A. Auxiliary selection

Unaccusative constructions can readily occur in the perfect tense. Although there are also unaccusative verbs selecting the perfect auxiliary *hebben*, the fact that the (b)-examples in (202) and (203) select *zijn* is sufficient for showing that they are unaccusative. Note in passing that the acceptable versions of the examples in (207) can be ambiguous; without the adverbs *automatisch* 'automatically' and *vanzelf* 'spontaneously' they allow not only an unaccusative, but also a passive interpretation. This is, of course, due to the fact that verbs like *sluiten* 'to close' and *breken* 'to break' can also be used as transitive verbs.

- (207) a. De deur is/*heeft automatisch gesloten.
 the door is/has automatically closed
 'The door has closed automatically.'
- b. De glazen zijn/*hebben vanzelf gebroken.
 the glasses are/have naturally broken
 'The glasses have broken by themselves.'

Regular middle constructions do not readily occur in the perfect tense. This is probably due to their generic reading given that we find the same thing in generic examples such as (208a). Generic sentences in the perfect tense improve, however, if we add an adverbial phrase like *altijd al* 'all along', as in (208b).

- (208) a. ^{??}Leeuwen zijn zoogdieren geweest.
 lions are mammals been
 'Lions have been mammals.'
- b. Leeuwen zijn altijd al zoogdieren geweest.
 lions have all along mammals been
 'Lions have been mammals all along.'

The examples in (209a&b) show that perfect-tense forms of regular middle constructions also improve by the addition of this adverbial phrase. For our present purpose it is relevant to note that the auxiliary verb in these examples is *hebben*. Example (209c) shows that the selection of *hebben* is not forced by the generic meaning of the middle construction, given that the generic unaccusative construction in (206a) still selects *zijn*.

- (209) a. Die deur heeft/*is altijd al gemakkelijk/moeilijk gesloten. [middle]
 that door has/is all along easily/with.difficulty closed
- b. Die glazen [?]hebben/*zijn altijd al gemakkelijk gebroken. [middle]
 those glasses have/are all along easily broken
- c. Deze fles [?]is/*heeft altijd al gemakkelijk omgevallen. [unaccusative]
 this bottle is/has all along easily fallen.over
 ‘This bottle has always been inclined to tip over.’

The examples in this subsection thus show that selection of the perfect auxiliary can be used as a test for distinguishing unaccusative and middle verbs.

B. Predicative and attributive use of the past participle

Past participles of the unaccusative verb can often readily be used predicatively in the copular construction; cf. Section A9.3. This is never possible, however, with past participles that correspond to the verb in the regular middle construction. This is shown by the contrast between the primeless and primed examples in (210).

- (210) a. De deur bleek ([?]automatisch) gesloten. [unaccusative]
 the door turned.out automatically closed
- a'. *De deur bleek gemakkelijk/moeilijk gesloten. [middle]
 the door turned.out easily/with.difficulty closed
- b. De glazen bleken ([?]vanzelf) gebroken. [unaccusative]
 the glasses turned.out spontaneously broken
- b'. *De glazen bleken gemakkelijk gebroken. [middle]
 the glasses turned.out easily broken

Similarly, past participles of unaccusative verbs can readily be used attributively (cf. Section A9.2), whereas this is excluded in the case of middle verbs. This is shown by the contrast between the primed and primeless examples in (211).

- (211) a. de automatisch gesloten deur [unaccusative]
 the automatically closed door
- a'. *de gemakkelijk/moeilijk gesloten deur [middle]
 the easily/with.difficulty closed door
- b. de vanzelf gebroken glazen [unaccusative]
 the spontaneously broken glasses
- b'. *de gemakkelijk gebroken glazen [middle]
 the easily broken glasses

The primeless examples in (212) show, however, that, unlike the case in English, present participles of both unaccusative and middle verbs can both be used attributively.

- (212) a. de automatisch sluitende deur [unaccusative]
 the automatically closing door
- a'. de gemakkelijk/moeilijk sluitende deur [middle]
 the easily/with.difficulty closing door
- b. de vanzelf brekende glazen [unaccusative]
 the spontaneously breaking glasses
- b'. de gemakkelijk brekende glazen [middle]
 the easily breaking glasses

For completeness' sake, the examples in (213) show that, as usual, present participles of middle verbs cannot be used predicatively.

- (213) a. *De deur bleek automatisch sluitend. [unaccusative]
 the door turned.out automatically closing
- a'. *De deur bleek gemakkelijk/moeilijk sluitend. [middle]
 the door turned.out easily/with.difficulty closing
- b. *De glazen bleken vanzelf brekend. [unaccusative]
 the glasses turned.out spontaneously breaking
- b'. *De glazen bleken gemakkelijk brekend. [middle]
 the glasses turned.out easily breaking

The examples in this subsection thus show that the ability of past (but not present) participles to occur in predicative and/or attributive position can be used as a test for distinguishing unaccusative and middle verbs.

C. *Tense and aspect*

Unaccusative and regular middle constructions differ in that the former normally refer to a specific state of affairs whereas the latter are normally generic in the sense that the verb phrase denotes some inherent (thus time-independent) property of the referent of the subject of the construction. As a consequence, unaccusative and regular middle constructions systematically differ with respect to the properties of middles discussed in Subsection IB. First, the examples in (214) show that unaccusative and regular middle constructions differ in that only the former can be readily combined with punctual adverbial phrases; the use of such time adverbs in regular middle constructions clashes with the fact that the verb phrase must refer to some inherent property of the subject of the construction.

- (214) a. De deur sloot daarnet automatisch. [unaccusative]
 the door closed a.minute.ago automatically
- a'. [?]De deur sloot daarnet gemakkelijk/moeilijk. [middle]
 the door closed a.minute.ago easily/with.difficulty
- b. De glazen braken daarnet vanzelf. [unaccusative]
 the glasses broke a.minute.ago spontaneously
- b'. ^{??}De glazen braken daarnet gemakkelijk. [middle]
 the glasses broke a.minute.ago easily

Second, unaccusative and regular middle constructions differ in that only the former can be used in the progressive *aan het* + infinitive construction; the latter are categorically excluded in this construction.

- (215) a. De deur is ([?]automatisch) aan het sluiten. [unaccusative]
 the door is automatically AAN HET close
 ‘The door is closing automatically.’
 a’. *De deur is gemakkelijk/moeilijk aan het sluiten. [middle]
 b. De glazen zijn ([?]vanzelf) aan het breken. [unaccusative]
 the glasses are spontaneously AAN HET break
 b’. *De glazen zijn gemakkelijk aan het breken. [middle]

Third, unaccusative and regular middle constructions differ in that only the former can occur as the complement of a perception verb. Subsection IB, accounted for that by assuming that the tense of the infinitival clause must be linked to the tense of the main verb and that this clashes with the generic interpretation of the middle construction.

- (216) a. Ik hoorde de deur automatisch sluiten. [unaccusative]
 I heard the door automatically close
 a’. *Ik hoorde de deur gemakkelijk/moeilijk/prettig sluiten. [middle]
 I heard the door easily/ with.difficulty/pleasantly close
 b. Ik zag de glazen vanzelf breken. [unaccusative]
 I saw the glasses spontaneously break
 b’. *?Ik zag die glazen gemakkelijk breken. [middle]
 I saw those glasses easily break

Observe that the AcI-construction with the verb *vinden* ‘to consider’ in (217) is fully acceptable. This seems in line with the fact that the verb *vinden* can take propositional complements headed by individual-level predicates like *intelligent*: *Ik vind Marie intelligent* ‘I consider Marie intelligent’; *vinden* thus differs from the perception verbs in that it is compatible with the generic, individual-level meaning of the middle verbs; see Subsection IB, for discussion.

- (217) Ik vind die glazen wel heel gemakkelijk breken. [middle]
 I consider those glasses prt very easily break
 ‘My opinion is that those glasses break very easily.’

D. Modifiers like *automatisch* ‘automatically’ and *vanzelf* ‘spontaneously’

The obligatory adverbial phrase in the regular middle construction is construed as an evaluative modifier of the inherent property denoted by the verb phrase. This modifier thus implicitly introduces an experiencer. Subsection IC, noted that this implied experiencer is interpreted by default as the agent of the transitive verb that served as the input for middle formation. This accounts for the fact that regular middle verbs cannot be used with adverbial phrases like *automatisch* ‘automatically’ and *vanzelf* ‘spontaneously’, given that these suggest the absence of such an agent.

- (218) a. De deur sloot automatisch. [unaccusative]
 the door closed automatically
- a'. De deur sloot gemakkelijk/moeilijk (*automatisch). [middle]
 the door closed easily/with.difficulty automatically
- b. De glazen braken vanzelf. [unaccusative]
 the glasses broke by.themselves
- b'. Die glazen braken gemakkelijk/moeilijk (?vanzelf). [middle]
 those glasses broke easily/with.difficulty spontaneously

E. Summary and application of the tests

The previous subsections have shown that unaccusative and middle verbs systematically differ in various respects. First, whereas unaccusative verbs may take either *zijn* or *hebben* in the perfect tense, middle verbs invariably take *hebben*. Second, whereas past participles of unaccusative verbs can readily be used as predicates or attributive modifiers, this is not possible with past participles of middle verbs. Third, whereas unaccusatives may refer to an actual event, middles have a generic interpretation; as a result the former but not the latter can be modified by punctual time adverbs, occur in the progressive *aan het* + infinitive construction, or occur as the infinitival complement of a perception verb. Finally, since the implicit experiencer in the middle construction is construed as the agent of the corresponding transitive verb of the middle, modification of the middle verb by adverbs like *automatisch* 'automatically' or *vanzelf* 'spontaneously' gives rise to a degraded result.

Table 2: Differences between unaccusative and middle constructions

	UNACCUSATIVE	MIDDLE
AUXILIARY SELECTION	<i>zijn/hebben</i>	<i>hebben</i>
PREDICATIVE/PREDICATIVE USE OF PAST PARTICIPLES	+	—
EVENT DENOTATION	+	—
VANZELF/AUTOMATISCH	+	—

We conclude our discussion on the differences between unaccusative and middle constructions by means of the discussion of a potentially unclear case. Compare the two examples in (219). The examples are similar in that they both require the adverb to be present, but we will see that they exhibit different behavior with respect to the tests in Table 2.

- (219) a. Dit type auto verkoopt *(goed).
 this type car sells well
 'This type of car sells well.'
- b. Dit type auto verkoopt *(gemakkelijk).
 this type car sells easily
 'This type of car sells easily.'

The first test does not distinguish the two constructions; they both take the auxiliary *hebben* in the perfect tense, which is compatible with both unaccusative and middle verbs. However, the fact that (220a) is also fully acceptable without the adverbial

modifier *altijd al* ‘all along’ may already raise some eyebrows, but is an issue independent of auxiliary selection.

- (220) a. Dit type auto heeft (altijd al) goed verkocht.
 this type car has all along well sold
 ‘This type of car has sold well (all along).’
 b. Dit type auto heeft [?](altijd al) gemakkelijk verkocht.
 this type car has all along easily sold
 ‘This type of car has sold easily all along.’

The examples in (221) show that the two examples differ with respect to the predicative and attributive use of the past participle. This suggests that (219a) but not (219b) exhibits properties of unaccusative verbs.

- (221) a. Dit type auto bleek goed verkocht. [unaccusative]
 this type car turned.out well sold
 a'. *Dit type auto bleek gemakkelijk verkocht. [middle]
 this type car turned.out easily sold
 b. een goed verkocht type auto [unaccusative]
 a well sold type car
 b'. *een gemakkelijk verkocht type auto [middle]
 an easily sold type car

The primeless examples in (222) strongly suggest that example (219a) refers to an actual event: although the construction does not seem very felicitous in the progressive *aan het* + infinitive construction, it can be used with a punctual time adverb like *vanmorgen* ‘this morning’ and it can be used as the infinitival complement of the perception verb *zien*.

- (222) a. Dit type auto verkocht vanmorgen goed.
 this type car sold this.morning well
 a'. [?]Dit type auto verkocht vanmorgen gemakkelijk.
 this type car sold this.morning easily
 b. Ik zag dit type auto goed verkopen.
 I saw this type car well sell
 b'. ^{*?}Ik zag dit type auto gemakkelijk verkopen.
 I saw this type car easily sell
 c. [?]Dit type auto is goed aan het verkopen.
 this type car is good AAN HET sell
 c'. *Dit type auto is gemakkelijk aan het verkopen.
 this type car is easily AAN HET sell

The examples in (223), finally, show that the adverb *vanzelf* ‘spontaneously’ can readily be added to example (219a), but not to example (219b).

- (223) a. Dit type auto verkocht vanzelf goed.
 this type car sold spontaneously well
 b. *Dit type auto verkocht vanzelf gemakkelijk.
 this type car sold spontaneously easily

On the basis of the discussion above we can safely conclude that example (219b) is a genuine case of the regular middle construction. The discussion also suggests that, despite the fact that the adverb *goed* ‘well’ is obligatorily present, *verkopen* acts as an unaccusative verb in (219a), a conclusion that was reached on different grounds for the English verb *to sell* in Keyser and Roeper (1984:394). Perhaps it would be useful to conclude this subsection by noting that verbs like *verkopen* and *verhuren* ‘to rent out’ contrast with other transaction verbs like *kopen* ‘to buy’, *huren* ‘to rent’ and *lenen* ‘to borrow’; the latter can enter neither the unaccusative construction in (224a) nor the regular middle construction in (224b). It might be useful to investigate whether the contrast is related to the fact that the former involve an (implied) recipient/goal, whereas the latter involve an (implied) source.

- (224) a. *Dit type auto koopt/huurt/leent goed.
 this type car buys/rents/borrows well
 b. *Dit type auto koopt/huurt/leent gemakkelijk.
 this type car buys/rents/borrows easily

III. Other constructions that resemble the regular middle

This subsection concludes the discussion of the regular middle construction by comparing it with two other constructions that can readily be confused with it: *easy-to-please* and modal infinitive constructions.

A. Easy-to-please construction

The regular middle construction exhibits some similarities with the °*easy-to-please* construction in (225b), which is extensively discussed in Section A6.5.4.1.

1. Meaning

The middle construction in (225a) and the *easy-to-please* construction in (225b) are both more or less semantically equivalent to the copular example in (225c).

- (225) a. Deze muur verft gemakkelijk/plezierig.
 this wall paints easily/pleasantly
 b. Deze muur is gemakkelijk/plezierig om te verven.
 this wall is easy/pleasant COMP to paint
 ‘This wall is easy/pleasant to paint.’
 c. Het is gemakkelijk/plezierig om deze muur te verven.
 it is easy/pleasant COMP this wall to paint
 ‘It is easy/pleasant to paint this wall.’

There are two conspicuous syntactic similarities between the middle and the *easy-to-please* construction. First, in both cases the subject is interpreted as the logical object of the verb *verven* ‘to paint’. Second, both constructions contain an evaluative modifier with an implicit experiencer PP. In fact, all of the examples in (225) become unacceptable under the intended readings if the adjective is dropped (the surface string that would result in (225b) is possible but only if the infinitival clause is interpreted as an adverbial purpose clause).

The main semantic difference between the middle in (225a) and the *easy-to-please* construction in (225b) is that the latter can readily be construed non-

generically, just like the copular construction in (225c). This is clear, for instance, from the fact that the experiencer *voor*-PP can readily be added in the last two constructions, as shown by (226).

- (226) a. *Deze muur verft voor mij gemakkelijk/plezierig.
 this wall paints for me easily/pleasantly
- b. Deze muur is voor mij gemakkelijk/plezierig om te verven.
 this wall is for me easy/pleasant COMP to paint
- c. Het is voor mij gemakkelijk/plezierig om deze muur te verven.
 it is for me easy/pleasant COMP this wall to paint

2. The verb

Easy-to-please constructions differ from middle constructions in that they are less restrictive with respect to the verb types that can enter them. The examples in (227) show, for instance, that stative verbs like *weten* ‘to know’ yield a completely acceptable result.

- (227) a. *Het antwoord op deze vraag weet gemakkelijk/prettig.
 the answer to this question knows easily/pleasantly
- b. Het antwoord op deze vraag is gemakkelijk/plezierig om te weten.
 the answer on this question is easy/pleasant COMP to know
- c. Het is gemakkelijk/plezierig om het antwoord op deze vraag te weten.
 it is easy/pleasant COMP the answer on this question to know
 ‘It is convenient/pleasant to know the answer to this question.’

3. A conjecture

Although the relation between the middle and the *easy-to-please* construction has not yet been studied in any detail, it seems that all middle constructions do have an *easy-to-please* counterpart (but not vice versa, as shown by (227)); note that Section 3.2.2.3 will draw the same conclusion for adjunct middle constructions. Perhaps the correlation between the two constructions is even closer than the judgments in (227) suggest given that there is a slight meaning difference between the adjectives in (225b) and (227b); *gemakkelijk* means “easy” in the former, whereas it means something like “convenient” in the latter. This may suggest that middle constructions in fact alternate with *easy-to-please* constructions when *gemakkelijk* means “easy”.

B. Modal infinitive

There is also a certain similarity between middles and the modal infinitive constructions discussed in Section A6.5.4.2. For instance, the examples in (228) show that, like middle verbs, modal infinitives must denote an activity.

- (228) a. Die muur is gemakkelijk te verven.
 that wall is easy to paint
 ‘That wall can be painted easily.’
- b. *Het antwoord is gemakkelijk te weten.
 the answer is easy to know

The unacceptability of the modal infinitives in (229) shows, however, that the set of adverbially used adjectives that can enter modal infinitive constructions is considerably smaller than the set of adverbially used adjectives that can enter the regular middle construction; cf. the list of adverbs in (170).

- (229) a. *Die muur is plezierig te verven. [modal infinitive]
 that wall is pleasantly to paint
 a'. Die muur verft plezierig. [middle]
 that wall paints pleasantly
 b. *Dit boek is lekker te lezen. [modal infinitive]
 this book is nicely to read
 b'. Dit boek leest lekker. [middle]
 this book reads nicely

3.2.2.3. *The adjunct middle construction*

Section 3.2.2.2 has shown that regular middles are characterized by the fact that their subjects correspond to the direct objects of the corresponding transitive verbs. This does not hold for adjunct middles; the primed examples in (230) show that their subjects correspond to entities that are normally expressed by means of adjuncts, like instrumental *met*-PPs or adverbial phrases of place or time. Like regular middles, °adjunct middles must contain an evaluative modifier like *lekker* 'nicely' or *prettig* 'pleasantly' in (230).

- (230) a. Els snijdt altijd met dat mes. [instrument]
 Els cuts always with that knife
 a'. Dat mes snijdt lekker/prettig.
 that knife cuts nicely/pleasantly
 'It is nice/pleasant to cut with that knife.'
 b. Peter rijdt graag op deze stille wegen. [location]
 Peter drives readily on these quiet roads
 'Peter likes to drive on these quiet roads.'
 b'. Deze stille wegen rijden lekker/prettig.
 these quiet roads drive nicely/pleasantly
 'It is nice/pleasant to drive on these quiet roads.'
 c. Jan werkt het liefst op rustige middagen. [time]
 Jan works preferably on quiet afternoons
 'Jan prefers to work on quiet afternoons.'
 c'. Rustige middagen werken het prettigst.
 quiet afternoons work the most.pleasant
 'It is the most pleasant to work on quiet afternoons.'

Before we discuss the adjunct middle in more detail, it should be noted that Ackema & Schoorlemmer (2006:147-8) suggest that the instrumental middles should be distinguished from the locational/temporal ones given that the former, in contrast to the latter, are quite common across languages. Since there is little language-internal evidence from Dutch in favor of this claim, we will leave this as a topic for future research and simply assume a uniform analysis for the three types of adjunct middle in (230).

The following subsections discuss the properties of the adjunct middle construction in more detail. Subsection I starts with the syntactic verb types that can be used as input for adjunct middle formation. Subsections II and III continue with a discussion of some properties of the subject and the evaluative modifier. Subsection IV discusses the attributive and predicative use of past and present participles of adjunct middle verbs. Subsection V concludes by suggesting a number of topics for future research.

I. The input verb is (pseudo-)intransitive

The primed examples in (231) show that adjunct middle formation differs from regular middle formation in that it can readily take intransitive verbs as input. This difference is of course related to another difference: whereas subjects of regular middles correspond to the direct object of the input verbs, those of adjunct middles correspond to adverbial phrases of various types.

- (231) a. Peter fietst graag op het fietspad.
 Peter cycles gladly on the bikeway
 'Peter likes to cycle on the bikeway.'
- a'. Het fietspad fietst lekker.
 the bikeway cycles nicely
 'It is nice to cycle on the bikeway.'
- b. Peter fietst graag op zijn nieuwe fiets.
 Peter cycles gladly on his new bicycle
 'Peter likes to cycle on his new bicycle.'
- b'. Deze nieuwe fiets fietst lekker.
 this new bicycle cycles nicely
 'It is nice to cycle on this new bicycle.'

The examples in (232) show that adjunct middles behave like regular middles and unlike passives in that the subject of the input verb cannot be expressed by means of an agentive *door*-phrase. Nevertheless, some notion of agentivity still seems to be implied; this is due to the fact that the evaluative modifier provides an assessment of some property of the subject in relation to the activity denoted by the verb, and thus indirectly evokes the notion of agent.

- (232) a. *Het fietspad fietst lekker door Peter.
 the bikeway cycles nicely by Peter
- b. *Deze nieuwe fiets fietst lekker door Peter.
 this new bicycle cycles nicely by Peter

Transitive verbs can only be used as input for adjunct middle formation if they can be used as pseudo-intransitives; overtly realizing the object in the middle constructions in the primed examples in (233) leads to unacceptability (but see Subsection VA below, which discusses some potential cases of adjunct middles in which the object is realized).

- (233) a. Peter eet (zijn lunch) in een hoog tempo.
 Peter eats his lunch at a high speed
 'Peter is eating his lunch at high speed.'
- a'. Een hoog tempo eet (*lunch) niet prettig.
 a high speed eats lunch not pleasantly
 'It isn't pleasant to eat at high speed.'
- b. Jan leest graag (romans) op rustige middagen.
 Jan reads gladly novels on quiet afternoons
 'Jan likes to read (novels) on quiet afternoons.'
- b'. Rustige middagen lezen (*romans) het prettigst.
 quiet afternoons read novels the most pleasant
 'It is the most pleasant to read on quiet afternoons.'

The fact that direct objects cannot be overtly realized in adjunct middles may also account for the fact that ditransitive verbs cannot normally be the input verb for adjunct middle formation; the (b)-examples in (234) show that the result is unacceptable, regardless of whether the recipient is realized as a °dative phrase or as the complement of a periphrastic *aan*-PP.

- (234) a. Peter geeft <Jan> boeken <aan Jan> op zijn verjaardag.
 Peter gives Jan books to Jan on his birthday
 'Peter is presenting Jan books on his birthday.'
- b. *Zijn verjaardag geeft gemakkelijk Jan boeken.
 his birthday gives easily Jan books
- b'. *Zijn verjaardag geeft gemakkelijk boeken aan Jan.
 his birthday gives easily books to Jan

The primed examples in (235) show that adjunct middles differ from regular middles in that the former can marginally be found with unaccusative verbs if the internal argument is able to control the process; cf. the contrast between *vallen* 'to fall' and *sterven* 'to die'. The acceptability of examples such as (235a') is somewhat surprising given that it suggests that the subject of the input verb need not be an external argument (agent) but can also be an internal argument (theme). It seems, however, that we are dealing here with the so-called stage context reading, which was shown in Section 3.2.1.2, sub II, to also license passivization of unaccusative verbs; cf. Ackema & Schoorlemmer (2006:175).

- (235) a. Marie valt op de judomat.
 Marie falls onto the judo.mat
- a'. [?]Een judomat valt prettiger dan de vloer.
 a judo.mat falls more.pleasantly than the floor
 'It is more pleasant to fall on a judo mat than on the floor.'
- b. Oude officieren sterven in het bejaardenhuis.
 old officers die in an old.people's.home
- b'. ^{*?}Een bejaardenhuis sterft prettiger dan het slagveld.
 an old.people's.home dies more.pleasantly than the battlefield
 'It is more pleasant to die in an old people's home than on the battlefield.'

The examples in (236) show that adjunct middle verbs take the auxiliary *hebben* 'to have' in the perfect tense; this also holds for middle verbs derived from unaccusative verbs like *vallen*, which normally take *zijn*.

- (236) a. Dit fietspad heeft altijd al lekker gefietst.
 this bikeway has all along nicely cycled
 'It has always been nice to cycle on this bikeway.'
- b. Een high tempo heeft nog nooit prettig gegeten.
 a high speed has PRT never pleasantly eaten
 'It has never been pleasant to eat at high speed.'
- c. Een judomat ^{??}heeft/*is altijd al beter gevallen dan de vloer.
 a judo.mat has/is all along better fallen than the floor
 'It has always been more pleasant to fall on a judo mat than on the floor.'

II. The derived subject

The examples in (230) to (235) have already shown that subjects of adjunct middles can correspond to the nominal complement of a wide range of adverbial phrases. The examples in (237) further show that the subject can at least marginally correspond to a benefactive if the direct object is omitted. Note in passing that this supports our earlier suggestion that it is the obligatory presence of direct objects in examples such as (234a) that blocks adjunct middle formation of ditransitive verbs.

- (237) a. Jan schenkt voor zulke rustige gasten graag in.
 Jan pours for such quiet guests readily prt.
 'Jan likes to pour out (drinks) for such quiet guests.'
- b. ^{??}Zulke rustige gasten schenken prettig in.
 such quiet guests pour nicely prt.
 'It is nice to pour out (drinks) for such quiet guests.'

Subjects of adjunct middles are non-agentive and non-volitional. This is clear from the fact that they are normally inanimate and (therefore) cannot control a purpose clause or co-occur with agent oriented adverbial phrases, as shown in (238).

- (238) a. *Het fietspad fietst lekker om Peter een plezier te doen.
 the bikeway cycles nicely COMP Peter a pleasure to do
- a'. *Het fietspad fietst opzettelijk/met opzet lekker.
 the bikeway cycles deliberately/on purpose nicely
- b. *Dit mes snijdt lekker om het Els gemakkelijk te maken.
 this knife cuts nicely COMP it Els easy to make
- b'. *Dit mes snijdt opzettelijk/met opzet lekker.
 this knife cuts deliberately/on purpose nicely

III. The evaluative modifier

The examples in (239) show that the evaluative modifiers found in adjunct middles are of the *gemakkelijk*-type; they are normally compulsory.

- (239) a. Deze stoel zit *(lekker/prettig/gemakkelijk).
 this chair sits nicely/pleasantly/easily
- b. Dit mes snijdt *(prettig/lekker/gemakkelijk/moeilijk).
 this knife cuts pleasantly/nicely/easily/with.difficulty

The primeless examples in (240) show that the evaluative modifier can at least marginally be left out if the negative adverb *niet* 'not' is present. In such cases the evaluation normally expressed by the evaluative modifiers is implied; (240a) expresses that the chair is uncomfortable and (240b) that the knife is blunt or has some other deficiency. The primed examples show that the adverb may also be omitted if the verb is emphatically accented; the continuations in the primed examples show that the evaluation intended varies from case to case: *heerlijk* provides a positive, *afgrijselijk* a negative, and *En hoe* a positive, high degree evaluation.

- | | | | | |
|----------|-----------------------------------|----------------------|--|-------------------------|
| (240) a. | ⁰ Deze stoel zit niet. | a'. | Deze stoel ZIT. Heerlijk/Afgrijselijk! | |
| | this chair sits not | | this chair sits wonderful/horrible | |
| | b. | Dit mes snijdt niet. | b'. | Dit mes SNIJDT. En hoe! |
| | this knife cuts not | | this knife cuts and how | |

The examples in (241), finally, show that the implicit experiencer of the evaluative modifier cannot be overtly realized (with the same proviso made in Section 3.2.2.2, sub IC, for the regular middle).

- | | | |
|----------|---|--|
| (241) a. | [#] Deze stoel zit voor iedereen lekker. | |
| | this chair sits for everybody nicely | |
| | b. | [#] Dit mes snijdt voor iedereen prettig. |
| | this knife cuts for everybody pleasantly | |

IV. Attributive and predicative use of past/present participles

The examples in (242) show that adjunct middles do not allow attributive and predicative use of their past participles, whereas attributive use of their present participles is fully acceptable. In this respect adjunct middles behave like regular middles; cf. Section 3.2.2.2, sub IIB.

- | | | | | |
|----------|-------------------------------------|--------------------------------|--|-----------------------------------|
| (242) a. | Deze weg rijdt lekker. | a'. | Dit mes snijdt prettig. | |
| | this road drives nicely | | this knife cuts pleasantly | |
| | 'It is nice to drive on this road.' | | 'It is pleasant to cut with this knife.' | |
| | b. | *Een lekker gereden weg | b'. | *een prettig gesneden mes |
| | a nicely driven road | | a pleasantly cut knife | |
| | c. | *De weg blijkt lekker gereden. | c'. | *Dit mes blijkt prettig gesneden. |
| | the road turns.out nicely driven | | this knife turns.out pleasantly cut | |
| | d. | een lekker rijdende weg | d'. | een prettig snijdend mes |
| | a nicely driving road | | a pleasantly cutting knife | |
| | 'a road comfortable for driving' | | 'a knife pleasant for cutting' | |

There are, however, two facts that deserve to be mentioned. First, the attributive constructions in the (d)-examples of (242) seem to allow omission of the present participles while retaining more or less the same meaning. In the resulting structures the adjectives no longer behave as adverbial phrases, but as regular attributive modifiers. This is clear from the fact illustrated in the (a)- and (b)-examples in (243) that they exhibit attributive inflection; cf. Section A5.1. Observe from the (c)-examples that the adjectives cannot be used predicatively; insofar as the copular example in (243c) is acceptable, *lekker* receives the (inappropriate) property denoting meaning "tasty".

- | | | | |
|----------|--|-----|---|
| (243) a. | een lekker-e weg
a nice road | a'. | een prettig-Ø mes
a pleasant knife |
| b. | de lekker-e weg
the nice road | b'. | het prettig-e mes
the nice knife |
| c. | [#] De weg blijkt lekker.
the road turns.out tasty | c'. | ^{*?} Dit mes blijkt prettig.
this knife turns.out tasty |

Second, there are a number of not -well-understood restrictions on the attributive use of present participles. The examples in (244a&b), for example, show that the adjunct middles derived from the pseudo-intransitives in (233) do not allow attributive use of their present participles. However, there is clearly not a general ban on the attributive use of present participles of adjunct middle verbs derived from pseudo-intransitive verbs; the examples in (244c&d) are fully acceptable.

- | | |
|----------|--|
| (244) a. | [*] een hoog etend tempo
a high eating speed |
| b. | [*] prettig lezende rustige middagen
pleasantly reading quiet afternoons |
| c. | een prettig dansende vloer
a pleasantly dancing floor |
| d. | een gemakkelijk vervende kwast
an easily painting brush |

V. Miscellaneous topics

This subsection discusses a number of issues that may be subjects for future research. Subsection A starts by taking issue with our earlier claim that adjunct middle formation requires that the input verb be intransitive by suggesting that there in fact do exist adjunct middles based on transitive verbs. Subsection B will show that there are adjunct middle-like constructions in which the obligatory adjunct is not (or at least less clearly) evaluative in nature. Subsection C concludes by briefly comparing adjunct middles to ^o*easy-to-please* constructions.

A. Adjunct middles with objects?

Although the primeless examples in (245) look structurally similar, they differ in that the latter allows for the addition of a direct object. The primed examples show the same thing for the corresponding constructions with attributively used present participles.

- | | |
|----------|--|
| (245) a. | Dit mes snijdt (^{*?} het vlees) lekker.
this knife cuts the meat nicely |
| a'. | een ([*] het vlees) lekker snijdend mes
a the meat nicely cutting knife |
| b. | Dit mes snijdt (het vlees) goed/beter.
this knife cuts the meat well/better |
| b'. | een (het vlees) goed snijdend mes
a the meat well cutting knife |

The claim in Subsection I that adjunct middles do not allow the presence of a direct object suggests that the two constructions are different, and that example (245b) is not an adjunct middle construction. Another possibility, however, is to assume that this claim was wrong and to investigate whether the contrast between the (a)- and (b)-examples can be accounted for in some other way. One reason to follow this track is that there is in fact no *a priori* reason to expect that a direct object cannot occur in this type of middle construction.

Now, consider the examples in (246) with the transitive verb *snijden*. These examples show that the realization of the direct object gives rise to a rather odd result if the adverbially used adjective *lekker* is present, but is easily possible if the adverb is *goed* 'well'.

- (246) a. Ik snijd lekker (met dit mes).
 a'. Ik snijd het vlees lekker *(^{??}met dit mes).
 I cut the meat nicely with this knife
 b. Ik snijd goed/beter (met dit mes).
 b'. Ik snijd het vlees goed/beter (met dit mes).
 I cut the meat well/better with this knife

If *lekker* and *goed* differ in that the former, but not the latter, favors the pseudo-intransitive use of *snijden*, this may provide an alternative account for the contrast found in (245). If so, the two constructions in (245) can both be taken as instances of the adjunct middle construction. For completeness' sake, observe that the two examples in (245) both have an *easy-to-please* counterpart, illustrated in (247).

- (247) a. Dit mes is lekker om mee te snijden.
 this knife is nice COMP with to cut
 b. Dit mes is goed/beter om (het vlees) mee te snijden.
 this knife is good/better COMP the meat with to cut

The discussion above suggests that the claim in Subsection I that adjunct middles do not allow the presence of a direct object may be wrong and that this restriction may be related to the choice of evaluative modifier. We leave it to future research to investigate whether this suggestion is on the right track.

B. Adjunct middles with modifiers that do not take an experiencer?

This subsection discusses a second construction that looks quite similar to the adjunct middle, but nevertheless may have to be analyzed differently. Consider the primeless examples in (248), which look structurally similar but differ with respect to the question as to whether they have an *easy-to-please* counterpart.

- (248) a. Deze weg rijdt lekker.
 this road drives nicely
 a'. Deze weg is lekker [om PRO op te rijden].
 this road is nice COMP on to drive
 b. Deze weg rijdt snel/vlot.
 this road drives fast/smoothly
 b'. *Deze weg is snel/vlot [om PRO op te rijden].
 this road is fast/smooth COMP on to drive

The impossibility of (248b') seems related to the inability of the adjectives *snel* 'fast' and *vlot* 'smoothly' to take an experiencer *voor*-PP: **snel/vlot voor mij*. The explanation for this is that the *easy-to-please* construction requires that the phonetically empty subject PRO of the infinitival clause be °controlled by the (implicit) experiencer of the evaluative adjective; if the experiencer is left implicit, as in (248a'), it receives an arbitrary interpretation, which results in the generic meaning of the complete sentence. The ungrammaticality of (248b') can now be accounted for by appealing to the fact that adjectives like *snel/vlot* do not select an experiencer and that the phonetically empty subject PRO of the infinitival clause is therefore not controlled, as a result of which it cannot be assigned an appropriate interpretation.

Since adjunct middle constructions normally also require an adjective that selects an experiencer *voor*-PP, it remains to be seen whether (248b) can be analyzed as a middle construction or whether we are dealing with some other construction type. Adjunct middle-like constructions without an *easy-to-please* counterpart are quite common but do not seem to have received much attention so far. Example (249) presents two other cases based on the pseudo-intransitive verb *verven* 'to paint' and the adverb *gelijkmatig* 'evenly', which again lacks an implicit experiencer; the (a)- and (b)-example much resemble, respectively, the regular middle and the adjunct middle construction.

- (249) a. Deze muur verft gelijkmatig.
 this wall paints evenly
 a'. *Deze muur is gelijkmatig om te verven.
 this wall is evenly COMP to paint
 b. Deze kwast verft gelijkmatig.
 this brush paints evenly
 b'. *Deze kwast is gelijkmatig om te verven.
 this brush is evenly COMP to paint

As noted, it remains to be seen whether the constructions without an *easy-to-please* counterpart can be analyzed as run-of-the-mill adjunct middle constructions. We leave this to future research while noting one fact that favors a middle analysis, namely, that these constructions have the typical middle semantic characteristic that they refer to inherent properties of their subjects.

C. Easy-to-please construction

We have mentioned a number of times that adjunct middles like the primeless examples in (250) often have *easy-to-please* counterparts, which express more or less the same meanings and in which the subjects of the °matrix clause also correspond to the complement of some adverbial PP; the subjects in the (a)-examples correspond to the nominal part of the instrumental PP *met dit mes* 'with this knife' and the subjects in the (b)-examples correspond to the nominal part of a locational PP.

- (250) a. Dit mes snijdt lekker/prettig.
 this knife cuts nicely/pleasantly
 'It is nice/pleasant to cut with this knife.'
- a'. Dit mes is lekker/prettig om mee te snijden.
 this knife is nice COMP with to cut
 'It is nice to cut with this knife.'
- b. Deze stille wegen rijden lekker/prettig.
 these quiet roads drive nicely/pleasantly
 'It is nice/pleasant to drive on these quiet roads.'
- b'. Deze stille wegen zijn prettig om op te rijden.
 these quiet roads are pleasant COMP on to drive
 'It is pleasant to drive on these quiet roads.'

The correlation breaks down, however, if the subject corresponds to the nominal part of an adverbial PP that does not allow °R-extraction; the primed examples in (251) are excluded because adverbial phrases of time and manner like *op rustige middagen* 'in quiet afternoons' and *in een hoog tempo* 'at high speed' normally do not allow R-extraction.

- (251) a. Rustige middagen werken het prettigst.
 quiet afternoons work the most pleasant
 'It is the most pleasant to work on quiet afternoons.'
- a'. *Rustige middagen zijn het prettigst om op te werken.
 quiet afternoons are the most pleasant COMP on to work
- b. Een hoog tempo eet niet prettig.
 a high speed eats not pleasantly
- b'. *Een hoog tempo is niet prettig om in te eten.
 a high speed is not pleasantly COMP in to eat

The contrast between the examples in (250) and (251) can be related directly to this difference with respect to R-extraction. Section A6.5.4.1, sub III, argues that *easy-to-please* constructions involve *wh*-movement of an empty °operator into the initial position of the infinitival clause. This means that the structures of the *easy-to-please* constructions above are as given in (252); note in passing that the prepositional *mee* 'with' in (252a) only occurs if R-extraction has applied, which of course provides strong support for the proposed movement analysis.

- (252) a. Dit mes is lekker/prettig [OP_i om PRO [mee t_i] te snijden]. [cf. (250a)]
 b. Stille wegen zijn prettig [OP_i om PRO [op t_i] te rijden]. [cf. (250b)]
 c. *Rustige middagen zijn het prettigst [OP_i om [op t_i] te werken]. [cf. (251a)]
 d. *Een hoog tempo is niet prettig [OP_i om [in t_i] te eten]. [cf. (251b)]

The unacceptability of the *easy-to-please* constructions in (251) now follows straightforwardly from the fact that adverbial phrases of time and manner normally do not allow R-extraction; the indicated movement of the operators in (252c&d) is excluded. Note that this account of the contrast between the *easy-to-please* constructions in (250) and (251) strongly suggests that the adjunct middles cannot be derived from the corresponding non-middle constructions by syntactic

movement, since we would then expect the adjunct middles in (251) to be excluded for the same reason as the corresponding *easy-to-please* constructions.

The examples in (253) show that adjunct middles and *easy-to-please* constructions also differ in that subjects of adjunct middles cannot correspond to the nominal parts of PP-complements, whereas subjects of *easy-to-please* constructions can. The acceptability of the *easy-to-please* construction in (253c), of course, follows from the fact that R-extraction from complement-PPs is allowed.

- (253) a. Jan kijkt graag naar schilderijen.
 Jan looks readily to paintings
 'Jan likes to look at paintings.'
- b. *Schilderijen kijken prettig.
 paintings look pleasantly
- c. Schilderijen zijn prettig [OP₁ om PRO [naar t_i] te kijken].
 paintings are pleasant COMP at to look
 'It is nice to look at paintings.'

The examples in (254) show that subjects of *easy-to-please* constructions can also correspond to the nominal parts of predicative PPs, which is again in accordance with the R-extraction analysis.

- (254) a. Jan stopt zijn CDs in speciale dozen.
 Jan puts his CDs into special boxes
- a'. Die speciale dozen zijn handig [OP₁ om PRO je CDs [in t_i] te stoppen].
 these special boxes are handy COMP your CDs into to put
 'These boxes, it is handy to put your CDs into them.'
- b. Jan springt over de hordes heen.
 Jan jumps over the hurdles HEEN
- b'. Deze hordes zijn moeilijk om overheen te springen.
 these hurdles are difficult COMP over to jump
 'These hurdles are difficult to jump over.'

Comparable adjunct middles are not expected to arise given that we have seen in Subsection I that transitive and unaccusative verbs cannot normally be used as input for adjunct middle formation. That unaccusative verbs with a predicative PP cannot be the input of adjunct middle formation can be nicely illustrated by the examples in (255) and (256). The examples in (255) show that movement verbs like *springen* 'to jump' have two uses: an intransitive use, in which case the verb selects *hebben* in the perfect tense and the PP functions as a regular adverbial phrase of place, and an unaccusative use, in which case the verb selects *zijn* in the perfect tense and the PP functions as a °complementive indicating a change of location.

- (255) a. Jan heeft op de trampoline gesprongen.
 Jan has on the trampoline jumped
 'Jan has jumped on the trampoline.'
- b. Jan is op de trampoline gesprongen.
 Jan is onto the trampoline jumped
 'Jan has jumped onto the trampoline.'

Semantically, the adjunct middle construction in (256) is clearly related to the intransitive construction in (255a), and not to the unaccusative construction in (255b): it is the jumping *on* the trampoline that is claimed to be nice, not the jumping *onto* the trampoline.

- (256) De trampoline springt lekker.
 the trampoline jumped nicely
 Available reading: 'It is nice to jump on the trampoline.'
 Impossible reading: 'It is nice to jump onto the trampoline.'

The discussion in this subsection has shown that adjunct middles and *easy-to-please* constructions differ in that the subject of the latter may correspond to the nominal part of any PP that allows R-extraction; adjunct middles, on the other hand, take subjects that correspond to the nominal part of a wide range of adverbial PPs, regardless of whether these PPs allow R-extraction. Furthermore, adjunct middles do justice to their name by never taking a subject that corresponds to the nominal part of a PP-complement or a predicative PP.

3.2.2.4. *The impersonal middle construction*

The impersonal middle construction, which has not been studied much so far, is illustrated by means of the primed examples in (257). The construction owes its name to the fact that the subject is invariably the non-referential pronoun *het* 'it'; replacing this pronoun by a referential one like the demonstrative *dit* 'this' leads to ungrammaticality. Impersonal middles obligatorily contain an adverbial PP, as a result of which their meaning comes close to adjunct middles; it attributes properties to the instrument, the location or the time referred to by the nominal part of the adverbial phrase.

- (257) a. Jan snijdt graag met dat mes.
 Jan cuts readily with that knife
 a'. Het/*Dit snijdt lekker met dat mes.
 it/this cuts nicely with that knife
 b. Peter zit vaak op die stoel.
 Peter sits often on that chair
 b'. Het/*Dit zit lekker op die stoel.
 it/this sits nicely on that chair

The claim that the adverbial PPs in (257) are obligatory does not mean that their omission results in ungrammaticality, but that the resulting structures in (258) are not impersonal middles; we are dealing with, respectively, an adjunct and a regular middle, as is clear from the fact that the pronoun *het* is referential and can thus be replaced by the demonstrative *dit* or a referential noun phrase.

- (258) a. Het/Dit/Het krukje zit lekker.
 it/this/the stool sits nicely
 b. Het/Dit/Het vlees snijdt lekker.
 it/this/the meat cuts easily

The following subsections discuss the impersonal middle construction in more detail. Subsection I shows that impersonal middle formation exhibits the same restriction on the input verb as adjunct middle formation. The fact that the two middle constructions are very close semantically is accounted for in Subsection II by showing that the non-referential subject pronoun *het* of the impersonal middle functions as an °anticipatory pronoun that is coindexed with an adverbial phrase that can also be the counterpart of the subject in an adjunct middle. Subsection III continues with a discussion of these adverbial adjuncts. Subsection IV concludes with a discussion of the (implicit) experiencer introduced by the evaluative modifier.

I. The input verb is (pseudo-)intransitive

Impersonal middles are like adjunct middles and unlike regular middles in that they can readily take an intransitive verb as input. This may again be attributed to the fact that the subject of the impersonal middle does not correspond to the direct object of the input verbs.

- (259) a. Peter fietst graag op het fietspad.
Peter cycles readily on the bikeway
'Peter likes to cycle on the bikeway.'
- a'. Het fietst lekker op het fietspad.
it cycles nicely on the bikeway
'It is nice to cycle on the bikeway.'
- b. Peter fietst op zijn nieuwe fiets.
Peter cycles on his new bicycle
'Peter is cycling on his new bicycle.'
- b'. Het fietst lekker op deze nieuwe fiets.
it cycles nicely on this new bicycle
'It is nice to cycle on this new bicycle.'

The examples in (260) show that adjunct middles behave like regular middles and unlike passives in that the subject of the input verb cannot be expressed by means of an agentive *door*-phrase. Nevertheless, the notion of agent still seems to be implied; the evaluative modifier provides an assessment of some property of the subject in relation to the activity denoted by the verb, and thus indirectly introduces the notion of agentivity.

- (260) a. *Het fietst lekker op het fietspad door Peter.
it cycles nicely on the bikeway by Peter
- b. *Het fietst lekker op deze nieuwe fiets door Peter.
it cycles nicely on this new bicycle by Peter

Transitive verbs can only be used as input for impersonal middle formation if they can be used as pseudo-intransitives; overtly realizing the objects in the middle constructions in the primed examples in (261) leads to unacceptability.

- (261) a. Jan eet (zijn lunch) in een hoog tempo.
 Jan eats his lunch at a high speed
 'Jan is eating his lunch at high speed.'
- a'. Het eet (*lunch) niet prettig in een hoog tempo.
 it eats lunch not pleasantly at a high speed
 'It isn't pleasant to eat at high speed.'
- b. Jan leest graag (romans) op rustige middagen.
 Jan reads readily novels on quiet afternoons
 'Jan likes to read (novels) on quiet afternoons.'
- b'. Het leest (*romans) het prettigst op rustige middagen.
 it reads novels the most pleasant on quiet afternoons
 'It is the most pleasant to read on quiet afternoons.'

For the same reason, ditransitive verbs cannot normally be the input verb for impersonal middle formation; this is only (at best marginally) possible if the direct object can be omitted, as in the (b)-examples of (262).

- (262) a. Marie geeft het Rode Kruis *(geld).
 Marie gives the Red Cross money
- a'. *Het geeft het Rode Kruis gemakkelijk geld.
 it gives the Red Cross easily money
- b. Marie geeft (geld) aan het Rode Kruis.
 Marie gives money to the Red Cross
- b'. Het geeft gemakkelijk ?(*geld) aan het Rode Kruis.
 it gives easily money to the Red Cross

Impersonal middle formation is normally not possible on the basis of unaccusative verbs, although we may need to make an exception for unaccusative verbs allowing a stage context reading.

- (263) a. Jan valt prettiger op een judomat dan op de vloer.
 Jan falls more.pleasantly on a judo.mat than on the floor
- a'. [?]Het valt prettiger op een judomat dan op de vloer.
 it falls more.pleasantly on a judo.mat than on the floor
 'It is more pleasant to fall on a judo mat than on the floor.'
- b. Oude officieren sterven in het bejaardenhuis.
 old officers die in an old.people's.home
- b'. ^{??}Het sterft prettiger in een bejaardenhuis dan op het slagveld.
 it dies more.pleasantly in an old.people's.home than on the battlefield
 'It is more pleasant to die in an old people's home than on the battlefield.'

The examples in (264) show that impersonal middles take the auxiliary *hebben* 'to have' in the perfect tense; this also holds for middle verbs derived from unaccusative verbs like *vallen*, which normally take *zijn*.

- (264) a. Het heeft altijd al lekker gefietst op dit fietspad.
 it has all along nicely cycled on this bikeway
 ‘It has always been nice to cycle on this bikeway.’
- b. Het heeft nog nooit prettig gegeten in een snel tempo.
 it has PRT never pleasantly eaten at a high speed
 ‘It has never been pleasant to eat at high speed.’
- c. Het ^{??}heeft/*is altijd al beter gevallen op een judomat dan op de vloer.
 it has/is all along better fallen on a judo.mat than on the floor
 ‘It has always been more pleasant to fall on a judo mat than on the floor.’

II. The non-referential pronoun *het* ‘it’

The discussion in the previous subsection has shown that impersonal and adjunct middles are similar in that they both take (pseudo-)intransitive verbs as input; cf. Section 3.2.2.3, sub I. Furthermore, we have seen that the two constructions are also very similar semantically. Let us therefore provisionally assume that impersonal middles are impersonal counterparts of adjunct middles; the non-referential pronoun *het* is an anticipatory pronoun that is associated with the adverbial PP which acts as the °logical SUBJECT of the clause. The impersonal middles in (259) and (261) would then have the structures in (265), in which coindexing is used to express the proposed relation between the anticipatory pronoun *het* and the adverbial phrase; we refer the reader to Section A6.6 for a discussion of comparable copular constructions: *Het_i is warm [in de tropen]_i* ‘It is hot in the tropics’.

- (265) a. Het_i fietst lekker [op het fietspad]_i.
 it cycles nicely on the bikeway
- b. Het_i fietst lekker [op deze nieuwe fiets]_i.
 it cycles nicely on this new bicycle
- c. Het_i eet niet prettig [in een hoog tempo]_i.
 it eats not pleasantly at a high speed
 ‘It isn’t pleasant to eat at high speed.’
- d. Het_i leest het prettigst [op rustige middagen]_i.
 it read the most pleasant on quiet afternoons

The syntactic and semantic similarities between adjunct and impersonal middles can now be accounted for by assuming that subjects of adjunct middles correspond to adjuncts that can be coindexed with the anticipatory subject pronoun *het* in impersonal middle constructions. If this is on the right track, we correctly predict that impersonal middles are subject to restrictions similar to those on adjunct middles. Section 3.2.2.3, sub VC, has demonstrated, for example, that the unacceptability of examples such as (266b) shows that subjects of adjunct middles cannot correspond to the nominal part of a PP-complement. We therefore correctly predict that the same thing holds for the impersonal middle in (266c). Observe that the latter example improves considerably if we add a locational adverbial phrase, as in (266c’), but this is due to the fact that the anticipatory pronoun can then be construed with the adverbial phrase.

- (266) a. Jan kijkt graag naar schilderijen.
 Jan looks readily to paintings
 ‘Jan likes to look at paintings.’
 b. *Schilderijen kijken prettig.
 paintings look pleasantly
 c. *Het_i kijkt prettig [naar schilderijen]_i.
 it looks pleasantly at paintings
 c’. [?]Het_i kijkt [in dat museum]_i prettig naar schilderijen.
 it looks in that museum pleasantly at paintings

Section 3.2.2.3, sub VC, also argued that the subject of an adjunct middle cannot correspond to the nominal part of a predicative PP. This was illustrated by means of the examples in (255), repeated here as (267), which show that the adverbial and predicative PPs can be distinguished by their meaning: an adverbial PP simply indicates where the activity denoted by the verb takes place, whereas the predicative PP refers to the new location that the subject of the clause obtains by performing the action denoted by the verb.

- (267) a. Jan heeft op de trampoline gesprongen. [adverbial PP]
 Jan has on the trampoline jumped
 ‘Jan has jumped on the trampoline.’
 b. Jan is op de trampoline gesprongen. [predicative PP]
 Jan is onto the trampoline jumped
 ‘Jan has jumped onto the trampoline.’

The subject in the adjunct middle construction in (256), repeated here as (268a), clearly corresponds to the adverbial PP: it is the jumping on the trampoline that is claimed to be nice, not the jumping onto the trampoline. Example (268b) shows that the same thing holds for the corresponding impersonal middle.

- (268) a. De trampoline springt lekker.
 the trampoline jumps nicely
 Available reading: ‘It is nice to jump on the trampoline.’
 Impossible reading: ‘It is nice to jump onto the trampoline.’
 b. Het_i springt lekker [op de trampoline]_i.
 it jumps nicely on the trampoline
 Available reading: ‘It is nice to jump on the trampoline.’
 Impossible reading: ‘It is nice to jump onto the trampoline.’

We conclude from the discussion above that anticipatory pronouns in impersonal middles can only be coindexed with adverbial phrases. This may have interesting results for cases in which the status of a certain PP is unclear, like the locational PP that co-occurs with the verb *wonen* ‘to live’ in example (269a). Given that this PP is obligatory, it has been suggested that it is a PP-complement or a complementive selected by the verb. The fact that this example has an impersonal middle counterpart strongly suggests, however, that the PP is a regular adverbial phrase.

- (269) a. Jan woont *(in Amsterdam).
 Jan lives in Amsterdam
 b. Het_i woont prettig [in Amsterdam]_i.
 it lives pleasantly in Amsterdam

In relation to the hypothesis that the non-referential pronoun *het* in the impersonal middle functions as an anticipatory pronoun associated with an adverbial PP that acts as the logical SUBJECT of the clause, it may be useful to note that impersonal middles are special in that their nominalizations can be readily used as nominal predicates. The resulting copular constructions in (270) are likewise impersonal in nature; the subject pronoun *het* cannot be replaced by, e.g., a deictic pronoun and seems to function as an anticipatory pronoun co-indexed with the adverbial PP; we refer the reader again to Section A6.6 for a discussion of comparable constructions.

- (270) a. dat het_i lekker fietsen is [op het fietspad]_i.
 that it nicely cycling is on the bikeway
 ‘that cycling is nice on the bikeway.’
 b. dat het_i lekker fietsen is [op deze nieuwe fiets]_i.
 that it nicely cycling is on this new bicycle
 ‘that cycling is nice on this new bicycle.’

To conclude this discussion on the anticipatory subject pronoun *het* of the impersonal middle construction, we want to note that impersonal middles do not have corresponding constructions in which participles are used as attributive modifiers or secondary predicates. This is, of course, not due to the verb but to the fact that the subject pronoun *het* is non-referential and can therefore not be modified or function as an argument of a predicate.

III. The adverbial phrase

The previous subsection suggested that adjunct middles always have an impersonal middle counterpart. It does not seem to be the case, however, that the inverse holds as well; impersonal middles seem possible with a somewhat wider range of adjunct types than adjunct middles. This will become clear by comparing the examples in (271); the non-middle construction in (271a) has an impersonal but not an adjunct middle counterpart.

- (271) a. Peter eet prettig aan die tafel.
 Peter eats pleasantly at that table
 b. Het_i eet prettig [aan die tafel]_i.
 it eats pleasantly at that table
 b'. ^{*?}Die tafel eet prettig.
 that table eats pleasantly

The examples in (272) suggest that the contrast in acceptability between impersonal and adjunct middles can at least sometimes be related to meaning. The nominal part of the adverbial *met*-PP in (272a) can readily be used as the subject of an adjunct middle, whereas the nominal part of the *zonder*-PP in (272b) cannot. This is clearly related to the fact that the implicit negation expressed by *zonder* is irrecoverably

lost in the adjunct middle in (272b''). Note that *Zonder helm rijdt lekker* is more or less acceptable; this is, however, not a middle construction, but a construction with a PP SUBJECT.

- (272) a. Jan rijdt altijd met autohandschoenen.
 Jan drives always with car.gloves
 a'. Het rijdt prettig met autohandschoenen.
 it drives pleasantly with car.gloves
 a''. Autohandschoenen rijden prettig.
 car.gloves drive pleasantly
 b. Jan rijdt altijd zonder helm.
 Jan drives always without a.helmet
 b'. Het rijdt prettiger zonder helm.
 it drives more.pleasantly without a.helmet
 b''. #Een helm rijdt prettiger.
 a helmet drive more.pleasantly

In other cases, it is less clear what determines the contrast, although the examples in (273) suggest that the nominal part of the adjunct must refer to an entity/entities that is/are in some conventional relation to the activity denoted by the verb in order to be able to appear as the subject of an adjunct middle.

- (273) a. Het schrijft lekker op dit papier/bij deze lamp.
 it writes nicely on this paper/near this lamp
 a'. Dit papier/?Deze lamp schrijft lekker.
 this paper/this lamp writes nicely
 b. Het breit lekker met deze naalden/deze regen.
 it knits pleasantly with these needles/this rain
 b'. Deze naalden/?Deze regen breit lekker.
 these needles/this rain knits pleasantly

Ackema & Schoorlemmer (1994/2006:169-171) suggest that the contrast may also be related to the adjunct's ability to undergo °preposition stranding; see the examples in (274).

- (274) a. het papier waar Jan op schrijft a'. ?de lamp waar Jan bij schrijft
 the paper that Jan on writes the lamp that Jan near writes
 'the paper Jan is writing on' 'the lamp near which Jan is writing'
 b. de naalden waar ik mee brei b'. *de regen waar ik mee brei
 the needles that I with knit the rain that I during knits
 'the needles I'm knitting with' 'the rain during which I'm knitting'

They further suggest that the subject of adjunct middles corresponds to argument-PPs, not adjuncts, which would make the adjunct middle into a kind of regular middle. However, this runs afoul of the observation from Section 3.2.2.2, sub IA, that subjects of regular middles never correspond to the nominal part of a run-of-the-mill PP-complement of the input verb.

IV. *The evaluative modifier*

Impersonal middles normally require the presence of an evaluative modifier like *gemakkelijk* ‘easily’ or others listed in (170), although, just as in the case of adjunct middles, impersonal middles sometimes also occur with adjectives like *snel* ‘fast’ and *vlot* ‘smoothly’ that do not select an experiencer *voor*-phrase; compare the impersonal construction in (275b) with example (248b), repeated here as (275a).

- (275) a. Deze weg rijdt snel/vlot.
 this road drives fast/smoothly
 b. Het rijdt snel/vlot op deze weg.
 it drives fast/smoothly on this road

The examples in (276) show that the experiencer selected by adjectives like *gemakkelijk* ‘easily’ cannot normally be overtly realized (with the same proviso made in Section 3.2.2.2, sub IC, for the regular middle).

- (276) a. ^{??}Het zit voor iedereen lekker op die stoel.
 it sits for everybody nicely in that chair
 b. ^{??}Het snijdt voor iedereen prettig met dat mes.
 it cuts for everybody pleasantly with that knife
 c. ^{??}Het werkt voor iedereen prettig in dat tempo.
 it works for everybody pleasantly in that tempo

The examples in (277) show that, as in the case of adjunct middles, the evaluative modifier can at least marginally be left out if the negative adverb *niet* ‘not’ is present, if the verb is emphatically accented, or if the evaluation is expressed by some other means.

- (277) a. [?]Het schrijft niet op dit papier.
 it writes not on this paper
 b. [?]Het BREIT met deze wol. Pfff!
 it needles with this wool Pfff
 c. [?]Het werkt als een trein in de vakantie.
 it works like a train in the vacation

3.2.2.5. *The reflexive middle construction*

Cornips (1994/1996) has shown that the three middle constructions discussed in the previous sections may appear in certain varieties of Dutch with the simplex reflexive *zich*. This is illustrated in the examples in (278). Later research suggests that these reflexive middle constructions are typically found in Limburg; see Barbiers et al. (2005: Section 4.3.7.1). The construction is also common in German; cf. Steinbach (2002).

- (278) a. Het boek verkoopt zich goed. [regular middle?]
 the book sells REFL well
 b. Disse stoel zit zich lekker. [adjunct middle]
 this chair sits REFL nicely
 c. Het slaapt zich goed in dit bed. [impersonal middle]
 it sleeps REFL well in this bed

Note that we ignore here the discussion in Section 3.2.2.2, sub IIE, which suggests that examples such as (278a) are in fact not regular middles, but unaccusative constructions; the main issue is that reflexive middle constructions of the sort in (278) are categorically excluded in Standard Dutch, as shown by (279).

- (279) a. Het boek verkoopt (*zich) gemakkelijk. [regular middle]
 the book sells REFL well
- b. Deze stoel zit (*zich) lekker. [adjunct middle]
 this chair sits REFL nicely
- c. Het slaapt (*zich) lekker in dit bed. [impersonal middle]
 it sleeps REFL nicely in this bed

The examples in (280) show, however, that Standard Dutch has a syntactically complex reflexive middle construction. This construction is sometimes referred to as the *laten*- or AcI-middle construction because it is based on the permissive verb *laten* ‘to let’, which is normally able to assign \circ accusative case to the subject of its infinitival complement (accusativus-cum-infinitivo); cf. Section 5.2.3.4. The object of the verb embedded under *laten* ‘to let’ surfaces as the subject of the construction, while a simplex reflexive coreferential with it seems to take its original place. The infinitival clause normally contains an evaluative modifier of the *gemakkelijk* type with an implied experiencer.

- (280) a. Jan wast de trui.
 Jan washes the sweater
- a'. De trui laat zich gemakkelijk/moeilijk wassen.
 the sweater let REFL easily/with.difficulty wash
 ‘The sweater is easy/difficult to wash.’
- b. Peter bewerkt het hout.
 Peter treats the wood
 ‘Peter carves the wood.’
- b'. Het hout laat zich gemakkelijk/moeilijk bewerken.
 the wood lets REFL easily/with.difficulty treat
 ‘The wood is easy/difficult to carve.’

It seems that the term AcI-middle is actually a misnomer given that the subject of the infinitival clause can never be overtly realized in these reflexive middle constructions. This is shown in (281); the regular *laten*-construction differs from the reflexive middle construction in that its infinitival clause optionally contains an accusatively marked subject, which is obligatorily left implicit in the latter. For that reason we will simply use the term reflexive middle construction.

- (281) a. Marie laat [_{clause} (Jan) de trui wassen].
 Marie lets Jan the sweater wash
 ‘Marie lets Jan wash the sweater.’
- b. De trui laat [_{clause} (*Jan) zich gemakkelijk wassen].
 the sweater lets Jan REFL easily wash

The following subsections discuss a number of properties of the reflexive middle construction. Subsection I clears the way for the discussion by pointing out that

reflexive middles can readily be confused with other types of reflexive *laten*-constructions. Subsection II then begins by comparing the meaning of the reflexive middle to that of the regular middle. Subsection III continues with a brief discussion of the implied experiencer introduced by the evaluative modifier and the implied agent of the infinitival clause. Subsections IV and V discuss respectively the verb embedded under *laten* and the evaluative modifier. Subsection VI concludes with a brief discussion of the simplex reflexive.

I. Other reflexive *laten*-constructions

This subsection shows that reflexive middles can easily be confused with other types of reflexive *laten*-constructions. Before we start our discussion of the former, we therefore must find some means to determine whether we are really dealing with reflexive middles. Let us begin by providing some general information about Dutch AcI-constructions. The primed examples in (282) show that the agent of the infinitival clause need not be realized as an accusative noun phrase, but can also be left implicit or be expressed by an agentive *door*-phrase.

- (282) a. De meester liet [de kinderen het schoollied zingen].
 the schoolmaster made the children the school.anthem sing
 'The schoolmaster made the children sing the school anthem.'
- a'. De meester liet [het schoollied (door de kinderen) zingen].
 the schoolmaster made the school.anthem by the children sing
- b. De ouders hoorden [hun kinderen het schoollied zingen].
 the parents heard their children the school.anthem sing
 'The parents heard their children sing the school anthem.'
- b'. De ouders hoorden [het schoollied (door hun kinderen) zingen].
 the parents heard the school.anthem by their children sing

A problem for our discussion of reflexive middles arises when we want to express that the object of the embedded verb is coreferential with the subject of the AcI-construction; in that case the object is realized as the simplex reflexive *zich* and the agent of the embedded verb cannot be realized as an accusative noun phrase. We first illustrate this by means of the examples in (283) with the perception verb *horen* 'to hear'. The indices in (283a) show that if the object is a weak referential pronoun it cannot be coreferential with the subject of the higher clause; this example also shows that the subject of the infinitival verb can be optionally realized as an accusative noun phrase. Expressing that the object of the infinitival verb is coreferential with the subject of the higher clause requires that the object be realized as a weak reflexive; the two (b)-examples in (283) show that in that case the subject of the infinitival clause can be expressed by mean of an agentive *door*-phrase, but not by means of an accusative noun phrase.

- (283) a. Jan_i hoorde [(Marie) 'm_{*i}_j bespotten].
 Jan heard Marie him ridicule
 'Jan heard Marie ridicule him (≠ Jan).'
- b. Jan_i hoorde [(*Marie) zich_i bespotten].
 Jan heard Marie REFL ridicule
 'Jan heard someone ridicule him (= Jan).'

- b'. Jan_i hoorde [zich_i (door Marie) bespotten].
 Jan heard REFL by Marie ridicule
 'Jan heard Marie ridicule him (= Jan).'

The problem that arises with respect to our discussion of the reflexive middle is that we see the same set of facts for AcI-constructions with permissive *laten* 'let': the referential pronoun in (284a) can only be used if the cat did not hamper Peter in caressing some other individual (e.g. by allowing Peter to caress one of its kittens); expressing that the cat allowed Peter to fondle it itself requires that the simplex reflexive *zich* be used, which makes it impossible to express the agent of the infinitival clause by means of an accusative noun phrase.

- (284) a. De kat_i liet [(Peter) 'm_{s_i/j} aaien].
 the cat let Peter him caress
 b. De kat_i liet [*Peter] zich_i aaien].
 the cat let Peter REFL caress
 b'. De kat_i liet [zich_i (door Peter) aaien].
 the cat let REFL BY Peter caress

When we now add an adverbial phrase to the (b)-examples in (284), as in (285a), we derive a structure that much resembles the reflexive middle construction in (285b). In fact, we cannot even be sure that (285b) is a reflexive middle given that adverbs like *gemakkelijk* can also be used in a wide range of non-middle constructions.

- (285) a. De kat_i liet zich_i graag aaien. [non-middle construction]
 the cat let REFL gladly caress
 'The cat liked to be caressed.'
 b. De kat_i liet zich_i gemakkelijk aaien. [reflexive middle?]
 the cat let REFL easily caress
 'It was easy to caress the cat.'

In order to ensure that we are dealing with reflexive middle constructions, we can appeal to the fact that the °nominative subject of an AcI-construction with permissive *laten* must be agentive and volitional: its referent must be able/willing to allow (or to prevent) the activity denoted by the infinitival verb. This means that conclusions drawn from examples with animate subjects should be looked upon with suspicion; by avoiding the use of animate subjects potential ambiguity can be prevented.

II. Meaning

Reflexive middle constructions occasionally have regular middle counterparts with more or less the same meanings. The examples in (286) show, however, that the two constructions impose somewhat different selection restrictions on their subject: subjects of reflexive middles can readily be definite and thus refer to entities in the domain of discourse. Subjects of regular middles, on the other hand, normally refer to a kind or some physically present entity as is clear from the fact that they are preferably generic or demonstrative; definite subjects like *de trui* 'the sweater' or *het hout* 'the wood' are normally restricted to contrastive contexts.

- (286) a. De trui laat zich gemakkelijk wassen. [reflexive middle]
 the sweater let REFL easily wash
 ‘The sweater is easy to wash.’
- a’. Zo’n/Die/²De trui wast gemakkelijk/moeilijk. [regular middle]
 such.a/that/the sweater washes easily/with.difficulty
 ‘Such a/That/The sweater is easy/difficult to wash.’
- b. Het hout laat zich gemakkelijk/moeilijk bewerken. [reflexive middle]
 the wood lets REFL easily/with.difficulty treat
 ‘It is easy/difficult to carve the wood.’
- b’. Zulk/Dit/²Het hout bewerkt gemakkelijk/moeilijk. [regular middle]
 such/this/the wood treats easily/with.difficulty
 ‘Such/This/The wood is easy/difficult to carve.’

The default interpretation of the reflexive middles in (286) seems to be a generic one; like regular middles they seem to refer to some °individual-level property of the subject of the construction. Since the use of punctual time adverbs like *gisteren* ‘yesterday’ is incompatible with such a generic interpretation of the clause, it normally yields a somewhat marginal result (although the same types of exception hold as discussed for regular middles in Section 3.2.2.2, sub IF).

- (287) a. [?]Die trui liet zich gisteren gemakkelijk wassen.
 that sweater let REFL yesterday easily wash
- b. ^{??}Die trui waste gisteren gemakkelijk.
 that sweater washed yesterday easily

We add the examples in (288) to illustrate the problem discussed in Subsection I; although the examples in (288) seem structurally identical to the (a)-examples in (286) and (287), they may in fact be cases of non-middle constructions. Support for this claim is that the infinitival clause in (288a) does not necessarily refer to an individual-level property of the subject *die baby* as is also clear from the fact that using punctual time adverbs like *gisteren* ‘yesterday’ is fully acceptable.

- (288) a. Die baby laat zich gemakkelijk wassen.
 that baby lets REFL easily wash
 ‘That baby is easy to wash.’
- b. Die baby liet zich gisteren gemakkelijk wassen.
 that baby let REFL yesterday easily wash

Although reflexive middles and regular middles are similar in that they both normally refer to an individual-level property of their subject, they do differ in a subtle way. In the regular middle construction the individual-level property must be a property that is *prototypically* assigned to the subject, whereas this is not required in the case of reflexive middles. As a result, reflexive middles can be based on a wider range of verbs than regular middles; the contrast between the two (b)-examples in (289) is due to the fact that having a certain degree of “predictability” is not a prototypical property of the results of soccer matches.

- (289) a. Jan voorspelde de uitslag van die voetbalwedstrijd.
 Jan predicted the score of that soccer.match
- b. *De uitslag van die voetbalwedstrijd voorspelt gemakkelijk.
 the score of that soccer.match predicts easily
- b'. De uitslag van die voetbalwedstrijd laat zich gemakkelijk voorspellen.
 the result of that soccer.match lets REFL easily predict
 'The score of that soccer match is easy to predict.'

Perhaps this meaning difference also accounts for the fact, mentioned in the beginning of this subsection, that regular middles typically take type denoting noun phrases as their subject; they are less felicitous with definite subjects given that these are used to refer to specific entities mentioned earlier in the discourse, which are less likely to be described in terms of prototypical properties. Reflexive middles, on the other hand, do not refer to prototypical properties and are thus expected to readily take definite subjects.

III. *The implied experiencer and agent*

The experiencer introduced by the evaluative modifier *gemakkelijk* 'easily' and the subject of the infinitival clause are construed as coreferential, but must both be left implicit in the reflexive middle. The (a)-examples in (290) show this for the experiencer *voor*-PP normally selected by *gemakkelijk* and the (b)-examples for the agent of the infinitival clause. The fact that the experiencer and agent are both left implicit, of course, much favors the generic interpretation of the reflexive middle construction.

- (290) a. *De trui laat zich voor Peter/iedereen gemakkelijk wassen.
 the sweater let REFL for Peter/everyone easily wash
- a'. *Het hout laat zich voor Peter/iedereen gemakkelijk bewerken.
 the wood lets REFL for Peter/everyone easily treat
- b. *De broek laat Peter/iedereen zich gemakkelijk wassen.
 the trousers let Peter/everyone REFL easily wash
- b'. *Het hout laat Peter/iedereen zich gemakkelijk bewerken.
 the wood lets Peter/everyone REFL easily treat

The examples in (291) show, however, that it may be possible to realize the agent of the embedded verb by means of an agentive *door*-phrase, although the nominal part is normally not referential but generic in nature (or quantificational like *iedereen* 'everyone' or *niemand* 'nobody').

- (291) a. Die trui laat zich door een specialist²Jan gemakkelijk wassen.
 that sweater let REFL by a specialist/Jan easily wash
- b. Het hout laat zich door een timmerman²Jan gemakkelijk bewerken.
 the wood lets REFL by a carpenter/Jan easily treat

The example in (292) illustrates again the problem discussed in Subsection I: the superficially similar construction with an animate subject in (292) does readily allow the nominal part of the agentive *door*-phrase to be referential in nature.

- (292) De baby laat zich door Peter gemakkelijk wassen.
 the baby lets REFL by Peter easily wash

IV. The verbs embedded under *laten* 'to let'

This subsection discusses the verbs that may enter the reflexive middle construction. We will begin by showing that in the prototypical case the verb embedded under *laten* 'to let' is transitive; intransitive and unaccusative verbs cannot enter the construction. The fact that unaccusative verbs cannot be used strongly suggests that the nominative subject of the reflexive middle does not correspond to the internal argument of the embedded verb but to the argument that is normally assigned accusative case by it; this is confirmed by the fact that verbs taking a \circ complementive may also occur in the construction. We conclude with a discussion of ditransitive verbs.

A. Transitive verbs

The examples in the preceding discussion have already shown that reflexive middles are typically based on transitive verbs. Subsection II has further shown that the embedded verbs in reflexive middles exhibit a wider variation in meaning than those in regular middles: although reflexive middles refer to some inherent property of their subjects, this property need not be prototypically assigned to it. This is illustrated again in (293) by means of the verb *verklaren* 'to explain': since remarkable phenomena are not prototypically thought of in terms of their degree of predictability, the transitive construction in (293a) does have a reflexive middle but not a regular middle counterpart. Some other verbs that have the same distribution as *verklaren* 'to explain' are *aanduiden* 'to point out', *herkennen* 'to recognize', *voorspellen* 'to predict' and *vervangen* 'to replace'.

- (293) a. Deze theorie verklaart dit opmerkelijke verschijnsel.
 this theory explains this remarkable phenomenon
 b. *Dit opmerkelijke verschijnsel verklaart gemakkelijk.
 this remarkable phenomenon explains easily
 b'. Dit opmerkelijke verschijnsel laat zich gemakkelijk verklaren.
 this remarkable phenomenon lets REFL easily explain
 'This remarkable phenomenon is easy to explain.'

B. Intransitive and monadic unaccusative verbs

The subject of a reflexive middle construction normally corresponds to the object of the verb embedded under *laten*. This is clear from the fact illustrated in (294) that intransitive verbs cannot be used in this construction.

- (294) a. Jan laat Marie slapen.
 Jan lets Marie sleep
 b. *Marie laat zich gemakkelijk slapen.
 Marie lets REFL easily sleep

This observation may lead to either of two conclusions: the subject of the reflexive middle must correspond to the internal argument of the embedded verb or to the noun phrase to which it assigns accusative case. The fact illustrated by (295) that

unaccusative verbs cannot be used in reflexive middles either strongly suggests that the latter is the correct generalization.

- (295) a. Jan liet de bus vertrekken.
 Jan let the bus leave
- b. *De bus laat zich gemakkelijk vertrekken.
 the bus let REFL easily leave

C. PO-verbs

That the subject of the reflexive middle normally corresponds not to an internal argument of the verb embedded under *laten* but to an object that is assigned accusative case by it is also clear from the fact illustrated by (296) that the nominal part of a PP-complement of an embedded PO-verb cannot appear as the subject of a reflexive middle.

- (296) a. Marie laat Peter naar het schilderij kijken.
 Marie lets Peter at the painting look
- b. *Het schilderij laat zich gemakkelijk naar kijken.
 the painting lets REFL easily at look

The examples in (297) show that the PO-verbs like *beveiligen* ‘to protect’, which take an additional accusative object, can be used in reflexive middles, but then the subject of the middle, of course, corresponds to the accusative object of the verb.

- (297) a. Jan beveiligd zijn computer tegen virussen.
 Jan protects his computer against viruses
- b. Computers laten zich niet zo gemakkelijk beveiligen tegen virussen.
 computers let REFL not that easily protect against viruses
 ‘It isn’t that easy to protect computers against viruses.’

D. Verbs with a complementive

The examples in (294) to (296) suggest that subjects of reflexive middles need not correspond to internal arguments of the embedded verbs but instead correspond to arguments that are assigned accusative case by them. This conclusion is confirmed by the fact that the embedded verb of a reflexive middle construction can also be a verb that selects a °complementive PP; the subject of the reflexive middle construction then corresponds to the argument that is normally assigned accusative case by the embedded verb but functions as the SUBJECT of the PP; it is not an internal argument of the verb.

- (298) a. Jan zet het boek in de boekenkast.
 Jan puts the book onto the bookshelves
- a'. Dat boek laat zich gemakkelijk in de boekenkast zetten.
 that book lets REFL easily onto the bookshelves put
- b. Els neemt de kat op schoot.
 Els takes that cat on the.lap
- b'. De kat laat zich gemakkelijk op schoot nemen.
 that cat lets REFL easily onto the.lap take

The examples in (299) show the same thing for verbs taking an adjectival predicate or a verbal participle.

- (299) a. De bezoekers lopen het gras plat.
 the visitors walk the grass flat
 a'. Het gras laat zich gemakkelijk plat lopen.
 the grass lets REFL easily flat walk
 b. Jan bergt zijn spullen op.
 Jan puts his things away
 b'. Die spullen laten zich gemakkelijk opbergen.
 those things let REFL easily away-put

E. Ditransitive verbs

The (a)-examples in (300) show that double object verbs cannot be used in reflexive middle constructions. The (b)-examples show, however, that reflexive middles are possible if the embedded verb takes a periphrastic indirect object.

- (300) a. Sinterklaas geeft lieve kinderen graag zulke cadeaus.
 Santa Claus gives sweet children gladly such presents
 'Santa Claus likes to give such presents to sweet children.'
 a'. *Zulke cadeaus laten zich lieve kinderen gemakkelijk geven.
 such presents let REFL sweet children easily give
 b. Sinterklaas geeft zulke cadeaus graag aan lieve kinderen.
 Santa Claus gives such presents gladly to sweet children
 'Santa Claus likes to give such presents to sweet children.'
 b'. Zulke cadeaus laten zich gemakkelijk (aan lieve kinderen) geven.
 such presents let REFL easily to sweet children give
 'Such presents give easily to sweet children.'

Example (301a) suggests that double object verbs can be more readily used if the subject of the reflexive middle construction corresponds to the dative object; see Ackema & Schoorlemmer (2006:181) for similar examples. We should be careful here, however, given that indirect objects are normally animate: we may therefore be dealing with a regular permissive/causative construction comparable to the one given in (301b).

- (301) a. ³Lieve kinderen laten zich gemakkelijk zulke cadeaus geven.
 sweet children let REFL easily such presents give
 'Sweet children are easy to give such presents.'
 b. Bankdirecteuren laten zich graag hoge bonussen toekennen.
 bank.managers let REFL gladly high premiums prt.-grant
 'Bank managers like to make someone give them high premiums.'

In order to establish unambiguously that the subject of a reflexive middle can correspond to an indirect object of a double object verb, the indirect object must be inanimate, but such cases seem to give rise to a marginal result at best.

- (302) a. Jan gaf het huis een flinke beurt.
 Jan gave the house a good cleaning
 b. ^{??}Het huis laat zich gemakkelijk een flinke beurt geven.
 the house lets REFL easily a good cleaning give

V. The evaluative modifier

The evaluative modifier in the reflexive middle is of the *gemakkelijk*-type. Like in the regular middle, the modifier is normally compulsory although the examples in (303) show that it can be left out under the same conditions as the evaluative modifier in regular middles (though some of our informants report they have difficulty with (303c)); cf. Section 3.2.2.2, sub IC.

- (303) a. De trui laat zich (niet) wassen.
 the sweater let REFL not wash
 b. Het hout laat zich (niet) bewerken.
 the wood lets REFL not treat
 c. Dat huis laat zich verven als een trein.
 that house lets REFL paint as a train

VI. The simplex reflexive pronoun

So far, we have not discussed the most conspicuous element in the reflexive middle construction, the simplex reflexive. We will in fact keep our discussion of this element very brief given that the function of this element is more extensively discussed in Section 2.5.2, sub II, on inherently reflexive constructions. We especially discuss there the hypothesis proposed by Burzio (1986: Section 1.5) and Everaert (1986) that the simplex reflexive can be used as a non-argument which nonetheless must be assigned case. Since verbs normally assign accusative case to a single argument only, addition of the simplex reflexive will block case-assignment to the original direct object, which must hence be assigned nominative case (as a result of which the subject of the corresponding transitive construction is suppressed, just as in passive constructions). Reflexive middles work in essentially the same way: the simplex reflexive is assigned accusative case by the verb embedded under *laten*; consequently, the embedded verb can no longer assign this case to its internal argument, which must therefore be promoted to subject of the entire construction in order to receive nominative case. For a more detailed discussion we refer to Section 2.5.2, sub IID.

The proposal briefly summarized above can account for various properties of the reflexive middle, such as the fact discussed in Subsection IV that the subject of the construction must correspond to an argument that is assigned accusative case by the embedded verb, which excludes intransitive (PO-)verbs as input for the construction. It also provides a partial answer to the question why regular middles and reflexive middles occur side-by-side, as is shown again by the (a)-examples in (304), whereas there are no complex reflexive constructions that correspond to adjunct or impersonal middles, as is shown by the (b)- and (c)-examples.

be confused with them like inchoative unaccusative and °*easy-to-please* constructions (the latter of which, unfortunately, seem to be mixed up with modal infinitives occasionally). Our discussion on regular middle constructions is further based on Keyser & Roeper (1984), Paardekoooper (1986), Fagan (1988/1992), Levin (1993), Hoekstra & Roberts (1993), Ackema & Schoorlemmer (1994/1995) and Hulk & Cornips (1996). Discussions of impersonal and adjunct middles can be found in Hoekstra and Roberts (1993) and Ackema and Schoorlemmer (1994). A brief section on the reflexive middle can be found in Everaert (1986/1990), while the Heerlen Dutch cases are discussed in Cornips (1994/1996) and Cornips & Hulk (1996). We did not pay much attention in this section to the longstanding question as to whether the external argument of the input verb is syntactically realized in middles. The reason for this is that Ackema & Schoorlemmer (2006:184-191) have shown that the traditional tests for detecting implied agents (like °control and °binding) provide less than reliable results in the case of middles.

3.2.3. *Causative alternation (causative-inchoative alternation)*

This section discusses the so-called causative alternation. Example (305) provides a typical example of the causative alternation with the verb *breken* 'to break'. The core property of this alternation is that the object of the transitive construction in (305a) corresponds to the subject of the °monadic construction in (305b). The verb in the monadic construction is °unaccusative, as is clear from the fact that it takes the auxiliary *zijn* 'to be' in the perfect tense.

- (305) a. Jan breekt de vaas_{acc.}.
 Jan breaks the vase
 b. De vaas_{nom} breekt.
 the vase breaks
 b'. De vaas is/*heeft gebroken.
 the vase is/has broken

The alternation is semantically characterized by the fact that the transitive verb is causative in nature: it expresses that its subject causes the change of state denoted by the unaccusative verb. This is also reflected by the fact that the transitive construction entails the unaccusative construction: the truth of the assertion that Jan breaks the vase entails that the vase breaks. The inverse does not hold.

The alternation in (305) is sometimes also referred to as the causative-inchoative alternation given that the unaccusative verb is often taken to denote the beginning of some process. Example (306) shows, however, that the monadic verb can also be an accomplishment.

- (306) a. Jan verbrandde het boek.
 Jan burned the book
 b. Het boek verbrandde.
 the book burned
 b'. Het boek is verbrand.
 the book has burned

In fact, the examples in (307) and (308) show that the unaccusative verbs partaking in the alternation need not necessarily be °telic, that is, denote an accomplishment or an achievement; they can also be atelic, that is, denote an activity, as in (307), or a state, as in (308). The only thing that seems to be relevant is that the subject of the transitive construction can be seen as the originator of the state of affairs denoted by the unaccusative verb; see Section 1.2.3, sub II, for a discussion of this notion.

- (307) a. Marie kookt de aardappels.
 Marie boils the potatoes
 b. De aardappels koken.
 the potatoes boil
 b'. De aardappels hebben gekookt.
 the potatoes have boiled
- (308) a. Jan hangt het schilderij aan de muur.
 Jan hangs the painting on the wall
 b. Het schilderij hangt aan de muur.
 the painting hangs on the wall
 b'. Het schilderij heeft aan de muur gehangen.
 the painting has on the wall hung

Observe that we have called the monadic verbs in the (b)-examples in (307) and (308) unaccusative despite the fact that they take the auxiliary *hebben* in the perfect tense; the reason for this is that selection of *zijn* is a sufficient but not a necessary condition for assuming unaccusativity, but is also sensitive to the aspectual properties of the verb; see Section 2.1.2, sub III, for the claim that an unaccusative verb must be telic in order to be able to select *zijn* and Section 2.2.3, sub IIB/C, for evidence that the verbs in question are in fact unaccusatives.

It may also be useful in this connection to point out that a transitive verb like *drogen* 'to dry' can be construed as either an atelic or a telic state of affairs. This is clear from adverb selection; cf. Section 1.2.3, sub I. The acceptability of the adverb *urenlang* 'for hours' in the (a)-examples in (309) shows that *drogen* can be construed as atelic and that the corresponding unaccusative construction likewise refers to an atelic state of affairs. The acceptability of the adverbial phrase *binnen een uur* 'within an hour' in the (b)-examples shows that transitive *drogen* can also be used as an achievement, which is reflected by the fact that the corresponding unaccusative construction can also be used to denote a telic state of affairs. Note that the (non-)telicity of the unaccusative verb determines whether the perfect auxiliary surfaces as *hebben* or *zijn*.

- (309) a. Peter heeft de was urenlang gedroogd.
 Peter has the laundry for hours dried
 'Peter has dried the laundry for hours.'
 a'. De was heeft urenlang gedroogd.
 the laundry has for hours dried
 'The laundry has dried for hours.'

- b. Peter heeft de was binnen een uur gedroogd.
 Peter has the laundry within an hour dried
 ‘Peter has dried the laundry within an hour.’
- b’. De was was binnen een uur gedroogd.
 the laundry was within an hour dried
 ‘The laundry had dried within an hour.’

The examples in (310) and (311) show that the causative alternation is also possible with verbs taking an adjectival or prepositional °complementive; the complementive can also be a verbal particle.

- (310) a. Els sloeg de deur_{acc} dicht.
 Els slammed the door shut
 ‘Els slammed the door.’
- b. De deur sloeg dicht.
 the door slammed shut
- b’. De deur is dicht geslagen.
 the door has shut slammed
- (311) a. Jan reed de auto in de sloot/weg.
 Jan drove the car into the ditch/away
 ‘Jan drove the car into the ditch/away.’
- b. De auto reed in de sloot/weg.
 the car drove into the ditch/away
 ‘The car drove into the ditch/away.’
- b’. De auto is in de sloot/weg gereden.
 the car has into the ditch/away driven

Examples like (310) and (311) therefore show that the subject in the corresponding unaccusative construction need not be an internal argument of the verb itself, but can also be introduced in the structure as the SUBJECT of a complementive. This means that the causative alternation resembles regular passive and regular middle constructions in that it is the accusative object (and not necessarily the internal theme argument) of the transitive verb that surfaces as the subject of the corresponding construction. Given that neither causative alternation nor middle formation is reflected by the verb form, it may be difficult to distinguish the two constructions. We will not address this issue here, but refer the reader to Section 3.2.2.2, sub II, for a discussion of some differences between the two constructions.

Example (312) provides a small sample of verbs entering the causative alternation.

- (312) Verbs participating in the causative alternation: *afbreken* ‘to break off’, *bakken* ‘to bake’, *bewegen* ‘to move’, *braden* ‘to fry’, *branden* ‘to burn’, *buigen* ‘to bend’, *doven* ‘to extinguish’, *drogen* ‘to dry’, *fruiten* ‘to fry’, *(rond)draaien* ‘to turn (around)’, *genezen* ‘to heal’, *(in)scheuren* ‘to tear (in)’, *koken* ‘to cook’, *kreukelen* ‘to crinkle’, *omdraaien* ‘to turn around’, *ontwapenen* ‘to disarm’, *opknappen* ‘to recover/patch up’, *oplossen* ‘to solve’, *opvrolijken* ‘to cheer up’, *rollen* ‘to roll’, *(weg) rijden* ‘to drive/ride (away)’, *(dicht)slaan* ‘to slam (shut)’, *sluiten* ‘to close’, *smelten* ‘to melt’,

splitsen ‘to split’, *stomen* ‘to steam’, *stuiteren* ‘to bounce’, *uitrekken* ‘to stretch’, *veranderen* ‘to change’, *verbranden* ‘to burn’, *verbeteren* ‘to improve’, *verdampen* ‘to evaporate’, *verdrinken* ‘to drown’, *verdubbelen* ‘to double’, *verslijten* ‘to wear out’, *versmallen* ‘to narrow-to become narrower’, *versnellen* ‘to speed up’, *vertragen* ‘to slow down’, *verzachten* ‘to soften’, *verzwakken* ‘to weaken’, *vouwen* ‘to fold’

The verbs in (312) are all unaccusative, but we find a similar alternation with the verb *leren* ‘to learn/teach’ in (313). If non-causative *leren* ‘to learn’ in (313b) is an °undative verb, as was suggested in Section 1.2.4, sub IIB, this case suggests that the causative alternation is the result of adding an external argument to an otherwise unaccusative or undative verb.

- (313) a. Marie leert Jan de fijne kneepjes van het vak.
 Marie teaches Jan the fine tricks of the trade
 ‘Marie is teaching Jan the tricks of the trade.’
 b. Jan leert de fijne kneepjes van het vak.
 Jan learns the fine tricks of the trade
 ‘Jan is learning the tricks of the trade.’

The causative alternation is generally not reflected by means of a change in the morphological shape of the verb. There is, however, a small set of causative verbs where the unaccusative and causative transitive do differ in morphological form; examples are the locational verbs *zetten* ‘to put’ and *zitten* ‘to sit’, and *leggen* ‘to put’ and *liggen* ‘to lie’ in (314a&b). A non-locational pair is given in (314c).

- (314) a. Jan legt het boek_{acc} op de plank. a’. Het boek_{nom} ligt op de plank.
 Jan puts the book on the shelf the book lies on the shelf
 ‘Jan is putting the book on the shelf.’ ‘The book is lying on the shelf.’
 b. Jan zet hem_{acc} *(in de stoel). b’. Hij_{nom} zit *(in de stoel).
 Jan puts him in the chair he sits in the chair
 ‘Jan is placing him in the chair.’ ‘He’s sitting in the chair.’
 c. Marie velt de boom_{acc}. c’. De boom_{nom} valt.
 Marie fells the tree the tree falls
 ‘Mary is felling the tree.’ ‘The tree is falling.’

These forms are not related by some synchronic morphological process, as is clear from the fact that the relation involves the otherwise unproductive process of vowel change (Ablaut); the causative forms in the primeless examples take an /ɛ/, whereas the corresponding unaccusative forms in the primed examples take an /ɪ/ or an /a/. That the morphological relation is not productive is also suggested by the fact that the causative verb *zetten* has yet another non-causative variant, the locational verb *staan* ‘to stand’ in (315b), which is not morphologically related to it.

- (315) a. Jan zet het boek_{acc} op de plank.
 Jan puts the book onto the shelf
 b. Het boek_{nom} staat/*zit op de plank.
 the book stands/sits on the shelf

Furthermore, it seems that the type of causativization expressed by vowel change differs from the type of causativization discussed earlier: whereas the non-causative versions of the verbs in (312) are all unaccusatives, the (a)-examples in (316) show that the non-causative form can be intransitive in the Ablaut case. In this respect, the Ablaut case rather resembles the syntactic *laten* causative in the (b)-examples.

- | | | | |
|----------|--|-----|---|
| (316) a. | Marie drenkt het vee.
Marie waters the cattle
'Marie is watering the cattle.' | a'. | Het vee drinkt.
the cattle drinks
'The cattle is drinking.' |
| b. | Peter laat mij _{acc} lachen.
Peter let me laugh
'Peter makes me laugh.' | b'. | Ik lach.
I laugh
'I'm laughing.' |

We can further note that in many cases in which English allows a causative alternation Dutch must appeal to the *laten* causative. The examples in (317), for example, show that Dutch does not have Levin's (1993:31) class of induced action alternations; the intended assertion can only be expressed by means of a complex *laten*-construction.

- | | |
|----------|--|
| (317) a. | Het paard sprong over het hek.
the horse jumped over the fence |
| b. | *Jan sprong het paard over het hek.
Jan jumped the horse over the fence
Intended reading: 'Jan jumped the horse over the fence.' |
| c. | Jan liet het paard over het hek springen.
Jan made the horse over the fence jump
'Jan made the horse jump over the fence.' |

To conclude, we want to show that Dutch also has the causative alternation in (318), in which the transitive verb in (318a) can be seen as the causative counterpart of the inherently reflexive verb in (318b).

- | | |
|----------|---|
| (318) a. | Jan verspreidde het gerucht.
Jan spread the rumor |
| b. | Het gerucht verspreidde *(zich).
the rumor spread REFL |

Section 2.5.2, sub II, discusses some differences between the alternation that the verbs in (312) enter into and the one exemplified in (318). It is suggested there that the two types of alternation differ in that the former is a process of causativization, which derives causative transitive verbs from unaccusative verbs, whereas the latter is a process of anti-causativization, which derives inherently reflexive inchoative verbs from causative transitive verbs.

3.3. Alternations of noun phrases and PPs

This section discusses verb frame alternations involving noun phrases and PPs with various syntactic functions. Section 3.3.1 starts the discussion with alternations of the type illustrated in the (a)-examples of (319), which the literature often refers to

as dative shift because they involve a °dative noun phrase. Sections 3.3.2 and 3.3.3 continue with alternations that involve, respectively, an °accusative and a °nominative noun phrase; see the (b)- and (c)-examples in (319) for illustrations.

- (319) a. Marie geeft *Jan*_{dat} een boek. [dative/PP alternation]
 Marie gives Jan a book
- a'. Marie geeft een boek [_{pp} *aan Jan*].
 Marie gives a book to Jan
- b. Jan behangt *de muur*_{acc} met posters. [accusative/PP alternation]
 Jan BE-hangs the wall with posters
- b'. Jan hangt de posters [_{pp} *op de muur*].
 Jan hangs the posters on the wall
- c. *De tuin*_{nom} krioelt van de mieren. [nominative/PP alternation]
 the garden swarms of the ants
 'The garden is swarming with ants.'
- c'. Het krioelt van de mieren [_{pp} *in de tuin*].
 it swarms of the ants in the garden
 'The garden is swarming with ants.'

3.3.1. Dative/PP alternations (dative shift)

This section discusses several types of dative/PP alternations, that is, cases in which a dative noun phrase alternates with a PP with a similar semantic function. We will distinguish five different subcases depending on the semantic interpretation of the indirect object; the examples in (320) show that recipient objects alternate with *aan*-PPs, goal objects with *naar*-PPs, sources with PPs headed by *van* (although there are also cases with *aan*), possessor objects with *bij*-PPs, and benefactive objects with *voor*-PPs.

- (320) a. Marie heeft <Peter> een boek <aan Peter> gegeven. [recipient]
 Marie has Peter a book to Peter given
- b. Marie gooide <Peter> de bal <naar Peter> toe. [goal]
 Marie threw Peter the ball to Peter TOE
- c. Marie pakte <Peter> de bal <van Peter> af. [source]
 Marie took Peter the ball from Peter prt.
- d. Marie zette <Peter> de baby <bij Peter> op schoot. [possessor]
 Marie put Peter the baby with Peter on the.lap
- e. Marie schonk <Peter> een borrel <voor Peter> in. [benefactive]
 Marie poured Peter a drink for Peter prt.

So-called ethical datives like *me* in *Hij dronk (me) een grote hoeveelheid bier* 'He drank beer in an astonishing quantity' are not discussed here given that they do not enter this type of alternation. They further differ from the dative phrases in (320) in that they (i) are normally a first, singular pronoun; (ii) provide some subjective evaluation of the speaker; and (iii) most importantly, can readily be combined with other types of dative phrases. Two examples of the latter property are given in (321a-b); see Bos (1972), who also notes that ethical datives differ from other dative phrases in that they cannot be used in nominalizations such as (321c). The

primed examples further show that an ethical dative normally does not occur in sentence-initial position, regardless of whether it is phonetically reduced or not.

- (321) a. Hij geeft *mij* de kinderen te veel zakgeld.
 he gives me the children too much pocket.money
 ‘He’s giving the children too much pocket money in my view.’
 a’. **Mij* geeft hij de kinderen te veel zakgeld.
 b. Hij gaf *me* Peter toch een klap op de schouder!
 he gave me Peter prt a blow on the shoulder
 ‘He gave Peter an extremely hard blow on the shoulder.’
 b’. **Me* gaf hij Peter toch een klap op de schouder.
 c. **[Me een grote hoeveelheid bier drinken]* is ongezond.
 me a large quantity [of] beer drink is unhealthy

Since the PPs in (320) are often referred to as the periphrastic form of the nominal indirect object, we will make a terminological distinction between double object constructions, in which the relevant participant is syntactically expressed by means of a dative noun phrase, and periphrastic indirect object constructions, in which it is expressed by means of a PP. By adopting this terminology, we do not intend to commit ourselves to the claim that the periphrastic indirect objects are prepositional complements of the verb: we will see in fact that there are reasons for assuming that in many cases they function instead as °complementives, that is, predicatively used spatial PPs. The following sections will discuss the distinguished subtypes of dative/PP alternation in the order given in (320).

3.3.1.1. Dative alternation with *aan*-phrases (recipients)

The first type of dative/PP alternation is found with ditransitive verbs like *geven* ‘to give’ and *aanbieden* ‘to offer’ in (322), in which the dative object has the semantic function of (future/intended) recipient. The PPs in the periphrastic indirect object constructions are headed by the preposition *aan*. The double object and periphrastic indirect object construction further differ in that, in the unmarked case, non-pronominal dative phrases precede non-pronominal direct objects in the °middle field of the clause, whereas periphrastic *aan*-PPs normally follow them; see Section N8.1.3.1, sub V, for a more detailed discussion of the word order in double object constructions.

- (322) a. Marie heeft Peter een boek gegeven.
 Marie has Peter a book given
 a’. Marie heeft een boek aan Peter gegeven.
 Marie has a book to Peter given
 b. Marie heeft Peter het boek aangeboden.
 Marie has Peter the book prt.-offered
 b’. Marie heeft het boek aan Peter aangeboden.
 Marie has the book to Peter prt.-offered

The discussion of the dative/PP alternation in (322) is organized as follows. Subsection I briefly reviews the dual meaning approach to this alternation, according to which double object constructions and their periphrastic counterparts

are associated with different semantic representations. Although it seems true that the two constructions tend to differ semantically in a more or less systematic way, we will see that the semantic representations that have been proposed are certainly not unproblematic. Furthermore, Subsection II shows that an appeal to the supposed meaning difference certainly does not suffice to fully determine whether or not the alternation is possible: there are a number of other factors that may favor one of the two constructions. The interaction of these factors makes it very hard to predict for individual verbs whether or not the alternation will be available and Subsection III will therefore simply indicate for a small sample of double object verbs whether or not they allow it. Subsection IV concludes with a brief digression on the syntactic status of the periphrastic indirect object and will show that there are reasons for assuming that it functions not as an argument but as a °complementive (predicative complement) of the verb.

1. Meaning differences

Since the seminal work by Green (1974) and Oehrle (1976), it is normally assumed that double object constructions and their periphrastic counterparts are semantically similar but not semantically equivalent; see also Balk-Smit Duyzentkunst (1968) for a similar claim based on Dutch. Although it has turned out that it is not an easy task to provide a fully adequate description of the meaning difference between the two constructions, it is generally described in terms of change of possession and location; the examples in (322) all express that the theme is relocated, but the double object construction expresses in addition that the referent of the indirect object becomes (or is expected/intended to become) the new possessor of the theme. The meanings attributed to the double object and periphrastic indirect object construction can be schematized as in (323), which is a somewhat adapted version of the semantic representations suggested by Gropen et al. (1989:241); we will return in Subsection IV to proposals that provide syntactic structures that can be paired with the semantic representations proposed in (323).

- (323) • Dual meaning approach
- a. Double object construction: [Subject CAUSE [IO to HAVE DO]]
 - b. Periphrastic indirect object construction: [Subject CAUSE [DO to BE AT IO]]

The dual meaning approach has recently been criticized by Rappaport Hovav & Levin (2008) by pointing out that periphrastic indirect objects of certain verbs can in fact also express that the referent of the indirect object becomes the new possessor of the theme. This can be illustrated by means of the examples in (324): the fact that (324a) is odd and (324b) fully acceptable irrespective of the form of the indirect object shows that the meaning difference between the two alternants cannot be expressed by means of the notion of possession.

- (324) a. ^{\$}Jan gaf <Els> het boek <aan Els>, maar zij heeft het nooit gekregen.
 Jan gave Els the book to Els, but she has it never gotten
 ‘Jan gave <Els> the book <to Els>, but she never got it.’
- b. Jan wierp <Els> de bal <naar Els> toe, maar die werd onderschept.
 Jan threw Els the ball to Els TOE, but it was intercepted
 ‘Jan threw <Els> the ball <to Els>, but it was intercepted.’

Rappaport Hovav & Levin (2008) conclude from this that the choice between the double object and the periphrastic indirect object construction does not fully determine the interpretation, but that the interpretation is also sensitive to the type of verb that enters the construction, in the way indicated in Table (325).

(325) Verb-sensitive approach

	DATIVE OBJECT	PERIPHRASTIC OBJECT
<i>GIVE-TYPE VERB</i>	caused possession	caused possession
<i>THROW-TYPE VERB</i>	caused motion <i>or</i> caused possession	caused motion <i>or</i> caused possession

Rappaport Hovav & Levin (2008) refer to their proposal as the verb-sensitive approach in order to express that the interpretation of the double object and periphrastic indirect object construction is largely determined by the verb's meaning. That the verb's meaning is relevant is also clear from the fact that only a subset of the verbs exhibiting the dative alternation with *aan*-PPs inherently express caused possession: verbs like *geven* 'to give', *lenen* 'to lend', *overhandigen* 'to hand', *verhuren* 'to rent out' do have this property, whereas verbs denoting future having like *beloven* 'to promise', *nalaten* 'to bequeath', *aanbieden* 'to offer' and *toewijzen* 'to assign' and verbs of communication like *vertellen* 'to tell', *leren* 'to teach' and *schrijven* 'to write' do not. This is illustrated by means of the contrast between example (324a) and the examples in (326).

- (326) a. Jan bood <Els> het boek <aan Els> aan, maar ze wou het niet.
 Jan offered Els the book to Els prt. but she wanted it not
 'Jan offered <Els> the book <to Els>, but she didn't want to have it.'
- b. Jan schreef <Els> een brief <aan Els>, maar hij heeft hem niet verstuurd.
 Jan wrote Els a letter to Els but he has him not sent.away
 'Jan wrote <Els> a letter <to Els>, but he didn't send it.'

Let us return to the two verb types in Table (325). From a Dutch perspective, it seems uncontroversial to distinguish these two types; the examples in (327) show that periphrastic indirect objects take the preposition *aan* 'to' with verbs of the *give*-type but the preposition *naar* 'to' with verbs of the *throw*-type. This observation supports yet another claim made by Rappaport Hovav & Levin, namely that constructions with verbs of the *give*- and the *throw*-type differ in that the latter, but not the former, involve the notion of path; *aan*-PPs belong to the set of adpositional phrases that merely indicate a CHANGE OF LOCATION, whereas *naar*-PPs are always DIRECTIONAL; cf. Schermer-Vermeer (2001:29) and references cited there. For a more extensive discussion of the distinction between these notions, we refer the reader to Section P1.3.1.1.

- (327) a. Jan gaf <Els> het boek <aan Els>.
 Jan gave Els the book to Els
- b. Jan wierp <Els> de bal <naar Els> toe.
 Jan threw Els the ball to Els TOE

Now consider the examples in (328), which are run-of-the-mill cases of constructions with a spatial complementive. These examples exhibit a similar contrast as the examples in (327); the change of location construction in (328a) strongly suggests that the referent of the direct object occupies its new position at the end of the time interval at which the event took place, whereas this implication clearly does not hold for the directional construction in (328b) given the option of adding the adverbial phrase within parentheses.

- (328) a. Marie hing het schilderij aan de muur. [change of location]
 Marie hung the painting to the wall
 b. Jan reed Els naar Groningen (toen zij verongelukten). [directional]
 Jan drove Els to Groningen when they were.killed.in.an.accident
 ‘Jan was driving Els to Groningen (when they were killed in an accident).’

This difference between the two examples in (328) is even more conspicuous in their non-causative counterparts in (329): the locational construction implies that the painting was located at the wall during the complete event time interval, whereas the directional construction implies that Peter was *not* in Groningen during that time interval; see also P3.1.4.2 for relevant discussion.

- (329) a. Het schilderij hangt al jaren aan de muur. [location]
 the painting hangs already years to the wall
 ‘The painting has been hanging on the wall for years.’
 b. Jan reed naar Groningen (toen hij verongelukte). [directional]
 Jan drove to Groningen when he was.killed.in.an.accident
 ‘Jan was driving to Groningen (when he was killed in an accident).’

The discussion of the similarities between the examples in (327), on the one hand, and the examples in (328) and (329), on the other, shows that Table (325) can be adapted as in (330) and strongly suggests that the implications concerning possession are no more than pragmatic inferences based on the aspectual properties of the constructions in question: constructions that express a change of location imply that the located object occupies the position indicated by the locational PP or the dative noun phrase at the end of the event time interval, whereas directional constructions do not.

(330) Verb-sensitive approach (revised)

	DATIVE INDIRECT OBJECT	PERIPHRASTIC OBJECT
GIVE-TYPE VERB	change of location	change of location
THROW-TYPE VERB	directional	directional

Rappaport Hovav & Levin’s (2008) critique on the dual meaning approach seems to be devastating for any attempt to describe the difference between the double object and periphrastic indirect object construction in terms of possession. In our view this does not necessarily imply, however, that the dual meaning approach must be fully given up.

Putting aside the precise substantive content of the two predicates involved, the core intuition behind the semantic representations in (323) is that the two

constructions differ with respect to whether the action performed by the causer affects the referent of the indirect or the referent of the direct object of the construction: the latter holds for the periphrastic construction which can be said to simply express that the direct object undergoes a change of location; the former holds for the double object construction which can be said to express that it is the referent of the indirect object that undergoes some change of state by, e.g., becoming the possessor of the located object; the remainder of this subsection will show that this intuition may still be close to the mark.

Consider the examples in (331), in which the direct object does not refer to some tangible entity that can be physically located in space. However, since it still can be said that the referents of the indirect objects are affected by the action performed by the subjects of the clauses, we correctly predict that these double object constructions are possible.

- (331) a. Marie gaf Peter een kus/trap.
 Marie gave Peter a kiss/kick
 'Marie kissed/kicked Peter.'
- b. Jan gaf de auto een flinke poetsbeurt.
 Jan gave the car a thorough shine

The corresponding periphrastic indirect object constructions in (332), on the other hand, are normally considered marked as they lead to the anomalous interpretation that the referents of the direct objects are located in space (hence tangible) and are actually undergoing a change of location by being transferred to the referent of the indirect object; this was the core intuition expressed by Balk-Smit Duyzentkunst (1968), Green (1974) and Oehrle (1976) that underlies the dual meaning approach.

- (332) a. ^{??}Marie gaf een kus/trap aan Peter.
 Marie gave a kiss/kick to Peter
- b. ^{??}Jan gaf een flinke poetsbeurt aan de auto.
 Jan gave a thorough shine to the car

A similar but somewhat sharper contrast is found in the (a)-examples in (333), in which it is not the doctor but his treatment that causes Marie to have soft skin; the primed example is unacceptable due to the fact that the *met*-PP expressing the cause strongly disfavors the change of location reading associated with the periphrastic indirect object construction. Something similar holds for the (b)-examples in which the cause is expressed as the subject of the clause.

- (333) a. De dokter gaf Marie een zacht velletje met zijn behandeling.
 the doctor gave Marie a soft skin with his treatment
- a'. *De dokter gaf een zacht velletje aan Marie met zijn behandeling.
 the doctor gave a soft skin to Marie with his treatment
- b. De behandeling van de dokter gaf Marie een zacht velletje.
 the treatment by the doctor gave Marie a soft skin
- b'. *De behandeling van de dokter gaf een zacht velletje aan Marie.
 the treatment by the doctor gave a soft skin to Marie

In the examples in (334), on the other hand, the action of the subject does not so much affect the referent of the indirect object as the referent of the direct object; it simply locates (the responsibility for) the failure of the plan at the referent of the indirect object; cf. Oehrle (1976). The semantic representations suggested in (323) therefore correctly predict example (334b) to be degraded.

- (334) a. Jan schreef het falen van het plan aan Peter toe.
 Jan attributed the failure of the plan to Peter prt.
 ‘Jan attributed the failure of the plan to Peter.’
 b. ??Jan schreef Peter het falen van het plan toe.
 Jan attributed Peter the failure of the plan prt.

The discussion in this subsection suggests that the dual meaning approach was probably wrong in claiming that the difference between the double object and the periphrastic indirect object must be expressed by means of the abstract predicate HAVE (possession). This approach may have been correct, however, in assuming that the two constructions differ with respect to which object is (primarily) affected by the action of the subject. This leads to the semantic representations in Table (335), which, of course, abstract away from the semantic contributions of the verbs that enter the constructions. In the periphrastic indirect object construction it is the direct object that is undergoing a change of state: with verbs of the *give*-type it undergoes a change of location (here expressed by CAUSE TO BE AT) and with verbs of the *throw*-type it traverses a certain path (here expressed by CAUSE TO GO TO). In the double object construction, on the other hand, it is the indirect object that is affected by the action of the subject, which we have indicated by means of the abstract predicate BE AFFECTED BY because we have seen that the abstract predicate HAVE may not be the most appropriate choice for expressing the resultant state of the referent of the indirect object (although it may still be the case that, depending on the actual verb used, it is one of the options).

(335) Semantic representations of double and periphrastic indirect object constructions

	DATIVE INDIRECT OBJECT	PERIPHRASTIC INDIRECT OBJECT
<i>GIVE</i> -TYPE VERB	[S CAUSE [IO to BE AFFECTED BY DO]]	[S CAUSE [DO to BE AT IO]]
<i>THROW</i> - TYPE VERB	[S CAUSE [IO to BE AFFECTED BY DO]]	[S CAUSE [DO to GO TO IO]]

When we consider the literature on Dutch since Balk-Smit Duyzentkunst (1968), which mainly focuses on *give*-type verbs, it seems hardly controversial to assume that the dative and periphrastic construction differ semantically in the way indicated in Table (335). We illustrate this here with a small number of examples while ignoring the details of the individual proposals; see Schermer-Vermeer (1991:ch.9) for a more extensive review. Balk-Smit Duyzentkunst already noted that the periphrastic construction expresses transfer of the referent of the direct object. Kooij (1975) accounts for the meaning difference in terms of “affectedness of IO” and “transfer of DO”. Jansen (1976: Section 3.3) seems to have a similar contrast in mind: whereas the periphrastic construction is said to focus on the action/process

itself and the periphrastic *aan*-PP is taken to be a “local destination”, the dative construction expresses that the action/process has a specific function for the referent of the indirect object. Finally, the abstract predicate BE AT is clearly related to Schermer-Vermeer’s (1991:ch.7) notion of *contact*, which she correctly claims to constitute the core meaning of the preposition *aan* (cf. Section P1.3.1.2.3) and the abstract predicate BE AFFECTED BY seems to come close to what she calls *reactief* ‘responsive’.

II. Other factors affecting the alternation

The interpretations attributed to the double object and periphrastic indirect object construction in Table (335) seem real but should probably be considered as tendencies and not as absolute rules; there are various other factors that may affect the acceptability of the two alternating syntactic structures; see Den Hertog (1973:62) for some early remarks in this respect. That this is the case is immediately clear from the fact discussed in Section N1.3.1.2.3, sub III, that DET-INF nominalizations of double object constructions in which the theme argument is realized as a postnominal *van*-phrase require the periphrastic indirect object to be used; cf. Van den Toorn (1971). The examples in (336) show that this also holds for nominalizations of *een trap geven* ‘to give a kick’ and *een poetsbeurt geven* ‘to give a shine’ in (331) and (332), which normally involve a dative object.

- (336) a. het <*Peter> geven van een trap <aan Peter>
 the Peter give of a kick to Peter
 ‘the giving of a kick to Peter’
 b. het <*de auto> geven van een flinke poetsbeurt <aan de auto>
 the the car give of a thorough shine to the car
 ‘the giving of a thorough shine to the car’

The relative length of the objects may also affect the acceptability of the two constructions. The primed examples in (332), for example, considerably improve if the nominal part of the *aan*-PP is a larger noun phrase.

- (337) a. ^(?)Marie gaf een kus/trap aan de man die haar in de trein aansprak.
 Marie gave a kiss/kick to the man who her in the train prt.-addressed
 ‘Marie gave a kiss/kick to the man who addressed her in the train.’
 b. ^(?)Jan gaf een flinke poetsbeurt aan de auto die hij wou verkopen.
 Jan gave a thorough shine to the car that he wanted to sell

Stowell (1983: 333) further pointed out for English that Latinate verbs do not readily enter the double object construction and the contrast between the semantically nearly equivalent (a)- and (b)-examples in (338) suggests that the same thing holds for Dutch.

- (338) a. Zij geven het Leger des Heils elk jaar een flink bedrag.
 they give the Salvation Army each year a substantial sum
 a'. Zij geven elk jaar een flink bedrag aan het Leger des Heils.
 they give each year a substantial sum to the Salvation Army

- b. *?Zij doneren het Leger des Heils elk jaar een flink bedrag.
 they donate the Salvation Army each year a substantial sum
- b'. Zij doneren elk jaar een flink bedrag aan het Leger des Heils.
 they donate each year a substantial sum to the Salvation Army

Other factors that may affect the actual choice between the double object and the periphrastic indirect object construction are related to the information packaging of the clause; see Huddleston & Pullum (2002) for similar claims for English. Although speakers will normally prefer the double object construction in (339a) to the periphrastic indirect object construction in (339b), the latter is fully acceptable if the referent of the direct object is part of the presupposition of the clause, for example, when (339b) is used as an answer to the question *Wat deed Jan met het water uit de regenton?* 'What did Jan do with the water from the rain barrel?'. The same thing holds if the direct object is contrastively focused and stands in opposition to, e.g., some quantity of tap water that will be used in some other way.

- (339) a. Jan gaf de kamerplanten het water uit de regenton.
 Jan gave the houseplants the water from the rain.barrel
 'Jan gave the houseplants the water from the rain barrel.'
- b. Jan gaf het water uit de regenton aan de kamerplanten.
 Jan gave the water from the rain.barrel to the houseplants
 'Jan gave the water from the rain barrel to the house plants.'

Furthermore, a dative object often seems to be preferred if the direct object is a clause, which is especially common in the case of verbs of communication. A Google search (1/12/2011) showed that the periphrastic indirect object examples in the primed examples in (340) are much less common than the primeless double object constructions. The numbers in square brackets refer to the number of hits for the search strings [*V hem dat*] and [*V aan hem dat*].

- (340) a. Ik vertelde hem [dat Peter niet komt]. [$> 1,000,000$]
 I told him that Peter not comes
 'I told him that Peter won't come.'
- a'. Ik vertelde aan hem [dat Peter niet komt]. [16,400]
 I told to him that Peter not comes
 'I told to him that Peter won't come.'
- b. Ik beloofde hem [dat ik zou komen]. [29,400]
 I promised him that I would come
 'I promised him that I would come.'
- b'. Ik beloofde aan hem [dat ik zou komen]. [3]
 I promised to him that I would come
 'I promised to him that I would come.'

The contrast between the primeless and primed examples in (340) may again be due to information packaging as the embedded clause will normally contain the relevant new information expressed. This seems to be supported by the fact that the use of periphrastic indirect object constructions is very natural in questions such as (341), in which the indirect object is questioned and thus part of the "new" information of the clause; we have the impression that the periphrastic indirect object is even

preferred to the dative one, but the results of our Google search on the string [(*aan*) *wie heb je V dat*] were insufficient to substantiate this claim here.

- (341) a. *Aan wie heb je verteld [dat Peter niet komt]?*
 to whom did you tell that Peter not comes
 ‘To whom did you tell that Peter won’t come?’
 b. *Aan wie heb je beloofd [dat je zal komen]?*
 to whom have you promised that you will come
 ‘To whom did you promise that you’ll come?’

The examples in (342), finally, illustrate the fact that double object constructions are often less felicitous with inanimate indirect objects.

- (342) a. *Peter gaf Jan/de bibliotheek het boek.*
 Peter gave Jan/the library the book
 b. *Peter gaf het boek aan Jan/de bibliotheek.*
 Peter gave the book to Jan/the library

Bresnan et al. (2007) investigated the interfering factors in more detail for English and found that inanimate, non-pronominal, indefinite and informational structurally “new” indirect objects are much more likely to surface as PPs than their animate, pronominal, definite or presuppositional counterparts. The nature of the direct object also seems to affect the choice between the two alternants: pronominal, definite and presuppositional direct objects favor the periphrastic indirect object construction more than their non-pronominal, indefinite or non-presuppositional counterparts. The results are summarized in (343), in which the “>” sign must be interpreted as “is more likely to appear in a double object than in a periphrastic indirect object construction”.

- | | | |
|-------|-----------------------------|---------------------------------|
| (343) | • Indirect object | • Direct object |
| a. | pronominal > non-pronominal | a'. non-pronominal > pronominal |
| b. | definite > indefinite | b. indefinite > definite |
| c. | presuppositional > focus | c. focus > presuppositional |
| d. | short > long | d. long > short |
| e. | animate > inanimate | |

Our impression is that more or less the same thing holds for Dutch, but to our knowledge this has not been tested so far and we therefore have to leave this for future research.

III. A sample of double object verbs (not) allowing the alternation

The discussion in the previous subsections shows that it is hard to give lists of verbs that allow or disallow the dative noun phrase to alternate with a periphrastic *aan*-PP. Example (344) nevertheless indicates this for a small sample of double object verbs: in order to eliminate as much as possible the interference of information structure of the clause, we have checked all cases by means of interrogative clauses of the type in (341), in which the indirect object is questioned and thus part of the “new” information of the clause: *Aan wie/Wie heeft hij dat V_{participle}?* ‘To whom./Whom has he V that?’. The number sign # indicates that the periphrastic

form is not possible in such questions and a question mark indicates that we are not sure of our judgments and that speaker variation may be expected to be found.

- (344) a. **Verbs taking a nominal direct object:** *afstaan* ‘to hand over’, [#]*benijden* ‘to envy’, *betalen* ‘to pay’, [#]*besparen* ‘to spare’, *bezorgen* ‘to deliver’, *geven* ‘to give’, *lenen* ‘to lend’, *leveren* ‘to deliver’, *nalaten* ‘to bequeath’, *overhandigen* ‘to hand’, *schenken* ‘to give’, *sturen* ‘to send’, *toewijzen* ‘to assign’, *uitleggen* ‘to explain’, *uitreiken* ‘to hand’, *vergoeden* ‘to indemnify’, *verhuren* ‘to rent out’, *verkopen* ‘to sell’, *zenden* ‘to send’
- b. **Verbs taking a nominal or a clausal direct object:** [?]*aanbevelen* ‘to recommend’, *aanbieden* ‘to offer’, *aanraden* ‘to recommend’, [?]*afraden* ‘advise against’, *beloven* ‘to promise’, *doorbellen* ‘to tell by phone’, *gunnen* ‘to grant’, *leren* ‘to teach’, *meedelen* ‘to inform’, *schrijven* ‘to write’, [#]*vergeven* ‘to forgive’, *vertellen* ‘to tell’, [#]*verwijten* ‘to reproach’, *voorlezen* ‘to read’, *vragen* ‘to ask/request’
- c. **Verbs taking a clausal direct object:** *antwoorden* ‘to answer’, [#]*beletten* ‘to prevent’, *berichten* ‘to notify’, *bevelen* ‘to order’, [#]*gelasten* ‘to order’, *melden* ‘to report’, [#]*smeken* ‘to beg’, *toestaan* ‘to allow’, *verzoeken* ‘to request’, *voorstellen* ‘to propose’, [#]*zweren* ‘to vow’

Since this will become relevant in Subsection IV, we want to note that most of the verbs in (344) are particle verbs or verbs prefixed by *be-* or *ont-*, albeit that in the latter case the verb is often the result of a historical process as is clear from the fact that the original input verb is often no longer used: *bevelen* ‘to order’ - ^{*}*velen*; *vertellen* ‘to tell’ - [#]*tellen*. Many of the remaining simple verbs in (344) also occur as double object verbs with a verbal particle. The examples in (345) show that the use of the particle *terug* ‘back’ is especially productive in this respect; although not all cases in (345) are listed in Dutch dictionaries, they are all abundantly used on the internet. The question marks in (345) again indicate that we are not sure of our judgments and that we expect speakers to vary with respect to the question as to whether they do or do not allow periphrastic forms.

- (345) a. *geven* ‘to give’: *aangeven* ‘to hand over’, *doorgeven* ‘to pass on’, [?]*opgeven* ‘to report’, *teruggeven* ‘to give back/return’
- b. *lenen* ‘to lend’, *teruglenen* ‘to lend back’, *uitlenen* ‘to lend’
- c. *leren* ‘to teach’, [?]*bijleren* ‘to teach something new’, [?]*aanleren* ‘to teach’
- d. *leveren* ‘to deliver’, *naleveren* ‘to deliver at a later date’, *terugleveren* ‘to deliver back’, *uitleveren* ‘to extradite’
- e. *schenken* ‘to give’, *terugschenken* ‘to give back’
- f. *schrijven* ‘to write’, *terugschrijven* ‘to write back’, *toeschrijven* ‘to attribute/accredit’
- g. *sturen* ‘to send’, [?]*nasturen* ‘to send after’, *terugsturen* ‘to return’
- h. *zenden* ‘to send’, *terugzenden* ‘to send back/return’

IV. The syntactic status of the periphrastic recipient

This subsection discusses the syntactic status of the *aan*-PP in the periphrastic indirect object construction. Early generative grammar followed traditional

grammar in assuming that this PP is an alternative realization of the dative object and thus a PP-complement of the verb. More recent research has shown, however, that there are reasons for assuming that this is not correct and that the *aan*-PP behaves more like a °complementive, that is, a predicative locational PP; cf. Den Dikken (1995). An important argument in favor of this claim is based on the interpretation of the periphrastic indirect object construction; the semantic representations given in Table (335) of *give*-type verbs, repeated here as (346), suggest that the *aan*-PP has a function similar to that of a locational PP in a copular construction. Since Section 2.2.1, sub IV, has shown that locational PPs in constructions like *Jan is op school* ‘Jan is at school’ function as complementives, it seems natural to assume the same for *aan*-PPs in periphrastic indirect object constructions.

- (346) a. Double object construction: [Subject CAUSE [IO to BE AFFECTED BY DO]]
 b. Periphrastic indirect object construction: [Subject CAUSE [DO to BE AT IO]]

The hypothesis that periphrastic *aan*-PPs function as complementives is perhaps not the most obvious one to formulate given that it predicts that *aan*-PPs exhibit syntactic behavior similar to that of complementives; this is clearly wrong given that, unlike the prepositional complementives in (347a&b), the *aan*-PP in (347c) can readily be in extraposed position.

- (347) a. dat Jan het boek <op de tafel> legde <^{*?}op de tafel>.
 that Jan the book on the table put
 ‘that Jan put the book on the table.’
 b. dat de koningin Peter <tot ridder> sloeg <^{*?}tot ridder>.
 that the Queen Peter to knight hit
 ‘that the Queen made Jan a knight.’
 c. dat Jan zijn boek <aan Marie> stuurde <aan Marie>.
 that Jan his book to Marie sent
 ‘that Jan sent his book to Marie.’

It seems, however, that the problem is less serious than it appears at first sight. First, consider the examples in (348), which show that the ban on °extraposition of prepositional complementives is lifted when the clause is headed by a particle verb or a verb affixed with the prefix *be-*. Given that the Subsection III has shown that many, if not most, periphrastic indirect object constructions are headed by particle verbs or verbs prefixed by *be-* or *ont-*, the fact that these constructions do allow extraposition of the *aan*-PP simply fits in a more general pattern.

- (348) a. dat Jan het boek <op de tafel> neer legt <op de tafel>.
 that Jan the book on the table down puts
 ‘that Jan puts the book down on the table.’
 b. dat de koning Jan <tot adviseur> benoemt <tot adviseur>.
 that the king Jan to advisor appoints
 ‘that the king appoints Jan to advisor.’

This means that we are left with only a smaller subset of verbs without a particle or a prefix, and in this connection the observation in (345) that most of these verbs can

also be used with the particle *terug* ‘back’ may become relevant. We may account for problematic examples such as (347c) by assuming that such examples contain a phonetically empty verbal particle, which perhaps functions as the counterpart of the particle *terug* ‘back’; see Den Dikken (1995:ch.3) for an extensive motivation of this assumption. If so, the examples in (349) are structurally parallel to those in (348), and we thus correctly predict extraposition to be possible in both cases.

- (349) dat Jan zijn boek <aan Marie> Ø/terug stuurde <aan Marie>.
 that Jan his book to Marie Ø/back sent
 ‘that Jan sent his book (back) to Marie.’

The discussion above has shown that it is not possible to put aside the hypothesis that periphrastic indirect objects syntactically function as complementives on *a priori* grounds, but it does not, of course, show that this hypothesis is indeed the correct one. It is not an easy task to provide theory-independent evidence in favor of this hypothesis on the basis of the alternation between recipient objects and *aan*-PPs, but Section 3.3.1.2 on the shift between indirect object goals and *naar*-PPs will show that there is much to recommend this hypothesis.

3.3.1.2. Dative alternation with *naar*-phrases (goals)

In the literature on English, the alternation that will be discussed in this section is normally discussed under the same heading as the one discussed in Section 3.3.1.1: the reason for this is that periphrastic indirect objects are headed by the preposition *to* in both cases in English. The examples in (350) show, however, that the two cases are clearly distinct in Dutch, given that the preposition involved is different in the two cases: whereas the alternation discussed in 3.3.1.1 involves the preposition *aan*, the alternation that will be the topic of this section involves the preposition *naar* ‘to’. Ignore the element *toe* for the moment, but we will return to it later in this section.

- (350) a. Jan gooide Peter de bal *(toe).
 Jan threw Peter the ball TOE
 ‘Jan threw Peter the ball’
 b. Jan gooide de bal naar Peter (toe).
 Jan threw the ball to Peter TOE
 ‘Jan threw the ball to Peter.’

The alternation of dative noun phrases and *naar*-PPs so far seems to have received little attention from linguists who work on the dative alternation, although we have seen in Section 3.3.1.1 that Rappaport Hovav & Levin (2008) were able to make the correct distinction on semantic grounds. The discussion is organized as follows: Subsection I begins by briefly repeating some basic facts about the interpretation of the two alternants that were more extensively discussed in Section 3.3.1.1. Subsection II subsequently shows that the alternation of dative objects and *naar*-PPs provides quite convincing evidence in favor of the hypothesis discussed in Section 3.3.1.1, sub IV, that periphrastic indirect objects function syntactically as °complementives. Subsection III argues that the alternation of dative objects and *naar*-PPs also sheds new light on an old question in generative grammar by

showing that the double object and periphrastic indirect object construction are likely to be syntactically derived from a common underlying structure. Subsection IV concludes by providing a small sample of verbs exhibiting the alternation.

I. Meaning differences

Verbs that allow the dative alternation with *aan*-PPs differ semantically from verbs that allow the dative alternation with *naar*-PPs in that the former denote an actual, intended or future change of location, whereas the latter are directional in nature. The difference can be made explicit by considering the implication relations. The change of location construction in the first conjunct of (351a) refers to the act of actual transfer of the referent of the direct object to the referent of the indirect object, and thus contradicts the second conjunct which expresses that the transfer did not take place. The directional construction in the first conjunct of (351b), on the other hand, expresses that the referent of the direct object traverses a certain path but does not imply that it actually reaches the intended goal as is clear from the fact that (351b) is perfectly coherent; see also Schermer-Vermeer (2001:29) who claims that the notion of *contact*, which constitutes the core meaning of the preposition *aan*, is lacking in *naar*. In what follows, we will use the term recipient to refer to the indirect object in the change of location construction and the term goal to refer to the indirect object in the directional construction.

- (351) a. ^sJan gaf de bal aan Peter, maar Peter heeft hem niet gekregen.
 Jan gave the ball to Peter, but Peter has him not gotten
 ‘Jan gave the ball to Peter, but Peter didn’t get it.’
- b. Jan gooide de bal naar Peter (toe), maar Peter heeft hem niet gekregen.
 Jan threw the ball to Peter TOE, but Peter has him not gotten
 ‘Jan threw the ball towards Peter, but Peter didn’t get it.’

The double object and the periphrastic indirect object constructions in (350) seem to differ in a way similar to those discussed in Section 3.3.1.1: whereas the periphrastic construction in (350b) seems especially concerned with the way the action of the subject affects the referent of the direct object, the double object construction in (350a) seems more concerned with the way it affects the referent of the indirect object. Section 3.3.1.1 has already shown, however, that this difference cannot be adequately expressed in terms of possession: neither the periphrastic nor the double object construction in (350) necessarily implies that Peter will come into possession of the ball. Nevertheless, it still seems plausible that some notion of affectedness is relevant as is implied by the semantic interpretations proposed in Table (335) for *throw*-type verbs, repeated here as (352).

- (352) a. Double object construction: [Subject CAUSE [IO to BE AFFECTED BY DO]]
 b. Periphrastic indirect object construction: [S CAUSE [DO to GO TO IO]]

The semantic representation in (352a) expresses that the referent of the indirect object in the double object construction is somehow (potentially) affected by the action of the subject. Since this may hold for the referent of the animate indirect object *Jan*, but clearly not for the inanimate indirect objects *Amsterdam/de korf* in

the primeless examples in (353), the contrasts indicated there provide additional support for the semantic representations in (352).

- (353) a. Peter stuurt Jan/*Amsterdam het boek toe.
 Peter sends Jan/Amsterdam the book prt.
 a'. Peter stuurt het boek naar Jan/Amsterdam (toe).
 Peter sends the book to Jan/Amsterdam prt.
 b. Marie gooide Jan/*de korf de bal toe.
 Marie threw Jan/the basket the ball prt.
 b'. Marie gooide de bal naar Jan/de korf (toe).
 Marie threw the ball to Jan/the basket prt.

II. The syntactic function of the naar-PP

Directional PPs are invariably used as complementives; cf. Section P1.1.2.2, sub III. This means that examples such as (350b) provide strong evidence for the hypothesis discussed in Section 3.3.1.1, sub IV, that periphrastic indirect objects function syntactically as complementives. This hypothesis is also supported by the examples in (354), which show that the *naar*-PP in (350b) behaves like other PP-complementives in that it can only be in extraposed position if a verbal particle like *over* is present.

- (354) a. Jan heeft de bal <naar Peter> gegooid <?*naar Peter>.
 Jan has the ball to Peter thrown
 'Jan has thrown the ball to Peter.'
 b. Jan heeft de bal <naar Peter> over gegooid <naar Peter>.
 Jan has the ball to Peter over thrown
 'that Jan threw the ball over to Peter.'

Note that the examples in (355) show that the use of particles like *over* blocks the dative alternation; we will return to this, but before we can do this we first have to discuss the function of the element *toe*.

- (355) a. Jan heeft Peter de bal toe gegooid.
 Jan has Peter the ball TOE thrown
 b. *Jan heeft Peter de bal toe over gegooid.
 Jan has Peter the ball TOE over thrown

III. The element toe

This subsection discusses the element *toe* that is found in the examples in (350), repeated here as (356). The starting point of our discussion will be the observation that this element is optional in the periphrastic indirect object construction but obligatory in the double object construction.

- (356) a. Jan gooide Peter de bal *(toe).
 Jan threw Peter the ball TOE
 'Jan threw Peter the ball'
 b. Jan gooide de bal naar Peter (toe).
 Jan threw the ball to Peter TOE
 'Jan threw the ball to Peter.'

There are apparent counterexamples against the claim that the element *toe* must be realized in the double object construction, but it seems that these can normally be traced back to the fact that the indirect object can alternate with either an *aan*- or a *naar*-PP. One example is the verb *sturen* ‘to send’ in (357), which is apparently compatible both with a recipient and a goal.

- (357) a. Jan stuurde zijn ouders een brief (toe). [recipient or goal]
 Jan sent his parents a letter TOE
 b. Jan stuurde een brief aan zijn ouders. [recipient]
 Jan sent a letter to his parents
 b'. Jan stuurde een brief naar zijn ouders. [goal]
 Jan sent a letter to his parents

The contrast in (356) is surprising and therefore in need of an explanation. The explanation that we argue for here supports the transformational approach to the dative/PP alternation by suggesting that the double object construction is derived from a structure that is more or less identical to the one assigned to the periphrastic indirect object construction; see Janssen (1976:12) for an early proposal of this type and Den Dikken (1995) for a detailed analysis that is fully compatible with our findings here; see Schermer-Vermeer (2001) for an alternative lexico-grammatical approach. The first step in our argument is to establish that the element *toe* is not always optional in the periphrastic construction. This is illustrated in the examples in (358), which show that the element *toe* must be realized when the nominal complement of the *naar*-PP is moved into clause-initial position; see Section P5.2 for more detailed discussion.

- (358) a. Jan heeft de bal naar Peter (toe) gegooid.
 Jan has the ball to Peter TOE thrown
 ‘Jan has thrown the ball to Peter.’
 b. de jongen waar_i Jan de bal [_{PP} naar *t_i* *(toe)] gegooid heeft
 the boy where Jan the ball to TOE thrown have
 ‘the boy to whom Jan has thrown the ball’

Now, assume that the double object construction is derived from a structure similar to that of the periphrastic indirect object construction by eliminating the preposition *naar*: [_{PP} ~~naar~~ Peter (toe)]. Den Dikken (1995) claims that this is the result of so-called incorporation of the preposition into the verb, but the precise technical means are not relevant here; the only thing that counts is that as a result the noun phrase *Peter* can no longer be assigned case within the PP and must therefore be promoted to indirect object (in the same way as the direct object of a verb must be promoted to subject in the passive construction; cf. Section 3.2.1). In order to make this possible the noun phrase must be moved out of the PP and moved into the canonical position of the indirect object preceding the direct object: IO_i DO [_{PP} ~~naar~~ *t_i* (toe)]. If so, we may account for the obligatory presence of *toe* in the double object construction by appealing to the fact that extraction of the nominal complement in (358b) likewise triggers the obligatory presence of *toe*.

This hypothesis is also interesting in the light of the problem noted in subsection II that the double object construction is excluded if the verb is preceded

by a verbal particle; the relevant example is repeated as (359a). If the hypothesis proposed here is on the right track, we expect periphrastic indirect objects of particle verbs to be likewise impossible if *toe* is present, and example (359b) shows that such cases are indeed degraded.

- (359) a. Jan heeft Peter de bal toe (*over) gegooïd.
 Jan has Peter the ball TOE over thrown
 b. Jan heeft de bal naar Peter toe (*over) gegooïd.
 Jan has the ball to Peter TOE over thrown

The unacceptability of the verbal particle *over* may be accounted for if we assume that *toe* likewise functions as a verbal particle; verbs never combine with two particles at the same time, which in turn may follow from the more general restriction that clauses can contain at most one complementive; see Section 2.2.1, sub IV, for discussion.

IV. A sample of double object verbs (not) allowing the alternation

Given that the periphrastic PP is a directional complementive it does not come as a surprise that the set of double object verbs in which the indirect object functions as a goal is a subset of the verbs that may take a directional PP:

- (360) **Directional verbs:** *iets gooien (naar)* ‘to throw something (to)’, *iets sturen (naar)* ‘to send something (to)’, *iets rollen (naar)* ‘to roll something (to)’, *iets schoppen (naar)* ‘to kick something (to)’, *iets spelen (naar)* ‘to play something (to)’, *iets werpen (naar)* ‘to throw something (at)’, etc.

There are also a number of verbs that allow the double object but not the periphrastic indirect object construction. Like with verbs taking a recipient, this holds especially for verbs expressing transfer of propositional content like *toebijten/toeblaffen* ‘to snarl at’, *toefluisteren* ‘to whisper to’, *toejuichen* ‘to cheer at’; if the particle *toe* is not present, these verbs sometimes take a PP-complement headed by *naar*. An example that normally does not involve the transfer of some concrete physical entity is *toestoppen* ‘to slip’

- (361) a. Zij beet/blafte (*? naar) hem toe [dat hij moest ophouden].
 she bit/barked at him TOE that he had.to prt.-stop
 ‘She scolded at him that he had to stop.’
 b. Zij juichte/fluisterde (*? naar) hem toe [dat ze geslaagd was].
 she cheered/whispered at him TOE that she passed.the.exam was
 ‘She cheered at him that she’d passed the exam.’
 c. Ze stopte <Peter> wat extra’s <naar Peter> toe.
 she put Peter something extra to Peter TOE
 ‘She slipped Peter something extra.’

For completeness’ sake, note that there are also double object constructions with *toe* that do not allow the periphrastic indirect object with *naar*, but take periphrastic indirect objects with *aan*. This simply shows that a large number of (non-directional) particle verbs with the verbal particle *toe* take a recipient. Some examples are: *iemand iets toestaan* ‘to allow someone (to do) something’, *iemand*

iets toevertrouwen ‘to entrust something to someone’, *iets toewijzen aan iemand* ‘to assign something to someone’, *iemand iets toezeggen* ‘to promise something to someone’, etc. As expected, such double object constructions do alternate with periphrastic indirect object constructions with *aan*.

- (362) Jan vertrouwde <Peter> het geheim <aan Peter> toe.
 Jan entrusted Peter the secret to Peter prt.
 ‘Jan entrusted the secret to Peter.’

Since the dative alternation with *naar*-PPs has hardly been studied so far, future research will have to make clear which double object constructions with *toe* do or do not belong to the class of constructions discussed in this section.

V. Conclusion

The previous subsections have discussed a second type of dative/PP alternation in which the periphrastic indirect object surfaces as a *naar*-PP and which seems to have gone largely unnoticed so far in the otherwise vast literature on dative shift. We have seen that this alternation may shed new light on the analysis of the dative/PP alternation in the sense that it supports the following two hypotheses put forward in Den Dikken (1995): (i) the periphrastic indirect object syntactically functions as a complementive, and (ii) the double object and the periphrastic indirect object construction are derived from similar underlying structures. It therefore seems worthwhile to study this alternation more extensively in the future.

3.3.1.3. Dative alternation with *van*-phrases (sources)

The dative alternation sometimes also occurs with *van*-PPs. This holds especially for verbs with the verbal particle *af*. Some examples are *afbietsen (van)* ‘to wheedle out of’, *afnemen (van)* ‘to take away (from)’, *afpakken (van)* ‘to take away (from)’, *afpersen (van)* ‘to extort/extract (from)’, and *afrogelen (van)* ‘to wheedle out of’. There are also one or two cases with the particle *terug* ‘back’: *terugvragen (van)* ‘to ask back (from)’ and, perhaps, *terugeisen (van)* ‘to reclaim’.

- (363) a. Marie heeft <Els> de bal <van Els> af gepakt.
 Marie has Els the ball from Els AF taken
 ‘Marie has taken the ball from Els.’
 b. Jan heeft <Els> zijn boek <van Els> terug gevraagd.
 Jan has Els his book from Els back asked
 ‘Jan has asked Els for his book back.’

Constructions of this type are again directional in nature: the referent of the direct object is claimed to traverse a path that has its starting point at the referent of the indirect object, which thus acts as a source. Examples such as (363a) are therefore similar to constructions such as (364), in which the PP *van de pan (af)* functions as a °complementive.

- (364) Marie heeft de deksel van de pan af gehaald.
 Marie has the lid from the pan AF taken
 ‘Marie has taken the lid off the pan.’

The fact that *van*-PPs can also be used as complementives is, of course, not surprising given the analysis of the dative alternation suggested in Section 3.3.1.2, sub III. It seems a bit harder, however, to show that *van*-PPs in examples such as (363a) do indeed function as complementives: the fact that the verb normally takes the particle *af* makes it impossible to empirically support this by means of the lack of °extraposition given that such particles normally lift the ban on extraposition of prepositional complementives.

- (365) Marie heeft de bal <van Els> af gepakt <van Els>.
 Marie has the ball from Els AF taken
 ‘Marie has taken the ball from Els.’

The fact that the element *af* (or the particle *terug* ‘back’) is obligatory in the corresponding double object constructions can probably be accounted for in a similar way as the obligatoriness of *toe* in the goal constructions; see Section 3.3.1.2, sub III, for discussion.

The examples in (366) show that dative phrases that function as sources can sometimes also alternate with *aan*-PPs. This holds especially for verbs prefixed with *ont-* like *ontnemen* (*aan*) ‘to take away from’, *ontstelen* (*aan*) ‘to steal away from’, *ontfutselen* (*aan*) ‘to diddle someone out of’ and *ontzeggen* (*aan*) ‘to refuse’.

- (366) a. Jan ontnam <Peter> het boek <aan Peter>.
 Jan took.away Peter the book to Peter
 ‘Jan took away the book from Peter.’
 b. Jan ontfutselde <Peter> geld <aan Peter>.
 Jan took.away Peter money to Peter
 ‘Jan diddled Peter out of his money.’

3.3.1.4. Dative alternation with *bij*-phrases (possessors)

This section discusses the alternation of dative phrases with periphrastic *bij*-PPs; cf. Van den Toorn (1971). In constructions like these the indirect object functions as an inalienable possessor of some other noun phrase in the clause (the possessee). The possessee normally occurs as the complement of some °complementive locational PP. Typical examples are given in (367a&b), in which the dative and the *bij*-PP function as possessors of the nominal part of the PP headed by the preposition *op*. Example (367c) further shows that the indirect objects can readily be omitted, in which case the intended possessive meaning can simply be expressed by means of an NP-internal possessor in the form of a genitive noun phrase, a possessive pronoun or (not shown) a postnominal *van*-PP.

- (367) a. Marie zet Peter/hem het kind op de knie. [possessive dative]
 Marie puts Peter/him the child onto the knee
 b. Marie zet het kind bij Peter/hem op de knie. [possessive *bij*-PP]
 Marie puts the child with Peter/him on the knee
 c. Marie zet het kind op Peters/zijn knie. [NP-internal possessor]
 Marie puts the child onto Peter’s/his knee
 ‘Marie puts the child on Peter’s/his knee.’

Although standard speakers normally accept all forms in (367), they may differ in their actual preference. The main division line seems to be between the (a&b)-examples and the (c)-example; the latter is acceptable to all speakers whereas the former are sometimes considered marked. It further seems that speakers vary with respect to the question as to whether the (a)-example with a dative noun phrase is to be preferred over the (b)-example with a *bij*-phrase, or vice versa. Finally, speakers' judgments may vary from construction to construction. In what follows we will abstract away from these issues, which we leave for future research.

It is important to note that the possessive dative/*bij*-PP and the NP-internal possessor are normally not mutually exclusive in Standard Dutch: example (368) shows that they can be simultaneously expressed despite the fact that this seems to introduce a certain amount of redundancy.

- (368) a. Marie zet *Peter/hem* het kind op *zijn* knie.
 Marie puts Peter/him the child on his knee
 b. Marie zet het kind bij *Peter/hem* op *zijn* knie.
 Marie puts the child with Peter/him on his knee
 'Marie puts the child on Peter's/his knee.'

In the discussion that follows, we will ignore this remarkable fact, which has led Janssen (1976) to the conclusion that there is in fact no category of possessive dative; he claims that we are simply dealing with recipients and that their possessive interpretation is due to extra-linguistic factors. We will not follow this suggestion given that there is no independent evidence for claiming that the verb *zetten* 'to put' in the examples above selects a recipient, whereas there is evidence that the dative/*bij*-PP is licensed by virtue of its relationship with the possessee; see also Van Bree (1981) and Schermer-Vermeer (1991/1996). The examples in (369), for example, show that the verb *zetten* cannot be combined with a dative when the complementive does not contain a noun phrase that can be inalienably possessed. See Subsection IV for more extensive discussion.

- (369) a. Marie zet (*Peter/*hem) het kind op de tafel.
 Marie puts Peter/him the child on the table
 b. Marie zet (*Peter/*hem) het kind hier.
 Marie puts Peter/him the child here

Although the following subsections will focus on constructions with a possessive dative/*bij*-PP, we will occasionally also discuss the corresponding constructions with an NP-internal possessor. Subsections I and II start with a discussion of a number of characteristic properties of the dative and the periphrastic *bij*-PP. Section III continues with a discussion of the locational PP that contains the possessee. Subsection IV focuses more specifically on the relation between the possessive *bij*-phrase and the locational PP and will show that the two form a constituent. Subsection V provides a discussion of the verb types that allow the dative/PP alternation. Although the nominal possessor is normally assigned dative case, Subsection VI shows that there are some special cases in which an accusative or nominative possessor can be used; this subsection also discusses a number of cases which only seemingly involve a nominative possessor.

I. The dative possessor

This subsection discusses a number of characteristic properties of the dative possessor and contrasts these with the properties of the periphrastic *bij*-phrase and the NP-internal possessor.

A. The possessive dative requires the presence of a predicative locational PP

The distribution of the Standard Dutch possessive dative construction is quite restricted and normally requires that the possessee be embedded in a complementive locational PP, as in (367); if the locational PP has an adverbial function, as in (370), the possessive dative is excluded. This does not hold for the corresponding possessive *bij*-phrase or the NP-internal possessor, which are perfectly acceptable in such cases.

- (370) a. *Het kind sliep Peter/hem in de armen. [possessive dative]
 the child slept Peter/him in the arms
 b. Het kind sliep bij Peter/hem in de armen. [possessive *bij*-PP]
 the child slept with Peter/him in the arms
 c. Het kind sliep in Peters/zijn armen. [NP-internal possessor]
 the child slept in Peter's/his arms
 'The child slept in Peter's/his arms.'

Double object constructions such as (371a), in which the indirect object functions as the possessor of a direct object, are normally excluded in Standard Dutch as well; since the same thing holds for the possessive *bij*-phrase in (371b), the normal way of expressing the intended meaning is by using an NP-internal possessor, as in (371c). The percentage sign in (371a) is used to indicate that this state of affairs does not hold for all varieties of Dutch—possessive dative constructions such as (371a) are common in many southern and eastern dialects of Dutch; we refer the reader to Van Bree (1981) and Cornips (1994) for a description of the dialect data and also to Barbiers et al. (2005:78) who describe the distribution of this possessive construction with a reflexive indirect object. The number sign in example (371b) indicates that it is marginally acceptable if the *bij*-phrase functions as an adverbial locational phrase (under this reading, the example is fully acceptable with the direct object *zijn handen* 'his hands'); see Subsection II for a discussion of this adverbial use of the *bij*-phrase.

- (371) a. %Hij wast Peter de handen. [possessive dative]
 he washes Peter the hands
 b. #Hij wast bij Peter de handen. [possessive *bij*-PP]
 he washes with Peter the hands
 c. Hij wast Peters handen. [NP-internal possessor]
 he washes Peter's hands
 'He's washing Peter's hands.'

There are exceptions to the general rule that an indirect object cannot function as the inalienable possessor of a direct object; the examples in (372), for instance, show that possessive constructions of the type in (371a) are possible in certain

idiomatic expressions. Possessive datives in examples of this type normally do not alternate with a possessive *bij*-PP.

- (372) a. Jan waste Marie de oren.
 Jan washed Marie the ears
 'Jan told Marie the truth/gave Marie a piece of his mind.'
- b. Marie drukte/schudde Peter de hand.
 Marie pressed/shook Peter the hand
 'Marie shook Peter's hand.'
- c. De graaf kuste de gravin de hand.
 the count kissed the countess the hand
 'The count kissed the countess' hand.'

In other cases, the possessive relation between the indirect and the direct object may be triggered by our knowledge of the world. In (373a), the dative phrase functions as the syntactically encoded possessor of the nominal part of the predicative locational PP *op de rug*, but the fact that the dative phrase is also construed as the possessor of the direct object *de handen* is related to our knowledge of the world; see also Schermer-Vermeer (1991:205ff) for a more general discussion. Knowledge of the world may also be relevant for example (373b) with an optional adverbial PP; this example is given as a case of (inalienable) possession in Janssen (1976:43), but we believe that the hotel context evoked by the noun *piccolo* 'bellhop' simply favors the interpretation that the room in question is the room rented by Karel.

- (373) a. De agent bond de verdachte de handen op de rug.
 the cop bound the suspect the hands on the back
 'The cop bound the suspect's hands on his back.'
- b. De piccolo bracht Karel de krant (op de kamer).
 the bellhop brought Karel the newspaper on the room
 'The bellhop brought Karel the newspaper in his room.'

B. The dative phrase expresses inalienable possession

Standard Dutch possessive datives are associated with entities that are inalienably possessed, like body parts or certain pieces of clothing (provided they are actually worn during the event time); the primeless examples in (374) illustrate that the use of possessive datives results in degraded sentences if the possessee is not inalienably possessed. The primed and doubly-primed examples show that possessive datives crucially differ in this respect from periphrastic *bij*-PPs and NP-internal possessors. The percentage signs in the primeless examples again indicate that these examples are fully acceptable in some southern and eastern varieties of Dutch; cf. Cornips (1994:153).

- (374) a. ⁹⁶Marie zette Peter het kind in de auto.
 Marie put Peter the child into the car
- a'. Marie zette het kind bij Peter in de auto.
 Marie puts the child with Peter into the car
- a''. Marie zette het kind in Peters auto.
 Marie put the child into Peter's car
 'Marie put the child into Peter's car.'

- b. %Ze hebben Peter een agent voor de deur gezet.
 they have Peter a cop in.front.of the door put
- b'. Ze hebben een agent bij Peter voor de deur gezet.
 they have a cop with Peter in.front.of the door put
- b'. Ze hebben een agent voor Peters deur gezet.
 they have a cop in.front.of Peter's door put
 'The have put a cop in front of Peter's door.'

Some Standard Dutch examples that may be on the borderline between alienable and inalienable possession are given in (375), in which the possessed entity is a location that is in a sense inherently associated with the possessor.

- (375) a. We bezorgen <u> de boodschappen <bij u> thuis.
 we deliver you the shopping with you home
 'We deliver your shopping at your home.'
- b. Jan bracht <Peter> het boek <bij Peter> op het werk.
 Jan brought Peter the book with Peter at the work
 'Jan brought the book at Peter's office.'

Note in passing that it has been claimed that dative objects cannot be interpreted as inalienable possessors if the possessed noun phrase is modified by a non-restrictive modifier; cf. Vergnaud & Zubizarreta (1992:603) and references cited there. The examples in (376) show, however, that this does not hold for Dutch: the dative phrase can be interpreted as the possessor, regardless of whether the modifier of the possessee is restrictive or non-restrictive.

- (376) a. Marie zette Peter het kind op de gewonde knie. [restrictive]
 Marie put Peter the child onto the wounded knee
 'Marie put the child on Peter's wounded knee.'
- b. Marie trok Jan een haar uit de grijze baard [non-restrictive]
 Marie pulled Jan a hair out.of the grey beard
 'Peter pulled a hair out of Jan's grey beard.'

C. The dative possessor is animate

The examples in (377) show that dative possessors differ from their corresponding possessive *bij*-phrases and NP-internal possessors in that they must be animate.

- (377) a. Marie zet Peter/hem de kinderen op de knie. [possessive dative]
 Marie puts Peter/him the children onto the knee
- a'. Marie zet de kinderen bij Peter/hem op de knie. [possessive *bij*-PP]
 Marie puts the children with Peter/him on the knee
- a'. Marie zet de kinderen op Peters/zijn knie. [NP-internal possessor]
 Marie put the children onto Peter's/his knee
 'Marie puts the children on Peter's/his knee.'

- b. *Jan zette het huis een antenne op het dak. [possessive dative]
 Jan put the house an antenna on the roof
- b'. Jan zette een antenne bij het huis op het dak. [possessive *bij*-PP]
 Jan put an antenna with the house on the roof
- b''. Jan zette een antenne op het dak van het huis. [NP-internal possessor]
 Jan put an antenna on the roof of the house

The set of examples in (378) simply illustrates the same point.

- (378) a. Peter plakke Marie een briefje op het voorhoofd. [possessive dative]
 Peter stuck Marie a note on the forehead
- a'. Peter plakke een briefje bij Marie op het voorhoofd. [possessive *bij*-PP]
 Peter stuck a note with Marie on the forehead
- a''. Peter plakke een briefje op het voorhoofd van Marie. [NP-internal poss.]
 Peter stuck a note on the forehead of Marie
- b. *Peter plakke de auto een briefje op de voorruit. [possessive dative]
 Peter stuck the car a note on the windscreen
- b'. Peter plakke een briefje bij de auto op de voorruit. [possessive *bij*-PP]
 Peter stuck a note with the car on the windscreen
- b''. Peter plakke een briefje op de voorruit van de auto. [NP-internal poss.]
 Peter stuck a note on the windscreen of the car

II. *The possessive bij-phrase*

Subsection I has already shown that possessive *bij*-phrases differ from possessive datives in three ways: they can also be used (i) if the possessee is part of an adverbial phrase, (ii) in contexts that do not involve inalienable possession, and (iii) if they are inanimate. This subsection therefore confines itself to showing how the possessive *bij*-phrase can be distinguished from *bij*-phrases with other syntactic functions.

The examples in (379) show that *bij*-phrases are not only used to express possession but can also be used as locational adverbial phrases or complementives. The actual function of the *bij*-phrase will often be clear from its locational or possessive meaning, but can sometimes also be made visible by replacing the *bij*-phrase by an adverbial pro-form like *hier* 'here' or *daar* 'there'; this is possible with adverbial phrases and complementives, but not with possessive *bij*-phrases.

- (379) a. Jan speelt vandaag bij zijn tante/daar. [adverbial *bij*-PP]
 Jan plays today at his aunt/there
 'Jan is playing today at his aunt's place.'
- b. Jan zet de theepot bij zijn tante/daar. [complementive *bij*-PP]
 Jan puts the tea pot near his aunt/there
 'Jan put the tea pot close to his aunt.'
- c. Jan legde de baby bij zijn tante/*daar in de armen. [possessive *bij*-PP]
 Jan put the baby with his aunt/there in the arms
 'Jan put the baby in his aunt's arms.'

Example (380a) shows that the fact that *bij*-phrases can have these three functions may lead to a three-way ambiguity. The first reading of this example expresses that

Jan put the baby to bed when he was at his aunt's place; on this reading the *bij*-phrase functions as an adverbial phrase of place as is also clear from the fact that it can be omitted or replaced by the pro-form *daar* 'there', as in (380b). The second reading expresses that Jan put the baby with his aunt (who happened to be in bed); in this case the *bij*-phrase functions as the (obligatory) complementive of the locational verb *zetten* 'to put' and the PP *in the bed* functions as some kind of modifier, which can be omitted or be replaced by the pro-form *daar*, as in (380b'). The third reading is the possessive one, which requires that both PPs be present and realized in their non-pronominalized form, as in (380b'').

- (380) a. Jan stopte de baby bij zijn tante in bed.
 Jan put the baby at/with his aunt in bed
 'Jan put his baby in his aunt's bed.'
- b. Jan stopte de baby (daar) in bed. [adverbial *bij*-PP]
 Jan put the baby there to bed
 'Jan put the baby to bed (there).'
- b'. Jan stopte de baby bij zijn tante (*daar*). [complementive *bij*-PP]
 Jan put the baby with his aunt there
 'Jan put the baby with his aunt (over there).'
- b''. Jan stopte de baby bij zijn tante/#daar/# \emptyset in bed/#daar/# \emptyset . [poss. *bij*-PP]
 Jan put the baby with his aunt/there/ \emptyset in bed/there/ \emptyset
 'Jan put the baby in his aunt's bed.'

The adverbial reading of the *bij*-phrase can often be eliminated by adding an additional locational adverbial phrase like the pro-form *daar* in example (381a); as a result, the *bij*-phrase can only be interpreted as a complementive or a possessor. Example (381b) shows that the first option gives rise to a somewhat marked result, which may be due to the fact that, like spatial adverbial phrases, prepositional complementives can also be replaced by an adverbial pro-form; that the *bij*-phrase allows a possessive interpretation is clear from the fact illustrated in (381b') that it can be dropped (with the concomitant effect of losing the possessive reading) or replaced by a possessive pronoun.

- (381) a. Jan legde de baby daar bij zijn tante in bed.
 Jan put the baby there with his aunt in bed
 'Jan put his baby in his aunt's bed.'
- b. ⁽²⁾Jan legde de baby daar bij zijn tante.
 Jan put the baby there with his aunt
- b'. Jan legde de baby daar in (haar) bed.
 Jan put the baby there in her bed

It is normally not so easy to block the complementive reading of the *bij*-phrase. Nevertheless, in examples like (382a&b) it is immediately clear that we are not dealing with a complementive given that the primed examples show that the complementive cannot be headed by the preposition *bij* in the given context. This leaves open, however, the possibility that the *bij*-phrase has an adverbial function in these cases.

- (382) a. Jan hing de ketting bij Marie om de hals.
 Jan hung the necklace with Marie around the neck
 'Jan hung the necklace around Marie's neck.'
- a'. Jan hing de ketting om de/Maries hals.
 a''. *Jan hing de ketting bij Marie.
- b. De arts stak de naald bij Marie in de arm.
 the doctor put the needle with Marie into the arm
 'The doctor put the needle into Marie's arm.'
- b'. De arts stak de naald in de/Maries arm.
 b''. *De arts stak de naald bij Marie.

The discussion above has shown that *bij*-phrases can be used in at least three different ways, which may cause ambiguity. We will do our best to avoid such ambiguities in the examples below, but where it does arise we will normally ignore it unless we consider it relevant for our discussion.

III. The predicative locational PP

The complementives in the examples discussed so far are all *prepositional* phrases. The reason for this is that the examples in (383) show that the use of possessive datives/*bij*-phrases is impossible if the complementive is *postpositional*: it seems that in such cases possession can only be expressed by means of an NP-internal possessor.

- (383) a. *Marie duwde Peter het kind de armen in.
 Marie pushed Peter the child the arms into
- b. ??Marie duwde het kind bij Peter de armen in.
 Marie pushed the child with Peter the arms into
- c. Marie duwde het kind Peters armen in.
 Marie pushed the child Peter's arms into

The same thing might be illustrated by means of the examples in (384) although the case is somewhat obscured by the fact that (384b), which is the postpositional counterpart of example (380a) from Subsection II, does allow an adverbial reading of the *bij*-phrase; the complementive reading of the *bij*-PP is also marginally possible if there is a comma intonation between the two PPs, that is, if the postpositional phrase functions as an apposition to the *bij*-phrase.

- (384) a. *Jan stopte zijn tante de baby het bed in.
 Jan put his aunt the baby the bed into
- b. Jan stopte de baby bij zijn tante het bed in.
 Jan put the baby at/with his aunt the bed into
 'At his aunt's place, Jan put the baby into the bed.'
 'Jan put the baby with his aunt, into the bed.'
 Impossible reading: 'Jan put the baby into his aunt's bed.'

Providing reliable judgments may also prove difficult in other cases. The postpositional counterpart of example (382b) in (385b), for example, is acceptable despite the fact that Subsection II has shown that a complementive reading of the

bij-phrase is not possible. It is not clear, however, whether we are dealing with a possessive *bij*-phrase in this case given that this possessive reading seems less prominent than in other cases: the *bij*-phrase instead seems to act as a restrictor on the assertion expressed by the remainder of the clause and we may therefore be dealing with a restrictive adverbial phrase. This suggestion seems to be supported by the fact illustrated in (385a) that the *bij*-phrase does not alternate with the possessive dative.

- (385) a. *De arts stak Marie de naald de arm in.
 the doctor put Marie the needle the arm into
 b. #De arts stak de naald bij Marie de arm in.
 the doctor put the needle with Marie the arm into
 Intended reading: 'The doctor put the needle into Marie's arm.'

The discussion of the examples in (384) and (385) shows that we should be careful not to jump to conclusions. Another reason to be careful is that postpositional phrases are possible, and in fact obligatory, in idiomatic constructions like (386a&b). Note in passing that these constructions are unaccusative and that we are thus dealing with NOM-DAT constructions; see Subsection V for more examples of this type.

- (386) a. Dat gezeur hangt Peter/hem de keel uit.
 that nagging hangs Peter/him the throat out.of
 'He's fed up with that nagging.'
 a'. *Dat gezeur hangt bij Peter/hem de keel uit.
 a''. *Dat gezeur hangt Peters/zijn keel uit.
 b. Dat gevelei komt Peter/hem de neus uit.
 the flattery comes Peter/him the nose out.of
 'Peter is fed up with that flattery.'
 b'. *Dat gevelei komt bij Peter/hem de neus uit.
 b''. *Dat gevelei komt Peters/zijn neus uit.

Setting these idiomatic examples aside, the discussion above nevertheless suggests that possessive datives/*bij*-phrases cannot be used if the complementive is a postpositional phrase. Since such PPs are always directional, this may lead to the expectation that directional phrases are categorically blocked. The (a)-examples in (387) show that this expectation is not completely borne out: although *naar*-phrases are inherently directional, it is nevertheless possible to use a possessive dative; constructions with a possessive *bij*-phrase, on the other hand, are indeed marked.

- (387) a. Jan gooide Marie een schoen naar het hoofd.
 Jan threw Marie a shoe to the head
 b. ??Jan gooide een schoen bij Marie naar het hoofd.
 Jan threw a shoe with Marie to the head
 c. Jan gooide een schoen naar Maries hoofd.
 Jan threw a shoe to Marie's head
 'Jan threw a shoe at Marie's head.'

IV. *The syntactic structure of possessive bij-phrase constructions*

This subsection discusses the syntactic structure of constructions with a possessive *bij*-phrase. The fact that possessive *bij*-phrases are normally optional suggests that analyses according to which the possessive *bij*-phrase is an internal °argument of the verb are not the most obvious ones to pursue: it seems that possessive *bij*-phrases are instead licensed by being in some relation with the possessee, that is, the nominal part of the locational phrase. Subsection A will support the intuition that possessive *bij*-phrases are not internal arguments of verbs by showing that they form a constituent with the locational PP: [_{PP} *bij*-PP loc-PP]. Subsection B continues by investigating the internal organization of this structure and will provisionally conclude that the *bij*-phrase functions as a(n optional) modifier of the locational PP. Subsection C discusses some potential problems for this proposal and slightly revises the proposal from Subsection B to overcome at least some of them; this revision will also enable us to formally express the aforementioned intuition that the possessive *bij*-phrase must be licensed by being in a relation with the possessee. We will not discuss the revised proposal in any detail given that it would carry us too far into the domain of theory-internal argumentation; for the same reason we will not discuss the syntactic structure of the possessive dative construction but simply assume that it is derived from the structure proposed in Subsection C (or B) by means of mechanisms similar to those discussed in Section 3.3.1.2, sub III.

A. *The possessive bij-phrase and the locational PP form a constituent*

Corver (1990/1992) has shown by means of a large number of tests that the possessive *bij*-PP and the locational PP containing the possessee constitute a constituent. The first argument is based on the standard °constituency test, according to which the position preceding the finite verb in main clauses can be occupied by a single constituent only. Consider the examples in (388), in which the possessive *bij*-phrases are construed with the nominal parts of the adverbial phrases *in de tuin* and *op de schouder*. The fact illustrated in the singly-primed examples that these *bij*-phrases can be pied-piped by topicalization of the locational PPs establishes immediately that the *bij*-phrases can be part of the adverbial phrases. The fact illustrated in the doubly-primed examples that °pied piping is in fact obligatory suggests that we can even say that the possessive *bij*-phrases must be part of the adverbial phrases; note that some speakers may marginally accept the doubly-primed examples with a contrastive (adverbial) reading of the *bij*-phrases.

- (388) a. Zijn zoontjes speelden verstoppertje bij Marie in de tuin.
 his sons played hide.and.seek with Marie in de garden
 ‘His sons played hide-and-peek in Marie’s garden.’
 a’. Bij Marie in de tuin speelde zijn zoontjes verstoppertje.
 a’’. *In de tuin speelde zijn zoontjes verstoppertje bij Marie.
 b. Ik zag een grote moedervlek bij Peter op de schouder.
 I saw a large birthmark with Peter on the shoulder
 ‘I saw a large birthmark on Peter’s shoulder.’
 b’. Bij Peter op de schouder zag ik een grote moedervlek.
 b’’. *Op de schouder zag ik een grote moedervlek bij Peter.

A second constituency test that shows that we are dealing with constituents is pronominalization: example (380) in Subsection II has already shown that whereas adverbial phrases and complementive *bij*-phrases can be pronominalized by an adverbial pro-form, possessive *bij*-phrases cannot. It is possible, however, to pronominalize the string consisting of both the locational PP and the possessive *bij*-phrase. We illustrate this by means of the question-answer pairs in (389); the complex [*bij*-PP loc-PP] phrase is given as an answer and thus clearly has the same syntactic function as the interrogative pronoun *waar* 'where'. Other tests that give rise to a similar result involve clefting and pseudo-clefting but will not be illustrated here; see Corver (1990/1992) for examples.

- (389) a. Waar speelden zijn zoontjes verstoppertje? Bij Marie in de tuin.
 where played his sons hide.and.seek with Marie in de garden
 'Where did his sons play hide-and-see? In Marie's garden.'
 b. Waar zag je de grootste moedervlek? Bij Peter op de schouder.
 where saw you the largest birthmark with Peter on the shoulder
 'Where did you see the largest birthmark? On Peter's shoulder.'

The examples in (390) also support the claim that the string [*bij*-PP loc-PP] functions as a constituent; conjuncts of a coordination structure always constitute phrases.

- (390) a. [Zowel [bij Marie in de tuin] als [bij Peter op zolder]] spelen
 both with Marie in the garden and with Peter at.the.attic play
 zijn zoontjes graag verstoppertje.
 his sons gladly hide-and-see
 'His sons like to play hide-and-see both in Marie's garden and in Peter's attic.'
 b. [Zowel [bij Peter op de schouder] als [bij Marie op de knie]] zag ik
 both with Peter on the shoulder and with Marie on the knee saw I
 een grote moedervlek.
 a large birthmark
 'I saw a large birthmark both on Peter's shoulder and on Marie's knee.'

The examples in (391) provide two other cases in which the string [*bij*-PP loc-PP] is found in a position where we normally find a single constituent. In (391a) the string functions as a postnominal modifier and in (391b) as a PP-complement of the preposition *tot* 'until'.

- (391) a. [_{DP} de eikenboom [bij Marie in de tuin]]
 the oak.tree with Marie in the garden
 'the oak tree in Marie's garden'
 b. Je kunt de kinderen horen [_{PP} tot [bij Marie in de tuin]].
 one can the children hear up.to with Marie in the garden
 'One can even hear the children as far as Marie's garden.'

The final and perhaps most impressive and interesting evidence in favor of the claim that the string [*bij*-PP loc-PP] forms a constituent is that the *bij*-phrase can intervene between the locational PP and its modifiers. This is illustrated in the

examples in (392), in which the modifiers of the locational PPs are given in italics; see section P3 for an extensive discussion of this kind of modification.

- (392) a. De dokter stak de naald [*diep* bij Peter in de ader].
 the doctor stuck the needle deep with Peter into the vein
 ‘The doctor stuck the needle deep into Peter’s vein.’
 b. [*Pal* bij Marie boven het hoofd] hing een spin.
 just with Marie above the head hung a spider
 ‘A spider hung just above Marie’s head.’

B. *The internal structure of string [bij-PP loc-PP]*

Since the previous subsection has established that the string [bij-PP loc-PP] forms a constituent, we have to consider the question of what the internal structure of this constituent is. In principle we can assume the four structures in (393), in which the prepositional °head of the construction is indicated by italics and the functions of the substrings are indicated by subscripts in small caps; cf. Corver (1990/1992) and references cited there.

- (393) a. [_{PP} *bij* [_{DP} het meisje [_{MOD}]]
 with the girl in the garden
 b. [_{PP} *bij* [[_{DP} het meisje]_{SUBJ} [_{PP} in de tuin]_{PRED}]]
 c. [_{PP} [*bij* het meisje] [_{PP} in de tuin]_{MOD}]]
 d. [_{PP} [_{PP} bij het meisje]_{MOD} [in de tuin]]]

The first three structures are all characterized by the fact that the preposition *bij* constitutes the head of the full string. We have already seen in Subsection II that such structures are less plausible given that there are cases in which the verb selects the preposition of the locational PP; this is clear from the fact that whereas the possessive *bij*-phrase is optional in examples such as (394a), the locational PP cannot be omitted.

- (394) a. Jan hing de ketting bij Marie om de hals.
 Jan hung the necklace with Marie around the neck
 ‘Jan hung the necklace around Marie’s neck.’
 b. Jan hing de ketting om de/Maries hals.
 b’. *Jan hing de ketting bij Marie.

The structure in (393a) can further be dismissed on semantic grounds; given that the locational PP modifies the noun *meisje*, we wrongly expect the interpretation “with the girl who is in the garden” instead of “in the girl’s garden”.

Structures such as (393b) are typically found in °absolute *met*-constructions such as (395). An analysis of this sort again provides the wrong interpretation. Given that the locational PP is predicated of the noun phrase, the absolute *met*-construction in (395) expresses that the referent of the noun phrase *Peter* is located in a certain place. This interpretation is not found in the possessive construction, which is especially clear from examples such as (394), in which the interpretation that Marie is around the neck would, of course, be incoherent.

- (395) We winnen zeker [met [DP Peter]_{SUBJ} [PP in het doel]_{PRED}].
 we win certainly with Peter in the goal
 ‘We’ll certainly win with Peter in the goal.’

The structure in (393c) leads to a kind of appositional interpretation, in which the locational PP further specifies the *bij*-phrase; this again runs afoul of the fact that in examples such as (394) the presumed modifier, that is, the locational PP cannot be omitted.

This leaves us with the fourth option in which the *bij*-phrase functions as a modifier of the locational PP; evidence in favor of this analysis is that the possessive *bij*-PP can readily be omitted (with the concomitant loss of the possessive reading). Another virtue of analyzing the *bij*-phrase as a modifier of the locational PP is that this accounts for the extraction facts in (396), which show that adjectival measure phrases like *diep* ‘deep’ and possessive *bij*-phrases are alike in that they can both be extracted from the locational PP by means of *wh*-movement (or topicalization). This similarity in behavior follows immediately if they are both analyzed as modifiers of the locational PP.

- (396) a. De dokter stak de naald [PP diep_{MOD} [bij Peter]_{MOD} [in de arm]].
 the doctor put the needle deep with Peter in the arm
 ‘De doctor put the needle deep in Peters arm.’
 b. Hoe diep_i stak de dokter de naald [PP t_i [bij Peter] [in de arm]]?
 how deep put the doctor the needle with Peter in the arm
 c. [Bij wie]_i stak de dokter de naald [PP diep t_i in de arm]]?
 with whom put the doctor the needle deep in the arm

C. R-extraction from the PPs

Consider again the analysis in (393d) proposed by Corver (1990/1992), according to which the *bij*-phrase functions as a modifier of the locational PP: [PP [PP bij DP]_{MOD} [P DP]]. This structure makes a number of predictions concerning R-extraction. Consider the examples in (397), which show that modifiers such as *vlak* ‘just’ and *direct* ‘directly’ do not hamper R-extraction from the locational phrase.

- (397) a. Het schilderij hangt [PP vlak [boven het kastje]].
 the painting hangs just above the cupboard
 ‘The painting is hanging just above the cupboard.’
 a’. [Het kastje waar_i het schilderij [vlak boven t_i] hangt] is erg oud.
 the cupboard where the painting just above hangs is very old
 ‘The cupboard that the painting is hanging just above is very old.’
 b. [De supermarkt [direct tegenover de kerk]] gaat sluiten.
 the supermarket directly opposite the church goes close
 ‘The supermarket immediately opposite the church will close down.’
 b’. [De supermarkt [<er_i> direct <er_i> tegenover t_i]] gaat sluiten.
 the supermarket there directly opposite goes close
 ‘The supermarket immediately opposite it will close down.’

If possessive *bij*-phrases are also modifiers of the locational phrase we would expect to see the same thing in examples such as (398). The status of (398b) is, however, somewhat obscure: examples like these are given as grammatical in

Corver (1990/1992) but rejected in Broekhuis & Cornips (1997). Observe that it is crucial that the *bij*-phrase follows the modifier *diep*; if it precedes it, the result is fully acceptable, but then the *bij*-phrase probably functions as an adverbial phrase modifying the entire clause.

- (398) a. De arts stak de naald [_{PP} diep bij Peter [in de arm]].
 the doctor put the needle deep with Peter in the arm
 'The doctor put the needle deep in Peter's arm.'
- b. % [De arm waar_i de dokter de naald [_{PP} diep bij Peter [in *t_i*] stak]] bloedde.
 the arm where the doctor the needle deep with Peter in put bled
 'The arm of Peter that the doctor put the needle deep into bled.'

The judgments on the examples in (399), on the other hand, are crystal clear; the possessive *bij*-phrase blocks R-pronominalization of the locational PP. It is crucial, of course, to note that (399b) is fully acceptable if the *bij*-phrase is omitted.

- (399) a. [De koffievlek [bij Peter op de jas]] is erg groot.
 the coffee blotch with Peter on the coat is very large
 'The coffee blotch on Peter's coat is very large.'
- b. * [De koffievlek [<er> bij Peter <er> op]] is erg groot.
 the coffee blotch there with Peter there on is very large
 'The coffee blotch on it is very large.'

If we let the clear case in (399) decide, we can conclude that the possessive *bij*-phrase does block R-pronominalization and, hence, R-extraction from the locational phrase. This potentially poses a problem for the hypothesis that the *bij*-phrase functions as a modifier of the locational PP. Another potential problem is that R-extraction is easily possible from the *bij*-phrase, as shown in (400), which is perhaps unexpected if the *bij*-phrase is an adverbial modifier of the locational PP. Corver answers this objection by pointing out that R-extraction is possible from various adverbial phrases, but such phrases are always modifiers of the *verbal* °projection; it still remains to be established whether modifiers of other phrases likewise allow R-extraction.

- (400) a. de jongen waar_i de dokter de naald [_{PP} diep [bij *t_i*] in de arm] stak
 the boy where the doctor the needle deep with in the arm put
 'the boy deep into whose arm the doctor put the needle'
- b. het meisje waar_i de spin [_{PP} pal [bij *t_i*] boven het hoofd] hing
 the girl where the spider just with above the head hung
 'the girl just above whose head hung a spider'

Broekhuis & Cornips (1997) tried to account for the fact that possessive *bij*-phrases block R-extraction from locational PPs by assuming that the former are actually not base-generated as a modifier of the latter; possessive *bij*-phrases are claimed to originate within the locational PPs. Following a suggestion in Teun Hoekstra's (2004) *Categories and Arguments*, they assume that the possessive meaning is syntactically encoded by placing the possessor and the possessee in a local relationship; more specifically, they propose that the preposition *bij* is a two-place predicate that expresses possession, as in (401a). The structure proposed by Corver

is subsequently derived by extraction of the *bij*-phrase to some higher PP-internal position, as in (401b).

- (401) a. [PP in [de tuin_{possessee} [*bij* het meisje_{possessor}]]]PRED]
 b. [PP [*bij* het meisje_{possessor}]_i in [de tuin_{possessee} t_i]]PRED]

This derivation makes it possible to account for the fact that R-extraction of the possessee, as in the (b)-examples in (398) and (399), is excluded by appealing to the more general fact that it is normally not possible to extract more than one constituent from a single phrase (here: the locational PP headed by *in*). Since this proposal still needs to be developed in detail, we leave it to future research.

V. The verb

Subsection III has shown that Standard Dutch possessive datives require the possessee to be the nominal part of a °complementive locational PP. This immediately narrows down the set of verbs exhibiting the possessive dative/*bij*-PP alternation to verbs that are compatible with such predicative PPs. The subsections below will consider a number of verb types that exhibit this property.

A. Transitive verbs denoting a change of location

A first group of verbs selecting a locational PP-complementive are transitive verbs denoting a change of location. The primeless and singly-primed examples in (402) illustrate for the verbs *zetten* ‘to put’ and *trekken* ‘to pull’ that such verbs indeed allow the possessive dative/*bij*-PP alternation. The doubly-primed examples are added to show that the possessive dative/*bij*-PP is optional and can be replaced by an NP-internal possessor.

- (402) a. Marie zet Peter/hem de kinderen op de knie. [possessive dative]
 Marie puts Peter/him the children onto the knee
 a'. Marie zet de kinderen bij Peter/hem op de knie. [possessive *bij*-PP]
 Marie puts the children with Peter/him on the knee
 a''. Marie zet de kinderen op Peters/zijn knie. [NP-internal possessor]
 Marie puts the children onto Peter's/his knee
 ‘Marie is putting the children on Peter's/his knee.’
 b. Marie trekt Jan/hem twee haren uit de baard. [possessive dative]
 Marie pulls Jan/him two hairs out.of the beard
 b'. Marie trekt twee haren bij Jan/hem uit de baard. [possessive *bij*-PP]
 Marie pulls two hairs with Jan/him out.of the beard
 b''. Marie trekt twee haren uit Jans/zijn baard. [NP-internal possessor]
 Marie pulls two hairs out.of Jan's/his beard
 ‘Marie is pulling two hairs out of Jan's/his beard.’

Although verbs like *zetten* and *trekken* are normally used as monotransitive verbs, as in the doubly-primed examples in (402), the primeless examples behave in all respects like ditransitive verbs. The (a)-examples in (403), for example, show that the direct object is promoted to subject in the regular passive, whereas the dative possessor is promoted to subject in the *krijgen*-passive. The (b)-examples are less suited to illustrate this, given that the dative possessor also functions as a source

and Section 3.2.1.4 has shown that this blocks *krijgen*-passivization of ditransitive constructions.

- (403) a. De kinderen worden Peter/hem op de knie gezet.
 the children are Peter/him onto the knee put
 a'. Peter/Hij krijgt de kinderen op de knie gezet.
 Peter/he gets the children onto the knee put
 b. Er worden hem twee haren uit de baard getrokken.
 there are him two hairs out of the beard pulled
 b'. ^{??}Hij krijgt twee haren uit de baard getrokken.
 he gets two hairs out.of the beard pulled

It is interesting to note that the possessive alternation is blocked if a verbal particle like *neer* 'down' is present, as in (404): in constructions like these possessive datives are excluded, whereas possessive *bij*-phrases and NP-internal possessors remain possible.

- (404) a. *Marie zet Peter/hem de kinderen op de knie neer.
 Marie puts Peter/him the children onto the knee down
 b. Marie zet de kinderen bij Peter/hem op de knie neer.
 Marie puts the children with Peter/him on the knee down
 c. Marie zet de kinderen op Peters/zijn knie neer.
 Marie puts the children onto Peter's/his knee down
 'Marie puts the children on Peter's/his knee.'

Note in passing that the fact that possessive datives can be promoted to subject under *krijgen*-passivization shows that nominal possessors can also be assigned nominative case. This leads to the expectation that nominative possessors may also occur with ^oundative verbs, and Subsection VI will show that this expectation is indeed borne out.

B. Motion verbs

Locational PP-complementives also occur with causative (transitive) motion verbs like *rijden* 'to drive'. It not easy to construct semantically plausible examples, but the examples in (405), which are all pragmatically weird because of the implied purposefulness, show that we can find possessive datives/*bij*-PPs with such verbs.

- (405) • Causative motion verbs
 a. Jan reed Marie/haar de auto over de tenen.
 Jan drove Marie/her de car over the toes
 b. Jan reed de auto bij Marie/haar over de tenen.
 Jan drove the car with Marie/her over the toes
 c. Jan reed de auto over Maries/haar tenen.
 Jan drove the car over Marie's/her toes

The (a)-examples in (406) confirm this by showing that the unaccusative counterparts of the causative motion verbs in (405) readily allow the possessive dative/*bij*-PP alternation. The (b)-examples show the same thing for change of location verbs like *springen* 'to jump'.

- (406) •Unaccusative motion/change of location verbs
- a. De auto reed Marie/haar over de tenen.
the car drove Marie/her over the toes
 - a'. De auto reed bij Marie/haar over de tenen.
the car drove with Marie/her over the toes
 - a''. De auto reed over Maries/haar tenen.
the car drove over Marie's/her toes
'The car drove over Marie's/her toes.'
 - b. De kleuter sprong Peter/hem in de armen.
the toddler jumped Peter/him into the arms
 - b'. De kleuter sprong bij Peter/hem in de armen.
the toddler jumped with Peter/him into the arms
 - b''. De kleuter sprong in Peters/zijn armen.
the toddler jumped into Peter's/his arms
'The toddler jumped into Peter's/his arms.'

In some cases, verbs of sound transmission can also be used as unaccusative motion verbs with a locational complementive. This is illustrated for *fluiten* in example (407); we have the impression that there is a preference for the double object construction with such verbs, but the other two constructions can readily be found on the internet.

- (407) a. De kogels floten Peter/hem om de oren.
the bullets whistled Peter/him around the ears
- b. [?]De kogels floten bij Peter/hem om de oren.
the bullets whistled with Peter/him around the ears
 - c. [?]De kogels floten om zijn/Peters oren.
the bullets whistled around his/ Peter's ears

C. Locational verbs

Locational verbs like *zitten* 'to sit', *staan* 'to stand', *liggen* 'to lie', and *hangen* 'to hang' are unaccusative as well and the examples in (408) show that the possessive dative/*bij*-PP alternation is also possible with these verbs.

- (408) a. Het zand zit Peter/hem tussen de tanden.
the sand sits Peter/him between the teeth
- a'. Het zand zit bij Peter/hem tussen de tanden.
the sand sits with Peter/him between the teeth
 - a''. Het zand zit tussen Peters/zijn tanden.
the sand sits between Peter's/his teeth
'There was sand between his teeth.'
 - b. Marie stond Peter/hem op de tenen.
Marie stood Peter/him on the toes
 - b'. Marie stond bij Peter/hem op de tenen.
Marie stood with Peter/him on the toes
 - b''. Marie stond op Peters/zijn tenen.
Marie stood on Peter's/his toes

There are, however, many restrictions that are not well understood. For example, whereas all examples in (408) are acceptable, the structurally parallel (a)-examples in (409) do not allow the possessive dative. The idiomatic (b)-examples, on the other hand, clearly prefer the possessive dative.

- (409) a. *Het kind zit Peter/hem op de knie.
 the child sits Peter/him on the knee
 a'. Het kind zit bij Peter/hem op de knie.
 the child sits with Peter/him on the knee
 a''. Het kind zit op Peters/zijn knie.
 the child sits on Peter's/his knee
 b. Het kind zit Peter/hem steeds op de lip.
 the child sits Peter/him continuously on the lip
 b'. [?]Het kind zit steeds bij Peter/hem op de lip.
 the child sits continuously with Peter/him on the lip
 b''. ^{??}Het kind zit steeds op Peters/zijn lip.
 the child sits continuously on Peter's/his lip
 'The child always sits very close to Peter.'

A similar contrast is found in (410); whereas the literal construction in the (a)-examples at least marginally allows all alternants, the metaphorical (b)-examples seem to require a possessive dative to be used.

- (410) a. De maaltijd lag hem zwaar op de maag.
 the meal lay him heavily on the stomach
 a'. [?]De maaltijd lag zwaar bij hem op de maag.
 the meal lay heavily with him on the stomach
 a''. [?]De maaltijd lag zwaar op zijn maag.
 the meal lay heavily on his stomach
 b. Dat probleem lag hem zwaar op de maag.
 that problem lay him heavily on the stomach
 b'. *Dat probleem lag zwaar bij hem op de maag.
 that problem lay heavily with him on the stomach
 b''. ^{??}Dat probleem lag zwaar op zijn maag.
 that problem lay heavily on his stomach

D. Verbs with an optional prepositional complementive

Possessive indirect objects occur not only with verbs that normally select a PP-complementive, but also with verbs that optionally take such a PP; this is illustrated for the ditransitive verb *geven* 'to give' in (411). These examples also show that the dative noun phrase, being a recipient, normally alternates with an *aan*-phrase, but that this alternation is blocked if the locational PP-complementive *in de armen* 'into the arms' is present; the indirect object must then be realized as a dative noun phrase, which now also acts as an inalienable possessor, or as a possessive *bij*-PP.

- (411) a. Marie gaf <hem> het kind eventjes <aan hem>.
 Marie gave him the child for.a.moment to him
- b. Marie gaf <hem> het kind eventjes <bij/*aan hem> in de armen.
 Marie gave him the child for.a.moment with/to him in the arms
 ‘Marie gave him the child in the arms.’

Observe that the unacceptability of the *aan*-PP immediately follows from the claim in Section 3.3.1.1, sub IV, that periphrastic recipients in fact function as complementives, given that clauses can contain at most one complementive; see Section 2.2.1, sub IV, for discussion.

Another case is given in (412) with the unaccusative verb *vallen*. Example (412a) shows again that the locational PP is optional, and (412b) shows that the alternation is at least marginally possible if a locational PP is present; the percentage sign is used to indicate that our informants provide varying judgments concerning the acceptability of the *bij*-PP.

- (412) a. De hamer viel (op zijn tenen).
 the hammer fell on his toes
- b. De hamer viel hem/⁹⁶bij hem op de tenen.
 the hammer fell him/with him on the toes

There are many more or less idiomatic inalienable possession examples with unaccusative verbs of this type. These constructions often do not readily allow alternants with a possessive *bij*-PP or an NP-internal possessor. The judgments on the primed examples again vary from case to case and probably also from speaker to speaker.

- (413) a. De problemen groeien Jan/hem boven het hoofd.
 the problems grow Jan/him above the head
 ‘Jan/He can’t cope with the problems anymore.’
- a'. *De problemen groeien bij Jan/hem boven het hoofd.
 the problems grow with Jan/him above the head
- a''. *De problemen groeien boven Jans/zijn hoofd.
 the problems grow above Jan’s/his head
- b. Die opmerking schoot Peter/hem in het verkeerde keelgat.
 that remark shot Peter/him into the wrong gullet
 ‘That remark didn’t go down very well with him.’
- b'. [?]Die opmerking schoot bij Peter/hem in het verkeerde keelgat.
 that remark shot with Peter/him into the wrong gullet
- b''. ^{*?}Die opmerking schoot in Peters/zijn verkeerde keelgat.
 that remark shot into Peter’s/his wrong gullet
- c. Het geld brandt Jan/hem in de zak.
 the money burns Jan/him in the pocket
 ‘Money burns a hole in his pocket/He’s eager to spend his money.’
- c'. [?]Het geld brandt bij hem in de zak.
 the money burns with him in the pocket
- c''. Het geld brandt in zijn zak.
 the money burns in his pocket

VI. *Non-dative inalienable possessors*

Although the previous subsection V actually concludes our discussion of the dative/*bij*-PP alternation, this subsection briefly discusses a number of special cases in which the inalienable possessor is not a dative, but a nominative or accusative noun phrase; we will see that in all these cases the nominative/accusative possessor entertains a similar thematic relation with the verb as the dative possessor.

That inalienable possession is normally expressed by means of a dative noun phrase can readily be illustrated by means of passivization: since regular passivization results in promotion to subject of the theme and *krijgen*-passivization results in promotion to subject of the possessor, we can safely conclude that the former functions as the direct (accusative) and the latter as the indirect (dative) object of the construction; cf. Section 3.2.1.

- (414) a. Marie zet Peter/hem twee kinderen op de knie. [active]
 Marie puts Peter/him two children onto the knee
- b. Er worden Peter/hem twee kinderen op de knie gezet. [regular passive]
 there are Peter/him two children onto the knee put
- c. Peter/Hij krijgt de kinderen op de knie gezet. [*krijgen*-passive]
 Peter/he gets the children onto the knee put

The examples in (415) further show that subjects of active constructions normally do not function as inalienable possessors in Standard Dutch. Whereas the indirect object *Peter* in (415a) can function as an inalienable possessor of the nominal part of the locational phrase, this is not possible for the subject *Marie*. Note that the latter reading is not blocked due to the presence of the indirect object *Peter* given that the subject *Marie* cannot function as inalienable possessor in example (415b) either; the example *Marie zet de kinderen op de knie* is perhaps marginally acceptable but then strongly suggests that the knee involved is not Marie's.

- (415) a. Marie zet Peter/hem de kinderen op de knie.
 Marie puts Peter/him the children onto the knee
 'Marie is putting the children on Peter's knee.'
 Impossible reading: 'Marie is putting the children on her knee at Peter's place.'
- b. Marie zet de kinderen op haar/#de knie.
 Marie puts the children onto the knee
 Intended reading: 'Marie is putting the children on her knee.'

The fact illustrated in (414c) above that the possessive dative can be promoted to subject shows, however, that it is not necessary for nominal possessors to be assigned dative case. The acceptability of *krijgen*-passivization immediately gives rise to the expectation that nominative possessors is also possible with ^oundative verbs like *hebben* 'to have' and *krijgen* 'to get', and Subsection A will show that this expectation is indeed borne out. Subsection B shows, however, that this does not exhaust the possibilities and that there are also a number of special cases in which the possessor seems to be assigned ^oaccusative case. Subsection C concludes with a discussion of a number of apparent cases of non-dative nominal possessors.

A. Nominative inalienable possessors

The acceptability of the *krijgen*-passive in (414c) leads to the expectation that subjects of undative verbs may also function as inalienable possessors of the nominal part of a predicative locational PP. The acceptability of the examples in (416) show that this expectation is indeed borne out.

- (416) a. Peter heeft een euro in de hand.
 Peter has a euro in the hand
 'Peter has a euro in his hand.'
- b. Marie kreeg een tik op de vingers.
 Marie got a slap on the fingers
 'Marie got a slap on her fingers.'

Section 2.1.4 in fact used the acceptability of the inalienable possession reading of examples such as (416) as an argument in favor of the existence of undative verbs: the subject is not external but an internal argument of the verb and thus able to act as inalienable possessor. In fact, we concluded on the basis of the fact that the examples in (417) also have an inalienable possession reading that verbs of cognition like *kennen/weten* 'to know' also belong to the class of undative verbs.

- (417) a. Jan kent het gedicht uit het/zijn hoofd.
 Jan knows the poem from the/his head
 'Jan knows the poem by heart.'
- b. Jan weet het uit het/zijn hoofd.
 Jan knows it from the/his head
 'Jan knows it by heart.'

The possessive nominatives in examples like (416) and (417) never alternate with a possessive *bij*-phrase, which is of course due to the fact that PPs are normally not used as subjects of a clause; cf. **Bij Jan kent het gedicht uit zijn hoofd* and **Bij Jan weet het uit zijn hoofd*.

B. Accusative inalienable possessors

Although nominal possessors are normally assigned dative case, there are a number of verbs that seem to take a direct/accusative object that may act as an inalienable possessor. These verbs seem to be characterized by the fact that they involve some form of bodily contact. A small sample of these verbs is given in (418); observe that most of these verbs can also be used as regular transitive verbs.

- (418) Verbs with an accusative inalienable possessor: *bijten* 'to bite', *kietelen* 'to tickle', *kloppen* 'to knock', *knijpen* 'to pinch', *krabben* 'to scratch', *kussen* 'to kiss', *porren* 'to poke', *prikken* 'to pin', *slaan* 'to hit', *steken* 'to sting', *stompen* 'to thumb', *strelen* 'to caress', *tikken* 'to tap', *trappen* 'to kick'

Two examples of inalienable possession constructions with these verbs are given in (419). That the inalienable possessors are direct objects is clear from the primed examples, which show that they can be promoted to subject under regular passivization; *krijgen*-passivization, on the other hand, gives rise to a marked result. That the inalienable possessors of the verbs in (418) are direct objects is also shown

by the fact illustrated in the doubly-primed examples that the possessor can be attributively modified by the past participle forms of the verbs in the corresponding active clauses; attributive modification requires that the modified noun be the internal theme argument of the input verb of the participle; see Section A9.2.

- (419) a. Jan tikte Peter/hem (op de vingers).
 Jan hit Peter/him on the fingers
 'Jan hit Peter's fingers.'
- a'. Peter/Hij werd/*kreeg (door Jan) op de vingers getikt.
 Peter/he was/got by Jan on the fingers hit
- a''. de (door Jan) op de vingers getikte man
 the by Jan on the fingers hit man
- b. Peter kust Marie/haar (op de wang).
 Peter kisses Marie/her on the cheek
- b'. Marie/Zij werd/*kreeg (door Peter) op de wang gekust.
 Marie/she was/got by Peter on the cheek kissed
- b''. de (door Peter) op de wang gekuste vrouw
 the by Peter on the cheek kissed woman

The fact that the locational PP is optional may give rise to the idea that it is simply an °adjunct and thus different from the predicative PPs in the possessive dative constructions we have discussed earlier. There are reasons, however, to assume that this is not the case and that we are in fact dealing with constructions that are very similar to these possessive dative constructions. A first reason for rejecting the idea that the locational PPs in (419) are adjuncts is that they do not pass the °adverb test: the examples in (420) show that the PPs cannot be analyzed as VP-adverbs in view of the fact that the paraphrases with *en hij doet dat ...* clauses lead to semantically incoherent results.

- (420) a. [§]Jan tikte Peter/hem en hij deed dat op de vingers.
 Jan hit Peter/him and he did that on the fingers
- b. [§]Peter kust Marie/haar en hij doet dat op de wang.
 Peter kisses Marie/her and he does that on the cheek

Second, the PPs behave like locational complementives in the sense that they seem to resist °extraposition: it is strongly preferred that they precede the verb in clause-final position.

- (421) a. Jan heeft Peter/hem <op de vingers> getikt <°*op de vingers>.
 Jan has Peter/him on the fingers hit
- b. Peter heeft Marie/haar <op de wang> gekust <°?op de wang>.
 Peter has Marie/her on the cheek kissed

Third, the examples in (422) show that the accusative noun phrases can at least marginally be replaced by possessive *bij*-phrases; such examples are normally used in contrastive contexts. The primed examples show that this alternation is completely excluded if the locational PP is not present.

- (422) a. Jan tikte hem/[?]bij hem op de vingers. a'. Jan tikte hem/*bij hem.
 Jan hit him/with him on the fingers Jan hit him/with him
 b. Jan kuste haar/[?]bij haar op de mond. b'. Jan kuste haar/*bij haar.
 Jan kissed her/with her on the mouth Jan kissed her/with her

The fact established by (420) and (421) that the locational phrases in (419) do not behave as adjuncts but as complementives is quite remarkable given that the locational PPs do not seem to have an argument that they can be predicated of. This problem can be solved by following the assumption in Broekhuis et al. (1996) that, despite appearances, there actually is such an argument; this argument is, however, not realized as a noun phrase but has become a part of the verb; see also Bos (1972). The hypothesis is that verbs of bodily contact are derived from so-called light verbs, phonetically empty verbs with the meaning “to give”, that have morphologically merged with their direct object; cf. the examples in (423).

- (423) a. bijten ‘to bite’ ≈ een beet geven ‘to give a bite’
 b. kloppen ‘to knock’ ≈ een klop(je) geven ‘to give a (gentle) blow’
 c. kussen ‘to kiss’ ≈ een kus geven ‘to give a kiss’
 d. slaan ‘to blow’ ≈ een slag geven ‘to give a blow’
 e. steken ‘to sting’ ≈ een steek geven ‘to give a sting’
 f. trappen ‘to kick’ ≈ een trap geven ‘to give a kick’

Observe that for some verbs from this semantic field it is not readily possible to give a paraphrase: for example, the presumed input noun *kietel* for the verb *kietelen* ‘to tickle’ is given in the *Woordenboek der Nederlandse Taal* with the meaning *dartele zinneprikkel* ‘frolicsome stimulation of the senses’, but will probably not be recognized by many speakers as part of the present-day Dutch vocabulary.

The merging hypothesis means that an example such as (419a) has an underlying structure that comes quite close to the corresponding possessive double object construction with the lexical verb *geven* ‘to give’ in (424a); the main difference is that (419a) involves syntactic incorporation of the direct object into the light verb, e.g. *tikken* ‘to hit’ is the syntactically created morphological complex verb [_v N-v], in which N stands for the incorporated Noun and v stands for the postulated light verb. Comparison of the (a)-examples of (420) to (422) with those in (424b-d) shows that this incorporation hypothesis accounts for most of the core data.

- (424) a. Jan gaf Peter/hem een tik (op de vingers).
 Jan gave Peter/him a tap on the fingers
 ‘Jan hit on Peter’s/his fingers.’
 b. ^SJan gaf Peter/hem een tik en hij deed dat op de vingers.
 Jan gave Peter/him a tap and he did that on the fingers
 c. Jan heeft Peter/hem een tik <op de vingers> gegeven <*op de vingers>.
 Jan has Peter/him a tap on the fingers given
 d. Jan gaf een tik bij Peter/hem [?](*op de vingers).
 Jan gave a tap with Peter/him on the fingers

What does not seem to follow from the incorporation approach yet are the passivization and attributive modification facts in the primed examples in (419).

However, if Baker's (1988: Section 3.4.1) claim is correct that incorporation of the direct object makes it unnecessary for the direct object to be assigned accusative case, these facts also fall into a more general pattern; see Schermer-Vermeer (1996:276) for essentially the same suggestion phrased in somewhat different terms. First, consider the examples in (425) with the ditransitive verb *voeren* 'to feed', in which the noun phrase *brood* functions as direct object (theme) and the phrase *(aan) de eendjes* as indirect object (recipient).

- (425) a. Jan voerde <de eendjes_{dat}> brood_{acc} <aan de eendjes>.
 Jan fed the ducks bread to the ducks
- b. Er werd de eendjes_{dat} brood_{nom} gevoerd <aan de eendjes>.
 there was the ducks bread fed to the ducks
- c. het (aan) de eendjes gevoerde brood
 the to the ducks fed bread

Example (426a) shows that the verb *voeren* is like the transitive verb *eten* 'to eat' in that it takes a cognate direct object that can be left implicit. The acceptability of regular passivization in (426b) shows that this makes it possible for the verb to assign accusative case to the recipient; see Section 3.2.1.3, sub IIC, for more extensive discussion. The acceptability of (426b) therefore strongly suggests that the fact that the inalienable possessors in the primeless examples in (419) are assigned accusative case simply follows from Baker's claim; because the incorporated direct object need not be assigned case, accusative case becomes available for the recipient. Example (426c) further shows that leaving the cognate object implicit also allows the past participle *gevoerd* to be used as an attributive modifier of a noun that corresponds to its recipient; cf. Section A9.2.1.1, sub IX. The doubly-primed examples in (419) will follow if we assume that incorporation has an effect similar to suppression of a cognate object.

- (426) a. Jan voerde de eendjes.
 Jan fed the ducks
- b. De eendjes_{nom} werden/werd gevoerd.
 the ducks were/was fed
- c. de gevoerde eendjes
 the fed ducks

C. Apparent cases of nominative inalienable possessors

The examples in (427) show again that subjects of active constructions normally do not function as inalienable possessors in Standard Dutch: whereas the indirect object in (427a) can readily function as the inalienable possessor of the nominal part of the locational phrase, this is not possible for the subject in example (427b), which is acceptable but only if the beard involved is not Jan's.

- (427) a. Marie trekt Jan/hem een haar uit de baard.
 Marie pulls Jan/him a hair out.of the beard
- b. #Jan/Hij trekt een haar uit de baard.
 Jan/he pulls a hair out.of the beard

There are, however, several ways to syntactically express that a subject must be construed as an inalienable possessor. The first way, illustrated in (428a), involves the addition of a reflexive dative object; the reflexive then functions as the actual possessor but since it is bound by the subject of the clause, the referent of the latter will be construed as the possessor by transitivity. In (428b), we find essentially the same thing due to the fact that the *bij*-phrase contains a reflexive bound by the subject of the clause. The use of a possessive pronoun in (428c) in principle leaves open whether the referent of the subject is the possessor, but this reading can be enforced by adding the modifier *eigen* ‘own’.

- (428) a. Jan trekt zich/zichzelf een haar uit de baard.
 Jan pulls REFL/himself a hair out.of the beard
 b. Jan trekt een haar bij zich/zichzelf uit de baard.
 Jan pulls a hair with REFL/himself out.of the beard
 c. Jan/Hij trekt een haar uit zijn (eigen) baard.
 Jan/he pulls a hair out.of his own beard

We find essentially the same thing in the more special cases with accusative possessors discussed in Subsection B. Insofar as (429b) is acceptable at all, it certainly does not express that Peter is hitting his own fingers. The examples in (430) show that the desired reading can be forced in the same way as in (428), albeit that in this specific case the use of a reflexive *bij*-phrase leads to a somewhat marked result.

- (429) a. Marie sloeg Peter op de vingers.
 Marie hit Peter on the fingers
 ‘Marie hit Peter’s fingers.’
 b. #Peter sloeg op de vingers.
 Peter hit on the fingers
 Intended reading: ‘Peter hit his fingers.’
- (430) a. Peter sloeg zich/zichzelf op de vingers.
 Peter hit REFL/himself onto the fingers
 b. [?]Peter sloeg bij zich/zichzelf op de vingers.
 Peter hit with REFL/himself onto the fingers
 c. Peter sloeg op zijn (eigen) vingers.
 Peter hit on his own fingers

Note in passing that the fact that the possessor in (430a) may appear in its weak form can perhaps be seen as support for our claim in Subsection B that accusative possessors are in fact identical to dative possessors in the corresponding constructions with the lexical “light” verb *geven* ‘to give’: the examples in (431) show that regular direct objects can only appear as weak reflexives if they are construed as inalienable possessors.

- (431) a. Jan sloeg zichzelf (op de vingers).
 Jan hit himself onto the fingers
 b. Jan sloeg zich *(op de vingers).
 Jan hit himself onto the fingers

Another set of examples that potentially involves nominative inalienable possessors is given in (432). Such examples must be carefully distinguished from the cases discussed above, as the possessive relation does not require the presence of a reflexive object; adding a reflexive object in fact results in unacceptability.

- (432) a. Jan stak langzaam de/zijn hand op.
 Jan raised slowly the/his hand prt.
 b. Marie schudde het/haar hoofd.
 Marie shook the/her head

It remains to be seen, however, whether we are dealing with *syntactically encoded* inalienable possession in these examples given that the structurally identical examples in (433) require a possessive pronoun in order to be able to express that the subject of the clause is the possessor of the hand.

- (433) a. Peter betast voorzichtig zijn/#het hoofd.
 Peter feels carefully his/the head
 b. Marie masseerde haar/#de hand.
 Marie massaged her/the hand

The difference between the examples in (432) and (433) is that the verbs in the former denote activities that involve bodily motion. This suggests that the inalienable possession reading is forced upon us, not by syntax, but by our knowledge of the world. Empirical evidence in favor of this suggestion is provided by the examples in (434), in which the subject is interpreted as the possessor of the nominal complement of a *met*-PP; dative phrases normally do not function as inalienable possessors of such noun phrases.

- (434) a. Jan zwaaide met de/zijn armen.
 Jan waved with the/his arms
 ‘Jan waved with his arms.’
 b. Els knipperde met de/haar ogen.
 Els blinked with the/her eyes
 ‘Els blinked.’

3.3.1.5. *Dative alternation with voor-phrases (benefactives)*

The final type of dative alternation involves benefactives. The examples in (435) show that benefactives are normally expressed by means of a *voor*-PP in Dutch.

- (435) a. Peter repareerde <*me> de radio <voor me>.
 Peter repaired me the radio for me
 ‘Peter repaired the radio for me.’
 b. Jan haalde <*Els> het boek <voor Els> op.
 Jan fetched Els the book prt.
 ‘Jan fetched the book for Els.’

There is, however, a very small subset of verbs denoting activities relating to the serving of food and drinks that also allow a dative object: typical examples are the verbs *schenken* ‘to pour’ and *opscheppen* ‘to dish up’ in (436).

- (436) a. Peter schenkt <Marie> een borrel <voor Marie> in.
 Peter pours Marie a drink for Marie prt.
 'Peter is pouring Marie a drink.'
- b. Jan schept <Marie> wat aardappels <voor Marie> op.
 Jan dishes Marie some potatoes for Marie prt.
 'Jan is giving Marie a helping of potatoes.'

The examples in (437) show that benefactive constructions like the (b)-example are special in that the direct object can be left implicit. This might be related to the fact that the direct object must refer to some entity in a restricted semantic field: it must refer to something that can be consumed. We may therefore be dealing with implicit cognate objects of the type we also find in pseudo-intransitive verbs like *eten* 'to eat', *drinken* 'to drink', *roken* 'to smoke', etc.

- (437) a. Peter schenkt <Marie> nog eens in <voor Marie>.
 Peter pours Marie once again prt. for Marie
- b. Jan schept <Marie> nog eens op <voor Marie>.
 Jan dishes Marie once again up for Marie

The two alternants in the examples in (436) clearly differ in meaning. The double object constructions express that the entity denoted by the direct object is intended for the referent of the indirect object: Marie is also the recipient of the drink/potatoes. The periphrastic indirect object constructions, on the other hand, express that the subject performs the activity on behalf of the referent of the indirect object: Marie may be the recipient of the drink/potatoes, but it may also be the case that Jan is performing the activity of pouring out a drink/dishing up potatoes to help Marie in her task of serving some guests; cf. Van Hout (1996:47). This is in keeping with the meaning representations in Table (335), according to which the nominal but not the periphrastic indirect object is affected by the event denoted by the verb.

The Standard Dutch alternation is much more restricted than the corresponding one in English. For example, verbs of food preparation like *bereiden* 'to prepare' and *bakken* 'to bake' in the primeless examples in (438) do not readily allow it. It should be noted, however, that Dutch still has the idiomatic expressions in the primed examples in (438) and that the double object constructions are very common (in fact: pervasive) in various eastern and southern dialects of Dutch with a wide variety of verbs; cf. Van Bree (1981) and Cornips (1994).

- (438) a. Jan bereidt <??Marie> een maaltijd <voor Marie>.
 Jan prepares Marie a meal for Marie
 'Jan is preparing a meal for Marie.'
- a'. Jan bereidt <Marie> een verrassing <?*voor Marie>.
 Jan prepares Marie a surprise for Marie
 'Jan is going to surprise Marie.'
- b. Jan bakt <??Marie> een taart <voor Marie>.
 Jan bakes Marie a cake for Marie
 'Jan is baking Marie a cake.'
- b'. Jan bakt <Marie> een poets <?*voor Marie>.
 Jan bakes Marie a trick for Marie
 'Jan is playing a nasty trick on Marie.'

It seems controversial to analyze the *voor*-phrase as an indirect object. This can be illustrated by the fact that it is only in the second edition of the *Algemene Nederlandse Spraakkunst* that it is unambiguously treated as an indirect object (Haeseryn et al. 1997:1160ff.); the first edition (Geerts et al. 1984:882ff.) treated it primarily as an adverbial phrase. One reason for treating the *voor*-phrase as an adverbial phrase is that this PP differs from objects in that it can always be omitted without it being semantically implied. Another reason is that the *voor*-phrase satisfies the °adverb-test in (439). Note that (439b) allows the same range of interpretations as (439a); Peter may intend the drink for Marie or he may perform the activity of pouring drinks for the benefit of Marie.

- (439) a. Peter schenkt een borrel voor Marie in
 Peter pours a drink for Marie prt.
 ‘Peter is pouring <Marie> a drink <for Marie>.’
 b. Peter schenkt een borrel in en hij doet dat voor Marie.
 Peter pours a drink prt and he does that for Marie

Another reason is that benefactives may appear in the form of a simplex reflexive, which cannot normally be bound by a co-argument; the acceptability of the examples in (440) with a reflexive pronoun would fall out if benefactives are actually not arguments of the verb.

- (440) a. Hij schonk Peter/zich een borrel in.
 he poured Peter/REFL a drink prt.
 ‘He poured Peter/himself a drink.’
 b. Jan verschaftte Peter/zich een alibi.
 Jan provided Peter/REFL an alibi
 ‘Jan provided Peter/himself with an alibi.’

For completeness’ sake, it should be noted that a potential argument against adjunct status is that °R-extraction from the *voor*-PP is possible, as is shown in (441a). We know, however, that this is not a reliable test for establishing complement status given that R-extraction is also possible from other PPs that are normally assumed to be adjuncts such as the instrumental *met*-PP in (441b).

- (441) a. het meisje waar Peter een borrel voor inschonk
 the girl where Peter a drink for prt.-poured
 ‘the girl for whom Peter poured a drink’
 b. de kwast waar Peter mee verfde
 the brush where Peter with painted
 ‘the brush with which Peter was painting’

The discussion above shows that it is not *a priori* clear that the supposed dative alternation with *voor*-phrases should be treated on a par with the dative alternations discussed in the previous sections. We leave this as a question for future research.

3.3.1.6. Conclusion

This section has discussed the dative alternation and has shown that there are at least five semantic subtypes, which can be syntactically distinguished by means of the form of the periphrastic indirect object:

- (442) a. Recipient: dative object alternates with *aan*-PP
 b. Goal: dative object alternates with *naar*-PP
 c. Source: dative object alternates with *van*-PP (or PP headed by *aan*)
 d. Possessor: dative object alternates with *bij*-PP
 e. Benefactive: dative object alternates with *voor*-PP

We have seen that there are reasons for assuming that periphrastic indirect objects are not internal arguments (that is, PP-complements) of the verbs: the *aan*-, *naar*- and *van*-PPs in (442a-c) clearly behave as complementives. Possessive *bij*-phrases have been shown not to be selected by the verb at all but to form a constituent with the locational phrase that contains the possessee. Something similar may hold for benefactive datives/*voor*-PPs; the fact that they are optional and not semantically implied by the verb suggests that they are not arguments of the verb, but adverbial modifiers.

Our investigation has further shown that there are reasons for assuming that at least the double object constructions in (442a-c) are derived from an underlying structure that is very similar to that of the periphrastic construction, and we may therefore conclude that the double objects in these constructions do not function as internal arguments of the verb either. Although we did not discuss this here, Broekhuis & Cornips (1997) have argued that the possessive dative and the possessive *bij*-phrase likewise share a common underlying form: if so, this implies that possessive datives do not function as internal arguments of the verb either.

We refer the reader to Hoekstra's (2004) *Small Clauses Everywhere* for a discussion of the theoretical ramifications of the conclusion that indirect objects do not function as internal arguments of the verb, and to Den Dikken (1995:ch.3) for a theoretical account of the dative alternation that to our minds seems to fit best the data described in this section as well as for a critical review of a number of alternative proposals.

3.3.1.7. Bibliographical notes

The dative alternation has been extensively studied in the literature on Dutch although the focus of attention has always been on the dative/*aan*-PP alternation. Some important studies are Balk-Smit Duyzentkunst (1968), Kooij (1975), Jansen (1976) and Schermer-Vermeer (1991). The possessive dative construction, including the dative/*bij*-PP alternation, is also fairly extensively discussed: Janssen (1976/1977); Van Bree (1981); Corver (1990/1992); Schermer-Vermeer (1991:ch.7/1996); Cornips (1991/1994); Broekhuis & Cornips (1997); Broekhuis et al. (1996). For a review of a number of more recent theoretical proposals we refer the interested reader to Den Dikken (1995), Bresnan et al. (2007), Rappaport Hovav & Levin (2008).

3.3.2. Accusative/PP alternations

This section discusses alternations between accusative objects and PPs with various functions. Subsection I starts with a brief discussion of the alternation between accusative phrases and complement PPs of the type in (443), in which the form of the verb remains constant.

- | | | | |
|----------|--|-----|--|
| (443) a. | Jan schopte zijn hond.
Jan kicked his dog. | a'. | Jan schopte naar zijn hond.
Jan kicked at his dog |
| b. | Jan bouwde een schip.
Jan built a ship | b'. | Jan bouwde aan een schip.
Jan built at a ship |
| c. | Jan at de cake.
Jan ate the cake
'Jan ate the cake.' | c'. | Jan at van de cake.
Jan ate from the cake
'Jan ate of the cake.' |

Standard Dutch accusative/PP alternations often go hand in hand with prefixation of the verb by *be-*, *ver-* and *ont-*, as is illustrated in (444).

- | | | | |
|----------|---|-----|---|
| (444) a. | Jan kijkt naar Marie.
Jan looks at Marie
'Jan is looking at Marie.' | a'. | Jan bekijkt Marie.
Jan BE-looks Marie
'Jan is looking at Marie.' |
| b. | Peter zorgt voor de paarden.
Peter looks after the horses
'Peter takes care of the horses.' | b'. | Peter verzorgt de paarden.
Peter VER-looks.after the horses
'Peter takes care of the horses.' |
| c. | Jan vlucht uit zijn vaderland.
Jan flees from his native country
'Jan is fleeing his native country.' | c'. | Jan ontvlucht zijn vaderland.
Jan ONT-flees his native country
'Jan is fleeing his native country.' |

Unfortunately, a systematic syntactic investigation of the alternations in (444) seems to be lacking so far, but there is one specific (and more complex) accusative/PP alternation that has been studied more intensively, the so-called locative alternation illustrated in (445), in which a locative PP alternates with a direct object. The discussion in Subsection II will therefore take this alternation as its point of departure; information on accusative/PP alternations of the types in (444) will be given as we go along.

- | | |
|----------|---|
| (445) a. | Jan laadde het hooi op de wagen.
Jan loaded the hay on the wagon |
| b. | Jan belaadde de wagen met hooi.
Jan BE-loaded the wagon with hay |

I. Transitive-oblique alternation

Some transitive verbs alternate with intransitive PO-verbs. Typical examples are *schieten (op)* 'to shoot (at)', *schrijven (aan)* 'to write (at)' and *drinken (van)* 'to drink (from)' in (446); the accusative objects of the transitive verbs correspond to the nominal parts of the PP-complements.

- | | | | |
|----------|--|-----|--|
| (446) a. | Peter schiet een vogel.
Peter shoots a bird | a'. | Peter schiet op een vogel.
Peter shoots at a bird |
| b. | Marie schrijft een artikel.
Marie writes an article
'Marie is writing an article.' | b'. | Marie schrijft aan een artikel.
Marie writes at an article
'Marie is writing at an article.' |
| c. | Jan dronk een glas wijn.
Jan drank a glass [of] wine | c'. | Jan dronk van een glas wijn.
Jan drank from a glass [of] wine |

Alternations of the type in the (a)-examples in (446) exhibit a systematic meaning difference: while the transitive verb in the primeless example takes an affected object, the theme of the intransitive PO-verb in the primed examples is not necessarily affected by the activity denoted by the verb, as is clear from the fact that (447a), but not (447b), is semantically incoherent. For this reason the intransitive PO-verbs are sometimes referred to as °conative; such verbs describe “an *attempted* action without specifying whether the action was actually carried out” (Levin 1993:42).

- (447) a. ^SJan schoot een vogel maar miste.
 Jan shot a bird but missed
- b. Jan schoot op een vogel maar miste.
 Jan shot at a bird but missed

The transitive verb in example (446b) takes a so-called incremental theme, that is, a theme that comes into existence step-by-step as the result of the action denoted by the verb. Example (446b) is °telic and thus implies that, after completion, Marie’s activity will have resulted in the writing of an article, as is clear from the fact that the use of the perfect tense in (448a) implies the existence of an article written by Marie. This implication is entirely lacking in the perfect-tense counterpart of example (446b’) given in (448b). This difference may perhaps also account for the fact that the direct but not the prepositional object may occur as the complement of an inherently telic predicate like *voltooien* ‘to complete’ in the primed examples.

- (448) a. Marie heeft gisteren het artikel geschreven.
 Marie has yesterday the article written
 ‘Marie wrote the article yesterday.’
- a’. Marie heeft gisteren het artikel voltooid.
 Marie has yesterday the article completed
 ‘Marie completed the article yesterday.’
- b. Marie heeft gisteren aan het artikel geschreven.
 Marie has yesterday at the article written
 ‘Marie wrote at the article yesterday.’
- b’. *Marie heeft gisteren aan het artikel voltooid.
 Marie has yesterday at an article completed

The verb in example (446c) is similar to the verb in (446b) in that the theme changes over time, but now it does not come into existence, but it disappears step-by-step as result of the action denoted by the verb, for which reason we may speak of a decremental theme; the perfect-tense counterpart of (446c) in (449a) implies that Jan’s glass is now empty. Such an implication is entirely lacking in the perfect-tense counterpart of example (446b’) given in (449b).

- (449) a. Jan heeft daarnet een glas wijn gedronken.
 Jan has just.now a glass [of] wine drank
 ‘Jan drank a glass of wine just now.’
- b. Jan heeft daarnet van een glas wijn gedronken.
 Jan has just.now from a glass [of] wine drank
 ‘Jan drank from a glass of wine just now.’

The number of simple verbs taking a decremental theme is quite small, given that such verbs tend to take a verbal particle like *op* in (450); if we include such particle verbs the number greatly increases. Note in passing that the verbal particle cannot appear in the corresponding constructions with intransitive PO-verbs, which is probably due to the fact that verbal particles function as °complementives, and thus need a nominal phrase as their °logical SUBJECT; cf. Section 2.2.1.

- (450) a. Jan snoepte de kaas **(op)*.
 Jan nibbled the cheese up
 ‘Jan nibbled the cheese up.’
 b. Jan snoepte van de kaas (**op*).
 Jan nibbled the cheese up
 ‘Jan nibbled/has been nibbling at the cheese.’

In cases such as (451), the transitive-oblique alternation involves prefixation. De Haas & Trommelen (1993:67-8) describe the meaning of the derived verbs as “directing the action denoted by the input verb to a certain object”. Subsection II will briefly return to this kind of alternation.

- (451) a. Jan keek naar het schilderij. a'. Jan bekeek het schilderij.
 Jan looked at the painting Jan looked.at the painting
 ‘Jan looked at the painting.’ ‘Jan examined the painting.’
 b. Petrarca zong over Laura. b'. Petrarca bezong Laura.
 Petrarch sung about Laura Petrarch sung.about Laura
 ‘Petrarch sung about Laura.’ ‘Petrarch sung (his praise) of Laura.’
 c. Jan reed op het paard. c'. Jan bereed het paard.
 Jan rode on the horse Jan rode.on the horse

Example (452) provides a small sample of the verb types discussed in this section which are mainly taken from Van Hout (1996:52-3).

- (452) • Transitive-oblique alternations
- a. Affected theme verbs: *bijten (naar)* ‘to bite (at)’, *duwen (tegen)* ‘push (against)’, *schieten (op)* ‘to shoot (at)’, *schoppen (naar)* ‘to kick (at)’, *slaan (naar)* ‘to hit (at)’, *trappen (naar)* ‘to kick (at)’, *trekken (aan)* ‘pull (on)’
 - b. Incremental theme verbs: *bouwen (aan)* ‘to build (on)’, *breien (aan)* ‘to knit (on)’, *draaien (aan)* ‘to turn’, *naaien (aan)* ‘to sew (on)’, *schilderen (aan)* ‘to paint (at)’, *schrijven (aan)* ‘to write (on)’
 - c. Decremental theme verbs: *eten (van)* ‘to eat of’, *drinken (van)* ‘to drink (from)’, *nemen (van)* ‘to take (of)’
 - d. BE-verbs: *denken aan/bedenken* ‘to think of/up’, *luisteren naar/beluisteren* ‘to listen to/to listen carefully’, *liegen tegen/beliegen* ‘to lie to/to belie’, *rijden op/berijden* ‘to ride on’, *spotten met/bespotten* ‘to mock at/to mock’, *spreken over/bespreken* ‘to talk about/to discuss’, *voelen aan/bevoelen* ‘to feel at/to palpate’

II. Locative alternation (type I)

A well-known verb frame alternation in English is the so-called locative alternation shown in (453). The two alternants both contain a located and a reference (= location denoting) object, but the ways in which these are syntactically realized are different. Example (453a) is a resultative construction in which the reference object is expressed by means of the complementive PP *on his face* that is predicated of the located object *mud*, which, in turn, is realized as the accusative object of the clause. In example (453b), on the other hand, the reference object is realized as the accusative object, whereas the located object is realized by means of a *with*-PP; see Levin (1993) for more English data.

- (453) a. John smeared mud on his face.
 b. John smeared his face with mud.

The examples in (454) show that Dutch has a similar verb frame alternation. The Dutch alternation differs from its English counterpart, however, in that it goes hand in hand with a morphological change; the verb in (454b) seems to be derived from the verb in (454a) by means of prefixing by *be-*; cf. Hoekstra et al. (1987).

- (454) a. Jan smeerde modder op zijn gezicht.
 Jan smeared mud on his face
 b. Jan *be*-smeerde zijn gezicht met modder.
 Jan BE-smeared his face with mud

The prefix *be-* is part of a small set of prefixes with a number of remarkable properties. Subsection A starts with a discussion of these affixes in derived verbs denoting a change of location or a path. After that Subsection B shows that constructions containing such verbs are quite similar to resultative constructions, that is, constructions that contain a complementive.

A. The prefixes *be-*, *ver-* and *ont-*

The prefix *be-* in example (454b) belongs to a small set of prefixes that are special in that they have the ability to change the category of the stem. Normally this property is restricted to suffixes, as is expressed by Williams' (1981) right-hand head rule, according to which the rightmost member in a morphologically complex word determines the category (as well as other properties) of the complex word. This is what we find in Table (455), in which the suffixes *-el*, *-er*, and *-ig* determine the category of the derived form; they are verb creating suffixes.

(455) Regular complex verbs

SUFFIX	STEM	COMPLEX VERB
-el	<i>brok_N</i> 'piece'	<i>brokkelen</i> 'to crumble'
	<i>hink_V</i> 'to limp'	<i>hinkelen</i> 'to play hopscotch'
-er	<i>snot_N</i> 'snot'	<i>snotteren</i> 'to snivel'
	<i>kiep_V</i> 'to dump'	<i>kieperen</i> 'to dump/tumble'
-ig	<i>steen_N</i> 'stone'	<i>stenigen</i> 'to stone'
	<i>rein_A</i> 'clean'	<i>reinigen</i> 'to clean'

Table (456) shows that the prefixes *be-*, *ver-* and *ont-* may also turn nouns and adjectives into verbs. The only other Dutch prefix that has a similar category changing ability is the nominalizing prefix *ge-*, which was discussed in Section N1.3.1.4; cf. *zeuren_V* ‘to nag’ - *gezeur_N* ‘nagging’.

(456) Verbs derived by the prefixes *be-*, *ver-* and *ont-*

SUFFIX	STEM	COMPLEX VERB
<i>be-</i>	<i>dijk_N</i> ‘dike’	<i>bedijken</i> ‘to dike in’
	<i>zat_A</i> ‘drunk’	<i>bezatten</i> ‘to get/make drunk’
	<i>smeren_V</i> ‘smear’	<i>besmeren</i> ‘to smear on’
<i>ver-</i>	<i>zool_N</i> ‘sole’	<i>verzolen</i> ‘to sole’
	<i>dun_A</i> ‘thin’	<i>verdunnen</i> ‘to dilute’
	<i>zwijgen_V</i> ‘to be silent’	<i>verzwijgen</i> ‘to keep silent about’
<i>ont-</i>	<i>bos_N</i> ‘forest’	<i>ontbossen</i> ‘to deforest’
	<i>nuchter_A</i> ‘sober’	<i>ontnuchteren</i> ‘to sober up’
	<i>binden_V</i> ‘to bind’	<i>ontbinden</i> ‘to dissolve’

Table (456) just provides a couple of typical examples without doing justice to the fact that the nine types of derived verbs can be further divided into several subclasses with special semantic properties; see De Haas & Trommelen (1993) for extensive discussion. Since this section is concerned with the locative alternation, we will focus especially on those derived verbs denoting a change of location or a path; see Section P1.3.1.1 for these notions.

1. Deverbal verbs prefixed with *be-* denoting a change of location

Deverbal verbs prefixed with *be-* come in various types. Subsection I, for example, has shown that in many cases the accusative object of the derived verb corresponds to the nominal part of a prepositional phrase in constructions with the corresponding simple verb; cf. (457).

- (457) a. Jan spreekt over het probleem. a'. Jan bespreekt het probleem.
 Jan talks about the problem Jan discusses the problem
 b. De doktor voelde aan zijn arm. b'. De dokter bevoelde zijn arm.
 the doctor felt at his arm the doctor palpated his arm

The present discussion focuses on the locative alternation in (458), in which the prepositional reference object in (458a) surfaces as the direct object of the derived verb in (458b); that the noun phrase has the grammatical function of direct object in this example will be clear from the fact that it is promoted to subject in the corresponding passive construction in (458c). The accusative located object from (458a) surfaces as an optional *met*-PP in (458b&c); when omitted, the located object is semantically implied in the sense that we can still infer that the reference object is covered with “pastable” objects.

- (458) a. Jan plakt posters op de muur.
 Jan pastes posters on the wall

- b. Jan *be*-plakt de muur (met posters).
 Jan BE-pastes the wall with posters
- c. De muur wordt *be*-plakt (met posters).
 the wall is BE-pasted with posters

There is a marked meaning difference between the two examples in (458a&b): whereas (458a) is compatible with a reading in which the located object covers only part of the reference object, (458b) implies that the reference object is fully (or at least to a very large extent) covered by the located object. This can be brought to the fore by replacing the plural noun phrase *de posters* in (458) by a singular one; while (459a) is easily possible, example (459b) is only acceptable in the less probable case that the poster covers the wall completely.

- (459) a. Jan plakt een poster op de muur.
 Jan pastes a poster on the wall
 ‘Jan is pasting a poster on the wall.’
- b. ^sJan *be*-plakt de muur met een poster.
 Jan BE-pastes the wall with a poster

This contrast suggests that deverbal BE-verbs express that their objects are affected as a whole. This might be further supported by the fact that example (458a) also alternates with the construction in (460a), in which the notion of total affectedness is expressed by means of the adjective *vol* ‘full’. The crucial observation is that this adjective is not compatible with deverbal BE-verbs, which could be accounted for by claiming that (460b) is tautologous: *vol* and the prefix *-be* in a sense perform the same semantic function. We will return to a more formal account of this point in Subsection B.

- (460) a. Jan plakt de muur vol (met posters).
 Jan pastes the wall full with posters
- b. *Jan *be*-plakt de muur vol (met posters).
 Jan BE-pastes the wall full with posters

Note in passing that the notion of total affectedness should not be taken too literally given that the extent to which the reference object is affected can be further specified by means of attributive modifiers like *heel/half* ‘whole/half’ or degree modifiers like *helemaal/gedeeltelijk* ‘completely/partly’; cf. (461). This suggests that the relevant meaning aspect is simply ‘‘affectedness’’ with the interpretation of ‘‘total affectedness’’ as a default value, which can be overruled by the addition of the modifiers mentioned above.

- (461) a. Jan *be*-plakt de hele/halve muur (met posters).
 Jan BE-pastes the whole/half wall with posters
- a'. Jan *be*-plakt de muur helemaal/gedeeltelijk (met posters).
 Jan BE-pastes the wall completely/partly with posters
- b. Jan plakt de hele/halve muur vol (met posters).
 Jan pastes the whole/half wall full with posters
- b'. Jan plakt de muur helemaal/gedeeltelijk vol (met posters).
 Jan pastes the wall completely/partly full with posters

Table 3 provides a small sample of verbs of the type in (458). Note that not all verbs in this table can also be combined with *vol* 'full'; this is possible with the first five, but not with the latter three. This suggests that the prefix *be-* and the adjective *vol* are not fully equivalent semantically; see Van Hout (1996:48) for a first attempt to describe this meaning difference.

Table 3: *Deverbal verbs prefixed with be- expressing a change of location*

STEM	VERB	TRANSLATION
<i>hangen</i> 'to hang'	<i>behangen met</i>	to paper with
<i>laden</i> 'to load'	<i>beladen met</i>	to load with
<i>leggen</i> 'to put'	<i>beleggen met</i>	to fill (a sandwich) with
<i>plakken</i> 'to paste'	<i>beplakken met</i>	to paste with
<i>smeren</i> 'to smear'	<i>besmeren met</i>	to smear with
<i>sproeien</i> 'to spray'	<i>besproeien met</i>	to spray with
<i>spuiten</i> 'to spray'	<i>bespuiten met</i>	to spray with
<i>strooien</i> 'to strew'	<i>bestrooien met</i>	to strew with

Note in passing that the verbs in Table 3 do not constitute a uniform set and may exhibit diverging behavior in other respects. For example, whereas the verb *plakken* must be prefixed with *be-* in order for the reference object to surface as an accusative object, this does not hold for the verbs *laden* 'to load', (*een boterham*) *smeren* 'to spread (a sandwich)', (*het gazon*) *sproeien* 'to water (the lawn)', and (*de auto*) *spuiten* 'to spray (the car)'; the examples in (462) show for two of these verbs that they alternate not only with the (b)- but also with the (c)-examples.

- (462) a. Jan smeert boter op zijn brood. a'. Jan laadt het hooi op de wagen.
 Jan smears butter on his bread Jan loads the hay on the truck
 b. Jan *be*-smeert zijn brood (met boter). b'. Jan *be*-laadt de wagen (met hooi).
 Jan BE-smears his bread with butter Jan BE-loads the truck with hay
 c. Jan smeert zijn brood (^{??}met boter). c'. Jan laadt de wagen ([?]met hooi).
 Jan smears his bread with butter Jan loads the truck with hay

Our judgments in (462) suggest that the *met*-PP gives rise to a somewhat better result in the (b)- than in the (c)-examples, but this has not been seriously investigated so far. It is also interesting to note that Dutch deverbal BE-verbs crucially differ from their English counterparts in that they *always* allow omission of the *met*-PP. Hoekstra et al. (1987) note that the English deverbal BE-verbs fall into two subgroups in this respect: verbs corresponding to Dutch verbs allowing the (c)-alternant in (462), like *to load* and *to spray* in (463a&b), tend to take an optional *with*-phrase; verbs corresponding to Dutch verbs not allowing this alternant, like *to hang* and *to pack* in (463c&d), take an obligatory *with*-phrase. See Hoekstra & Mulder (1990:20) for more discussion of this contrast between Dutch and English.

- (463) a. John was loading the hay (on the wagon).
 a'. Jan was spraying his car (with paint).
 b. John was hanging the wall *(with posters).
 b'. John was packing the donkey *(with trunks).

2. Denominal verbs prefixed with *be-* denoting a change of location

De Haas & Trommelen (1993:68-9) show that denominal verbs prefixed with *be-* can be of various types; here we are interested in cases such as such as (464b). Example (464b) has a meaning similar to (464a), but in addition expresses that the reference object is totally affected; after completion of the activity the bread will be fully covered with butter. Example (464b) further shows that, in a sense, the located object *boter* 'butter' has been incorporated into the verb, that is, has become an inherent part of the BE-verb. The prepositional reference object *op het brood* 'on the bread', on the other hand, surfaces as the accusative object of the denominal verb, as is clear from the fact that it is promoted to subject of the clause in the regular passive construction in (464c).

- (464) a. Jan smeert boter op het brood.
 Jan smears butter on the bread
 b. Jan *be*-botert het brood.
 Jan BE-butters the bread
 c. Het brood wordt (door Jan) beboterd.
 the bread is by Jan buttered

The examples in (465) show that there is a conspicuous syntactic difference between the two examples in (464a&b); whereas the assertion in (464b) can be made more specific by adding a substance denoting *met*-PP, the addition of such a PP leads to an incoherent reading in the case of (464a). In order to express the more specific assertion, we should substitute the noun phrase *margarine* for the direct object *boter*, as in (465a'). This shows that the denotation of the nominal part of the BE-verb has become less prominent as the result of incorporation.

- (465) a. *Jan smeert boter op het brood met margarine.
 Jan smears butter on the bread with margarine
 a'. Jan smeert margarine op het brood.
 Jan smears margarine on the bread
 b. Jan *be*-botert het brood met margarine.
 Jan BE-butters the bread with margarine

The examples in (466) further show that the formation of BE-verbs is not fully productive; a noun like *jam* in (466) cannot be used as the stem of a BE-verb. This suggests that the attested denominal BE-verbs are listed in the lexicon.

- (466) a. Jan smeert jam op zijn brood.
 Jan smears jam on his bread
 b. *Jan *be*-jamt zijn brood.

A small sample of BE-verbs of the type in (464) is given in Table 4. The first column provides the nominal stem of the verb and its English translation, the second column gives the derived verb, and the third column gives a translation or paraphrase in English.

Table 4: *Denominal verbs prefixed with be- expressing a change of location*

STEM	VERB	TRANSLATION
<i>bos</i> 'wood'	<i>bebossen</i>	to afforest
<i>dijk</i> 'dike'	<i>bedijken</i>	to put dikes around/next to
<i>mest</i> 'manure'	<i>bemesten</i>	to manure
<i>modder</i> 'mud'	<i>bemodderen</i>	to put mud on
<i>schaduw</i> 'shadow'	<i>beschaduwen</i>	to cast shadow on
<i>vracht</i> 'load'	<i>bevrachten</i>	to put a load on
<i>water</i> 'water'	<i>bewateren</i>	to water

Observe that it is sometimes hard to tell whether we are dealing with a denominal or a deverbal BE-verb. The examples in (467), for example, suggest that *beplanten* 'to plant with' may be deverbal or denominal.

- (467) a. Jan plant_V rozen in zijn tuin.
 Jan plants roses in his garden
 b. Jan zet planten_N in zijn tuin.
 Jan puts plants in his garden
 c. Jan *be*-plant zijn tuin (met rozen).
 Jan BE-plants his garden with roses

3. *Deverbal verbs prefixed with be- denoting a direction*

The examples discussed in the previous subsections involve some change of location; some entity is relocated with respect to some reference object. The examples in (468) are different in that they involve a path: example (468a) expresses that Jan covers a path that has its endpoint within the hall, and (468b) that Jan covers a path that goes to the top of the mountain.

- (468) a. Jan treedt de zaal binnen. a'. Jan *be*-treedt de zaal.
 Jan steps the hall inside Jan BE-steps the hall
 'Jan steps into the hall.' 'Jan enters the hall.'
 b. Peter klimt de berg op. b'. Peter *be*-klimt de berg.
 Peter climbs the mountain onto Peter BE-climbs the mountain
 'Peter climbs onto the mountain.' 'Peter climbs onto the mountain.'

Levin (1993:43) discusses this alternation as a special case but it seems that we are dealing with basically the same phenomenon; the verb is prefixed with *be-*, and the postpositional phrase *de zaal binnen* and *de berg op* are replaced by noun phrases that function as direct objects. The fact that the noun phrases in the primeless and primed examples have different syntactic functions is clear from the fact that they behave differently under passivization; the complement of the postpositional phrase in the primeless examples cannot be promoted to subject, whereas the complement of the BE-verb in the primed examples can. This is illustrated in (469) for the (b)-examples in (468).

- (469) a. *De berg werd vaak op geklommen.
 the mountain was often onto climbed
 b. De berg werd vaak beklommen.
 the mountain was often BE-climbed

There is also, however, an essential difference between the change of location and the directional cases; the stem of the directional BE-verbs typically belongs to the class of °unaccusative verbs. The examples in (470) illustrate the inability of verbs of transitive resultative constructions (that is, constructions in which the °complementive is predicated of an accusative noun phrase) to act as the stem of a directional BE-verb.

- (470) a. Jan duwt de auto's de berg op.
 Jan pushes the cars the mountain onto
 'Jan pushes the cars onto the mountain.'
- a'. *Jan *be-duwt* de berg (met de auto's).
- b. De politie slaat de demonstranten het ziekenhuis in.
 the police hits the demonstrators the hospital into
 'The police are hitting the demonstrators into the hospital.'
- b'. *De politie *be-slaat* het ziekenhuis (met demonstranten).

BE-verbs denoting a change of location are not restricted in this way, as will be clear from the difference between the (b)-examples in (470) and the examples in (471).

- (471) a. Jan slaat de platen op de muur.
 Jan hits the slabs onto the wall
- b. Jan *be-slaat* de muur met platen.

In fact, stems of the deverbal BE-verbs denoting a change of location are typically transitive. Unaccusative verbs of change of location verbs like *vallen* 'to fall' cannot be used as the input to BE-verbs; the examples in (472b&c) show that the reference object can appear neither as an accusative nor as a nominative noun phrase and that the located object cannot be realized as a *met*-PP.

- (472) a. De kralen vielen op de grond.
 the beads fell to the ground
- b. *De kralen *be-vielen* de grond.
 the beads BE-fell the ground
- c. *De grond *be-viel* met kralen.
 the ground BE-fell with beads

The only potential counterexample we could find is given in (473), but it seems likely that we are dealing here with a directional rather than a change of location construction, given that (473c) does not necessarily imply that the lion will land on top of the gazelle; the examples in (473a&b) show that this also holds for the directional, but not for the change of location construction.

- (473) a. De leeuw sprong op de gazelle (§maar hij miste). [change of location]
 the lion jumped onto the gazelle but he missed
- b. De leeuw sprong naar de gazelle toe (maar hij miste). [directional]
 the lion jumped to the gazelle TOE but he missed
- c. De leeuw *be-sprong* de gazelle (maar hij miste).
 the lion BE-jumped the gazelle but he missed

Some potential cases of unaccusative verbs that can be used as input for the formation of directional BE-verbs denoting a path are given in Table 5; these cases require a more in-depth investigation.

Table 5: *Deverbal directional verbs prefixed with be-*

STEM	VERB	TRANSLATION
<i>naderen</i> 'approach'	<i>benaderen</i>	to approach (something)
<i>reizen</i> 'to travel'	<i>bereizen</i>	to travel through
<i>springen</i> 'to jump'	<i>bespringen</i>	to jump onto
<i>sluipen</i> 'to steal/prowl'	<i>besluipen</i>	to steal up on
<i>stijgen</i> 'to rise'	<i>bestijgen</i>	to mount/ascent
<i>varen</i> 'to sail'	<i>bevaren</i>	to sail over

4. Denominal verbs prefixed with *ont-* denoting a direction

Denominal ONT-verbs like *ontharen* 'to depilate' and *ontkurken* 'to uncork' in the singly-primed examples in (474) express in a sense the opposite of the denominal BE-verbs discussed in Subsection 2; both types denote a change of location but whereas the reference object refers to the *new* position of the moved entity in the case of the denominal BE-verbs, it refers to the original position in the case of the denominal ONT-verbs. The doubly-primed examples further show that, like with the BE-verbs, the reference object surfaces as the direct object of the ONT-verbs, as is clear from the fact that it is promoted to the subject in the regular passive.

- (474) a. Jan haalt de haren van zijn benen.
 Jan removes the hairs from his legs
 a'. Jan *ont*-haart zijn benen.
 Jan ONT-hair-s his legs
 'Jan depilates his legs.'
 a''. Zijn benen worden *ont*-haard.
 his legs are ONT-hair-ed
 b. Marie haalt de kurk uit de fles.
 Marie removes the cork out.of the bottle
 b'. Marie *ont*-kurkt de fles.
 Marie ONT-cork-s the bottle
 'Marie uncorks the bottle.'
 b''. De fles wordt *ont*-kurkt.
 the bottle is ONT-cork-ed

Table 6 provides some more examples of denominal verbs prefixed by *ont-*. Sometimes denominal BE- and ONT-verbs are in opposition, as in *bebossen* and *ontbossen*, but in many other cases there are no antonym pairs. This strongly suggests that the formation of BE- and ONT-verbs is not a productive process and that the attested cases are listed in the lexicon.

Table 6: Denominal verbs prefixed with *ont-* expressing a direction

STEM	VERB	TRANSLATION
<i>bos</i> 'forest'	<i>ontbossen</i>	to deforest
<i>grond</i> 'soil/basis'	<i>ontgronden</i>	to take away the soil/basis
<i>hoofd</i> 'head'	<i>onthoofden</i>	to decapitate
<i>kalk</i> 'lime'	<i>ontkalken</i>	to decalcify
<i>volk</i> 'people'	<i>ontvolken</i>	to depopulate

5. Denominal VER-verbs denoting a change of state

The examples in (475) denote a metaphorical path from one state of affairs into another. The referent of the noun phrase *Krakras* (a character from a Dutch series of children's books) changes from a state in which it has the form of an unappetizing looking bird into a state in which it looks like a tasty duck that can be used as an ingredient for soup.

- (475) a. De heks verandert Krakras in een smakelijke soepeend.
 the witch changes Krakras into a tasty soup.duck
 b. Krakras verandert in een smakelijke soepeend.
 Krakras changes into a tasty soup-duck

Constructions such as (475) often alternate with constructions involving denominal VER-verbs. One example is given in (476a); causative examples, such as (476b'), are sometimes a bit cumbersome.

- (476) a. Het water veranderde in damp.
 the water changed into vapor
 a'. Het water verdampte.
 the water evaporated
 b. De hitte veranderde het water in damp.
 the heat changed the water into vapor
 b'. ?De hitte verdampte het water.
 the heat evaporated the water

More similar cases are given in Table 7. Sometimes the meaning of the denominal VER-verb has narrowed to the paraphrase given after the sign "⇒".

Table 7: Denominal change of state verbs prefixed with *ver-*

	VERB	TRANSLATION
<i>film</i> 'movie'	<i>verfilmen</i>	change into a movie ⇒ adapt (a story) for the screen
<i>gas</i> 'gas'	<i>vergassen</i>	change into gas
<i>gras</i> 'grass'	<i>vergrassen</i>	change into grassland
<i>kool</i> 'coal'	<i>verkolen</i>	carbonize
<i>snoep</i> 'sweets'	<i>versnoepen</i>	change into sweets ⇒ spend money on sweets
<i>water</i> 'water'	<i>verwateren</i>	change into water ⇒ dilute

Note in passing that the deadjectival verbs prefixed by *ver-* in the primed examples in (477) express a meaning aspect similar to those in Table 7, but are related to the inchoative copular or resultative constructions in the primeless examples.

- (477) a. De lakens worden geel.
 the sheets become yellow
 a'. De lakens vergelen.
 the sheets get yellow
 b. Deze zeep maakt de was zachter.
 this soap makes the laundry softer
 b'. Deze zeep verzacht de was.
 this soap softens the laundry

B. *The syntactic status of the prefix*

The prefixes *be-*, *ver-* and *ont-* have the ability to change the category of the stem and thus violate the right-hand head rule. This casts some doubt on the idea that we are dealing with run-of-the-mill prefixes, and it has indeed been claimed that these elements perform a syntactic rather than a morphological function; they are °complementives, which have become part of the complex verb as the result of incorporation. The following subsections provide the gist of this proposal and discuss a number of empirical facts supporting it.

1. *The prefixes be-, ver- and ont- as complementives*

The examples in (478a&b) show again that BE-verbs can sometimes be paraphrased by means of a resultative construction with the adjectival complementive *vol*; see Subsection A1 for more discussion. Example (478c) further shows that *be-* and *vol* are in complementary distribution.


- (478) a. Ik *be-*plant de tuin (met rozen).
 I BE-plant the garden with roses
 b. Ik plant de tuin vol (met rozen).
 I plant the garden full with roses
 c. *Ik *be-*plant de tuin vol (met rozen).
 I BE-plant the garden full with roses

Following an earlier suggestion by Dik (1980:36), Hoekstra et al. (1987) argued that the pattern in (478) shows that *be-* functions syntactically as a complementive comparable to *vol*. However, it has the special property that it has incorporated into the verb; if we assume that the complementive and the noun phrase it is predicated of constitute a °small clause, the analysis of the examples in (478a&b) looks as indicated in (479).

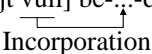
- (479) dat Jan [_{SC} de tuin vol/*be-*] plant (met rozen)
└───┬───┘
Incorporation

Example (480) shows that this analysis can be applied more generally. The fact that the simplex reflexive *zich* can be used with the complex verb *bedrinken* 'get drunk' in (480a) can in fact be seen as an empirical argument in favor of the claim that the

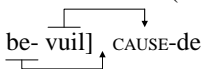
element *be-* functions as a complementive; example (480b) shows that, in contrast to internal arguments of verbs, SUBJECTS of complementives normally can be realized by such a reflexive (see Sections 2.5.2, sub I, and N5.2.1.5 for discussion).

- (480) a. dat hij zich *be*-drinkt.
 that he REFL BE-drinks
 ‘that he’s getting very drunk.’
- b. dat hij zich zat drinkt.
 that he REFL very.drunk drinks
 ‘that he’s getting very drunk.’
- c. dat Jan [_{SC} zich zat/*be-*] drinkt

 Incorporation

The following subsections will provide evidence that a considerable subset of the complex verbs prefixed by *be-*, *ver-* and *ont-* can be derived in a similar way, that is, by incorporation of these elements into the verb. To which extent this type of analysis can be applied to the class as a whole is not *a priori* clear. The semantic correspondence between the examples in (481a&b), for example, may give rise to the idea that they have a similar underlying structure in which the adjective *vuil* ‘dirty’ acts as a complementive and that *be-* is hence a causative element that attracts the predicative part of the small clause, as in (481c).

- (481) • Derivation of causative BE-verbs (version 1)
- a. dat Jan [_{SC} het tapijt vuil] maakte.
 that Jan the carpet dirty made
- b. dat Jan het tapijt *be*-vuil-de.
 that Jan the carpet BE-dirty-past
- c. dat Jan [_{SC} het tapijt vuil] *be*-_{;-}-de

 Incorporation

This analysis may be less attractive, however, since it reintroduces the problem that the prefix *be-* is exceptional in that it determines the category of the complex form in violation of the right-hand head rule. It therefore does not come as a surprise that it has been proposed that (481c) is in fact not the correct analysis. Hoekstra (2004:365ff.) argues that the derivation of (481b) proceeds in essentially the same way as in (479) with the difference that the verb into which *be-* incorporates is an abstract (phonetically empty) causative verb: the adjective must also be incorporated in order to satisfy the requirement that the prefix *be-* be morphologically supported. See Mulder (1992:ch.9) for an alternative proposal.

- (482) • Derivation of causative BE-verbs (version 2)
- dat Jan [_{SC} het tapijt *be*-vuil] CAUSE-de


It should be noted, however, that this analysis implies that *be-* is polysemous: in examples like (478c) and (480b) it is a ^omonadic predicate that expresses some notion of total affectedness, whereas in (482) it functions as a ^odyadic predicate with

a meaning comparable to the copular verb *zijn* ‘to be’. In fact, Hoekstra suggests that this does not exhaust the possibilities and proposes a derivation for “ornative” BE-verbs like *bewapenen* ‘to arm’ along the lines in (483b), in which *be-* is again a dyadic predicate, but now with a meaning comparable to the verb *hebben* ‘to have’.

- (483) • Derivation of ornative BE-verbs
- a. dat Jan de vijand *be-wapen-de*.
that Jan the enemy BE-arm-past
‘that Jan was arming the enemy.’
- b. dat Jan [_{SC} de vijand *be-* wapen] _{CAUSE-de}
-

It goes without saying that derivations similar to those in (482) and (483) can be used in order to derive denominal and deadjectival VER- and ONT-verbs. Yet another case discussed by Hoekstra is the construction in (484). He claims that this is in fact an applicative (= preposition incorporation) construction of the type extensively described by Baker (1988) for languages like Chichewa; see also Voskuyl (1996). The analysis that Hoekstra suggests is given in (484b).

- (484) a. dat Jan het probleem *be-spreek-t*.
that Jan the problem *be-speak-present*
‘that Jan discusses the problem.’
- b. dat Jan [_{SC} het probleem *be-*] spreek-t
-

As the discussion above shows, it seems possible to account for a large variety of BE-, VER- and ONT-verbs by means of syntactic incorporation. This proposal is motivated not only by the fact that it may provide an account for the exceptional behavior of these prefixes with respect to the right-hand head rule, but by a larger set of empirical data that will be discussed in the following subsections.

2. *Incompatibility with complementives*

The incorporation analysis can immediately account for the complementarity in distribution of *be-* and the adjectival complementive *vol* ‘full’ in example (478c) by appealing to the more general restriction that a clause can contain at most one complementive. More examples that show that verbs prefixed by *be-*, *ver-* and *ont-* cannot be combined with a complementive are given in (485); see Section 2.2.1, sub IV, for discussion.

- (485) a. dat de dokter hem genezen acht/*behandelt.
that the doctor him cured considers/treats
‘that the doctor considers him cured.’
- b. dat Jan het huis groter maakt/*verbouwt.
that Jan the house bigger makes/rebuilds
‘that Jan is making the house bigger.’
- c. dat Marie haar benen glad scheert/*onthaart.
that Marie her legs smooth shaves/depilates
‘that Marie is shaving her legs smooth.’

3. Placement and omission of (apparent) predicative PPs

At first sight, the examples in (486) seem to constitute counterexamples to the claim that complex verbs prefixed by *be-* cannot take a complementive; the *tot/als*-phrases seem to be predicated of the accusative noun phrases and hence to function as complementives. There are, however, at least two reasons to reject this conclusion. The first reason is that the *tot/als*-phrases are optional and the second that they can occur in postverbal position. These facts follow immediately, however, if it is the prefix that functions as the complementive: the *tot*-phrases would then have some other function and would therefore not be expected to exhibit the behavior of run-of-the-mill complementives.

- (486) a. dat Jan hem <tot voorzitter> benoemt <tot voorzitter>.
 that Jan him to chairman appoints
 'that Jan appoints him chairman.'
- b. dat Jan haar <tot ontrouw> verleidt <tot ontrouw>.
 that Jan her to unfaithfulness seduces
 'that Jan is seducing her to becoming unfaithful.'
- c. dat de rechter hem <tot de galg> veroordeelt <tot de galg>.
 that the judge him to the gallows condemns
 'that the judge condemns him to the gallows.'
- d. dat Jan hem <tot de voordeur> begeleidt <tot de voordeur>.
 that Jan him to the front.door accompanies
 'that Jan is accompanying him to the front door.'
- e. dat ik hem <als mijn vriend> beschouw <als mijn vriend>.
 that I him as my friend consider
 'that I consider him as my friend.'

This proposal comes very close to the one proposed for particle constructions such as (487b); Section 2.2.1, sub IV, has shown that in such constructions it is the particle *neer* 'down' that functions as the complementive. The contrast between the (a)- and (b)-examples in (487) is therefore due to the fact that the PP *op de tafel* in (487b) differs from the one in (487a) in that it does not function as a complementive, and can therefore be omitted or occur in postverbal position.

- (487) a. Jan heeft het boek *(op de tafel) gelegd.
 Jan has the book on the table put
- a'. *Jan heeft het boek gelegd op de tafel.
- b. Jan heeft het boek (op de tafel) neer gelegd.
 Jan has the book on the table down put
- b'. Jan heeft het boek neer gelegd op de tafel.

4. Argument structure

If the prefixes *be-*, *ver-* and *ont-* indeed originate as the predicative heads of small clauses, we would expect them to exhibit an effect on argument structure similar to complementives and verbal particles; see Section 2.2 for extensive discussion. The examples in (488a&b) show that the use of an adjectival complementive may add an argument to the otherwise impersonal verb *vriezen* 'to freeze', and (488c) shows that prefixation with *be-* may have a similar effect. The fact that (488b&c) both take

the perfect auxiliary *zijn* 'to be' shows that we are dealing with unaccusative structures, and this is of course expected given that the additional argument is introduced as the SUBJECT of a small clause headed by, respectively, *dood* and *be-*.

- (488) a. Het/*Jan heeft gevrozen.
it/Jan has frozen
b. Jan is dood gevrozen.
Jan is to.death frozen
c. Jan is bevroren.
Jan is frozen

The examples in (489) show that prefixation with *ver-* and *ont-* may likewise add an argument to the otherwise impersonal verbs *waaien* 'to blow' and *dooien* 'to thaw'.

- (489) a. Het/*Haar kapsel waait. a'. Haar kapsel verwaait.
it/her coiffure blows her coiffure is.blown.in.disorder
b. Het/*De spinazie dooit. b'. De spinazie ontdooit.
it/the spinach thaws the spinach defrosts

The primeless examples in (490) show that the use of the adjectival complementive *plat* 'flat' adds an argument to the otherwise intransitive verb *lopen* 'to walk' and that prefixation with *be-* again has a similar effect. The primed examples show the same thing for the prefix *ver-*. Cases like these are less easy to find for verbs with the prefix *ont-*.

- (490) a. Jan loopt (*het gras). a'. Jan vloekt (*zijn computer).
Jan walks the grass Jan swears his computer
b. Jan loopt het gras plat. b'. Jan vloekt zijn computer uit.
Jan walks the grass flat Jan swears his computer prt.
c. Jan beloopt het gras. c'. Jan vervloekt zijn computer
Jan walks.on the grass Jan curses his computer

The (a)-examples in (491) show that adding a locational complementive to an intransitive verb may also give rise to an unaccusative verb; whereas the primeless example takes the auxiliary *hebben* 'to have', the primed example with the complementive *weg* 'away' takes the auxiliary *zijn* 'to be', which is sufficient for assuming unaccusative status. The (b)-examples show that prefixing with *ver-* may have a similar effect; other unaccusative verbs prefixed with this affix are *vertrekken* 'to leave' and *vertoeven* 'to stay'. It seems that the prefixes *be-* and *ont-* do not trigger this effect.

- (491) a. Jan heeft/*is gewandeld. a'. Jan is/*heeft weg gewandeld.
Jan has/is walked Jan is/has away walked
b. Jan heeft/*is gedwaald. b'. Jan is/*heeft verdwaald.
Jan has/is roamed Jan is/has lost.his.way

Example (492a) further shows that the addition of a complementive to an unaccusative verb normally does not have an effect on the number of arguments. The nominative argument, however, is no longer licensed by the verb but by the complementive, as is clear from the fact that the complementive cannot be omitted.

Example (492b) shows that the nominative argument can likewise be licensed by the prefix *ver-*. The primed examples show that the same thing holds for transitive verbs; the number of arguments is not affected but the accusative argument is semantically licensed, not by the verb, but by the complementive or the verbal prefix.

- (492) a. Het huis viel *(in elkaar). a'. Jan dronk zijn verdriet *(weg).
 the house fell apart Jan drank his sorrow away
 b. Het huis verviel. b'. Jan verdronk zijn verdriet.
 the house decayed John drank.away his sorrow

Like verbal particles, prefixation may affect the aspectual properties of the construction; cf. Van Hout (1996:176ff.). We show this here by means of the unaccusative verb *branden* 'to burn'; whereas the construction in (493a) is °atelic, the constructions in (493b&c) with, respectively, a particle verb and a verb prefixed by *ver-* are telic. This aspectual difference is clear from the fact that the former takes the perfect auxiliary *hebben* 'to have' and the latter the perfect auxiliary *zijn* 'to be'; see Section 2.1.2, sub III, for a discussion of the relation between auxiliary selection and telicity.

- (493) a. Het huis heeft/*is gebrand.
 the house has/is burnt
 b. Het huis is/*heeft afgebrand.
 the house is/has down-burnt
 c. Het huis is/*heeft verbrand.
 the house is/has burnt.down

5. Conclusion

The subsections above discussed the hypothesis proposed in Hoekstra et al. (1987) that the prefixes *be-*, *ver-* and *ont-* syntactically function as complementives and provided empirical evidence in favor of this claim. We should be careful, however, given that the derivation of deverbal verbs prefixed by these prefixes is not a fully productive process, which raises complex issues concerning the relation between syntax and morphology. Furthermore, many of the presumed input verbs are obsolete or no longer used with the intended meaning, and the output forms often exhibit idiosyncratic behavior. Given the complexity of the topic, this hypothesis is in need of a more thorough investigation.

3.3.3. Nominative/PP alternations

This section discusses alternations between PPs with various functions and the subject of the clause. Subsection I starts with cases in which the PP functions as a °complementive, and show that the options are limited compared to similar cases discussed in Subsection 3.3.2, in which the predicative PP alternates with an accusative phrase. Subsection II continues with alternations that involve locational PPs that seem to function as the °logical SUBJECT of the verb, and Subsection III concludes with alternations that involve adverbial PPs.

I. Alternations with predicative PPs

Section 3.3.2 has discussed the alternation between the examples in (494a&b) and suggested that the prefix *be-* performs a similar function as the adjective *vol* ‘full’ in (494c); *be-* and *vol* both function as a complementive, and the only difference is that the prefix must incorporate into the verb in order to satisfy the requirement that it be supported by some other morpheme.

- (494) a. Jan plakt de posters op de muur.
 Jan pastes the posters on the wall
 b. Jan *be*-plakt de muur (met de posters).
 Jan BE-pastes the wall with the posters
 c. Jan plakt de muur vol (met posters).
 Jan pastes the wall full with posters

In (494a) the located object is realized as an accusative object, but the examples in (495) show that the located object can also be realized as the subject of the clause with positional verbs like *zitten* ‘to sit’, *liggen* ‘to lie’, *staan* ‘to stand’ and *hangen* ‘to hang’. Since these verbs are °unaccusative, we may assume that the subject of the clause functions as the logical SUBJECT of the complementive PP, and therefore originates in the same position as the accusative noun phrase in (494a).

- (495) a. Er zitten fouten in de tekst.
 there sit errors in the text
 ‘There are errors in the text.’
 b. Er liggen kleren op de bank.
 there lie clothes on the couch
 ‘Clothes are lying on the couch.’
 c. Er staan veel supporters op de tribune.
 there stand many fans on the stand
 ‘Many fans are on the stand.’
 d. Er hangen slingers in de kamer.
 there hang festoons in the room

This, in turn, leads to the expectation that the examples in (495) will exhibit similar alternations as example (494a). Given that the positional verbs are unaccusative, this means that we expect that the nominal part of the complementive PP can be realized as a nominative noun phrase with the concomitant effect that the subject of the clause (that is, the SUBJECT of this complementive PP) surfaces as the nominal part of a *met*-PP. The examples in (496) shows that this expectation is not borne out.

- (496) a. *De tekst zit met fouten.
 the text sits with errors
 b. *De bank ligt met kleren.
 the couch lies with clothes
 c. *De tribune staat met veel supporters.
 the stand stands with many fans
 d. *De kamer hangt met slingers.
 the room hangs with festoons

However, the expected alternation with the adjectival complementive *vol* does occur, as shown by (497). The adjective *vol* adds the meaning aspect that the reference object (location) is affected by the located object; cf. Section 3.3.2, sub A1. The extent of the effect can be specified by adding an attributive modifier like *heel* to the locational noun phrase or a degree modifier like *helemaal* to the adjective *vol*.

- (497) a. De (hele) tekst zit vol met fouten.
 the whole text sits full with errors
 ‘The text is full of errors.’
- b. De (hele) bank ligt vol met kleren.
 the whole couch lies full with clothes
 ‘The couch is full of clothes.’
- c. De tribune staat (helemaal) vol met supporters.
 the stand stands completely full with fans
 ‘The stand is full of fans.’
- d. De kamer hangt (helemaal) vol met slingers.
 the room hangs completely full with festoons
 ‘The room is full of festoons.’

For completeness’ sake, note that the examples in (497) in turn alternate with the examples in (498). This shows that the location denoting subjects in (497) can (at least marginally) be replaced by an °expletive related to a locative PP. Alternations of this type are the topic of Subsection II.

- (498) a. ?Het zit vol met fouten in de tekst.
 it sits full with errors in the text
- b. ??Het ligt vol met kleren op de bank.
 it lies full with clothes on the couch
- c. ?Het staat vol met supporters op de tribune.
 it stands full with fans on the stand
- d. ??Het hangt vol met slingers in de kamer.
 it hangs full with festoons in the room

II. Locative alternation (type II)

This subsection discusses the alternation illustrated in (499) and (500), in which the nominal part of a non-predicative locational PP in one clause surfaces as the subject of another clause. The point of departure of our discussion will be the hypothesis that the subject pronoun *het* in the primeless examples is an °anticipatory pronoun and that the locational PP functions as the logical subject of the construction; cf. Bennis & Wehrmann (1987).

- (499) • Locative alternation (type II)
- a. Het is erg warm/gezellig in de kamer.
 it is very warm/cozy in the room
- a'. De kamer is erg warm/gezellig.
 the room is very warm/cozy

- b. Het stinkt in de kamer.
it stinks in the room
- b'. De kamer stinkt.
the room stinks

The subsections below will not extensively discuss the copular examples in (499) given that these are discussed in more detail in Section A6.6, but focus more specifically on the constituent parts of the two alternants in (500), which have a number of peculiar semantic and syntactic properties on top of those found in (499).

- (500) a. Het krioelt in de tuin van de mieren.
it crawls in the garden of the ants
'The garden is swarming with ants.'
- b. De tuin krioelt van de mieren.
the garden swarms of the ants
'The garden is swarming with ants.'

A. *The non-referential pronoun het 'it'*

An important property of the constructions in (499a&b) and (500a) is that they are impersonal in the sense that the subject pronoun *het* is non-referential in nature. That this is the case is clear from the fact that this pronoun cannot be replaced by any referential element (with preservation of the intended meaning); this is illustrated in (501) for the demonstrative pronouns *dit* 'this' and *dat* 'that'

- (501) a. Dit/Dat is erg *warm/#gezellig in de kamer.
this/that is very warm/cozy in the room
- b. *Dit/Dat stinkt in de kamer.
this/that stinks in the room
- c. *Dit/Dat krioelt in de tuin van de mieren.
this/that crawls in the garden of the ants

The fact that the subject pronoun *het* is non-referential may be problematic for the copular constructions in (499a) given that the adjectival complementives *warm* 'warm' and *gezellig* 'cozy' should be predicated of some entity. This problem can perhaps be solved for the adjective *warm* by saying that it resembles weather verbs like *vriezen* 'to freeze' in that it takes a quasi-referential subject, but this seems less likely for adjectives like *gezellig* 'cozy'. It has therefore been proposed that the pronoun *het* actually functions as an anticipatory pronoun that is coindexed with the locational PP, which acts as the logical SUBJECT of the adjective. When we extend the proposal to impersonal constructions like (499b) and (500), we arrive at the representations in (502).

- (502) a. Het_i is [_{SC} t_i erg warm/gezellig] [in de kamer]_i.
it is very warm/cozy in the room
- b. Het_i stinkt [in de kamer]_i.
it stinks in the room
- c. Het_i krioelt [in de tuin]_i van de mieren.
it crawls in the garden of the ants

These representations not only solve the question of what the adjective/verbs in (499a&b) and (500a) are predicated of, but perhaps also make intuitive sense in light of the fact that the nominal parts of the locational PPs surface as the subject of the alternate constructions in the primed examples in (499) and in (500b). However, we should not jump to conclusions given that the two alternants are not semantically equivalent, which is clear from the examples in (503) taken from Janssen (1976:69): whereas (503a) unequivocally refers to the space within the car, (503a') can also be used to refer to the car itself (its engine may need fine-tuning, for example); similarly, whereas the PP in (503b) may refer to some meeting organized by the family Janssen, the subject in (503b') must refer to the people themselves.

- (503) a. Het stinkt in de auto. a'. De auto stinkt.
 it stinks in the car the car stinks
 b. Het was leuk bij de Janssens. b'. De Janssens waren leuk.
 it was fun with the Janssens the Janssens were fun

B. The locational PP functions as the logical subject of the clause

The claim in (502) that the locational PPs function as logical subjects of the clauses not only provides an answer to the question pertaining the semantic properties discussed in the previous subsection, but is in fact supported by their syntactic behavior. Let us start by eliminating two potential alternative analyses. That the locational PP in (500a) is not a complementive is clear from the fact illustrated in (504a) that it can be placed after the clause-final verb as well as from the fact illustrated in (504b) that it can readily be separated from the clause-final verbs by other phrases in the °middle field of the clause.

- (504) a. dat het <in de tuin> krioelt van de mieren <in de tuin>.
 that it in the garden crawls of the ants
 b. dat het <in de tuin> vaak <in de tuin> krioelt van de mieren.
 that it in the garden often crawls of the ants

The examples in (505) show further that the locational PP differs from unsuspected PP-complementives in that it does not allow R-pronominalization; pronominalization is possible only by means of locational pro-forms like *hier* 'here' and *daar* 'there'.

- (505) a. *dat het *er* vaak *in* krioelt van de mieren.
 that it there often in crawls of the ants
 b. dat het hier/daar vaak krioelt van de mieren.
 that it here/there often crawls of the ants

A possible conclusion would be that the locational PP functions as an adverbial phrase. However, this seems at odds with the fact that it cannot be omitted; example (506a) is only acceptable if the neuter pronoun is referential, that is, if it functions as the pronominalized counterpart of an example such as (506b).

- (506) a. #Het krioelt van de mieren.
 it crawls of the ants
 b. Dat deel van de tuin krioelt van de mieren.
 that part of the garden crawls of the ants

The conjecture in (502) that the locational PP functions semantically as the logical subject of the clause is compatible with these facts. A potential problem for this conjecture is that the (a)-examples in (507) show that the PP cannot be placed in the regular subject position of the clause; it can only be placed in clause-initial position if it is topicalized, in which case the non-referential pronoun *het* must appear in the subject position right-adjacent to the finite verb in second position. This is compatible with the proposed analysis, however, if we assume that the regular subject position can only be occupied by a noun phrase and that this is precisely the reason why the anticipatory pronoun is used in this construction.

- (507) a. *In de tuin krioelt van de mieren.
 in the garden crawls of the ants
 b. In de tuin krioelt *het* van de mieren.
 in the garden crawls it of the ants

In fact, this also explains why *het* is not needed in the alternants of (507) in (508); since the reference objects are syntactically realized as noun phrases in these constructions, they can of course be placed in regular subject position, and insertion of the anticipatory pronoun *het* is therefore unnecessary (hence blocked).

- (508) a. De tuin krioelt van de mieren.
 the garden crawls of the ants
 b. *De tuin krioelt *het* van de mieren.
 the garden crawls it of the ants

C. *The van-PP*

The syntactic status of the *van-PP* is not immediately clear. A first observation is that this PP seems to prefer a position after the verb in clause-final position, which excludes an analysis according to which the PP functions as a complementive.

- (509) a. dat het in de tuin <?van de mieren> krioelt <van de mieren>.
 that it in the garden of the ants crawls
 b. dat de tuin <?van de mieren> krioelt <van de mieren>.
 that the garden of the ants crawls

The examples in (510) show that R-pronominalization of the *van-PP* is possible; this favors an analysis according to which the PP functions as a complement of the verb; it is not conclusive, however, given that certain adverbial phrases also allow R-pronominalization.

- (510) a. dat het *er* in de tuin *van* krioelt.
 that it there in the garden of crawls
 ‘that it is crawling with them in the garden.’
 b. dat de tuin *er* vaak *van* krioelt.
 that the garden there often of crawls
 ‘that the garden is often crawling with them.’

Another argument in favor of assuming that the *van-PP* is a PP-complement and not an adverbial phrase is that omission of this PP gives rise to a severely degraded result: this is expected of PP-complements but not of adverbial phrases.

- (511) a. *dat het in de tuin krioelt.
 that it in the garden crawls
 b. *dat de tuin krioelt.
 that the garden crawls

Note in passing that the examples in (511) are semantically incoherent; the verb is taken in its literal sense as a verb denoting undirected motion, whereas the (logical) subject does not seem to be able to satisfy the selection restrictions imposed by this verb. The addition of the *van*-PP apparently lifts the selection restriction imposed by the verb on its subject.

D. The meaning of the constructions

The fact that the (logical) subject need not satisfy the selection restriction that a verb like *krioelen* ‘to crawl’ imposes on its agentive argument may suggest that the meaning of the constructions in (500) is non-compositional. One way of avoiding this conclusion is to assume that the predicative relationships in the clause are expressed in a non-canonical way. We will consider one option here, which we will show to be untenable in the light of a wider set of data.

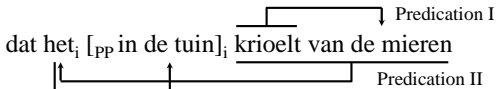
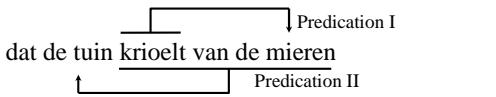
First consider the examples in (512), which show that the verb *krioelen* requires that its agentive subject be plural or headed by a noun denoting a collection of entities; use of a singular noun phrase like *de mier* ‘the ant’ gives rise to an unacceptable result.

- (512) a. De mieren krioelen in de tuin.
 the mieren crawl in the garden
 ‘The ants are teeming in the garden.’
 b. Het ongedierte/*De mier krioelt in de tuin.
 the vermin/the ant crawls in the garden
 ‘The vermin are teeming in the garden.’

The examples in (513) show that the verb *krioelen* imposes restrictions on the nominal part of the *van*-PP similar to those on the subject in (512); the nominal part of the PP must be plural or refer to a collection.

- (513) a. Het krioelt in de tuin van de mieren/het ongedierte/*mier.
 it crawls in the garden of the ants/the vermin/ant
 b. De tuin krioelt van de mieren/het ongedierte/*mier.
 the garden crawls of the ants/the vermin/ant

This may suggest that the *van*-PP semantically functions as the logical subject of the verb. If so, this means that we are dealing with a rather complex set of predication relations, which are schematized in the figures in (514). The two constructions are identical in that the verb is predicated of the nominal part of the *van*-PP. The complex verbal phrase *krioelen van de mieren* functions as a predicate which is subsequently predicated of the reference object, *de tuin* ‘the garden’, directly if the latter is realized as the subject of the clause or via the anticipatory pronoun *het* if it is realized as a locational PP.

- (514) a. 
- b. 

There are several potential problems with analyses of this sort. The first one is that predication relationship I between a verb and its internal argument is normally not syntactically encoded by means of the preposition *van* 'of'. This does not *a priori* mean that an analysis along this line would be untenable given that it has been argued in Section N4.2.1 that this preposition can establish such a relationship in metaphorical *N-van-een-N* constructions like *een schat van een kat* 'a treasure of a cat', in which the noun *schat* is predicated of the second noun; cf. *die kat is een schat* 'that cat is a treasure'. A second, semantic, problem is that establishing predication relationship I should give rise to a proposition; since propositions are saturated predicates they cannot normally be predicated of some other argument, and this means that we have to make additional stipulations to make predication relationship II possible. The third and probably most problematic aspect of the analyses in (514) is that it is predicted that in constructions of this type the verb is always predicated of the nominal part of the *van*-PP. The examples in (515) show, however, that this need not be the case.

- (515) a. Het barst/stikt/sterft *(van de toeristen) in de stad.
it BARST/STIKT/STERFT of the tourists in the town
'It is swarming with tourists in town.'
- b. De stad barst/stikt/sterft *(van de toeristen).
the town BARST/STIKT/STERFT of the tourists
'The town is swarming with tourists.'

The verbs *barsten* 'to burst', *stikken* 'to suffocate' and *sterven* 'to die' are clearly not predicated of the noun phrase *de toeristen*. Instead, the original meaning of the verb has bleached and the construction as a whole simply assumes a quantitative meaning aspect; there is an extremely high number of tourists in town. It can further be noted that the syntactic properties of the verbs *barsten*, *stikken* and *sterven* in the constructions in (515) also differ considerably from their properties in their more regular uses. This is shown in (516) and (517) for the verb *stikken*. Example (516) shows that this verb, being a °telic unaccusative verb, cannot be combined with durative adverbial phrases like *een uur lang* 'for an hour' and forms the perfect tense by means of the auxiliary *zijn* 'to be'.

- (516) a. De jongen stikte binnen een minuut/*een uur lang.
the boy suffocated within a minute/one hour long
- b. De jongen is/*heeft gestikt.
the boy is/has suffocated

The constructions in (517), on the other hand, exhibit properties of atelic predicates: they can be combined with durative adverbial phrases like *de hele zomer* ‘all summer’ and they form their perfect tense with the auxiliary *hebben* ‘to have’.

- (517) a. Het heeft/*is in Amsterdam de hele zomer gestikt van de toeristen.
 it has/is in Amsterdam the whole summer GESTIKT of the tourists
 ‘It has swarmed with tourists in Amsterdam all summer.’
- b. Amsterdam heeft/*is de hele zomer gestikt van de toeristen.
 Amsterdam has/is the whole summer GESTIKT of the tourists
 ‘Amsterdam has swarmed with tourists in Amsterdam all summer.’

To sum up the discussion so far, we can conclude that the meaning of the constructions under discussion cannot be determined in a compositional way. The verbs in this construction further have the property that their meaning has bleached; they do not denote the same state of affairs as they do in their more regular uses, a semantic change that is also reflected in their syntactic behavior.

An essential meaning aspect of the two constructions under discussion seems to be that there is a high concentration of entities at a certain location. It has further been claimed that the two alternants differ with respect to the spreading of these entities. Constructions with a nominative subject, like (500b) and (515b), receive a holistic interpretation: example (515b), for example, expresses that wherever you go in town, there will be many tourists. Impersonal constructions, like (500a) and (515a), on the other hand, have been claimed to be consistent with a partial interpretation: example (515b) may be true if there are high concentrations of tourists in certain restricted areas of town.

E. Productivity

The nominative/PP alternation under discussion seems to be highly productive, and many verb types can enter the construction. Example (499) has already shown that the alternation may occur in copular constructions. The examples in (497) and (498) in Subsection I have further shown that positional verbs with the complementive adjective *vol* ‘full’ also enter in this alternation; one example is repeated here as (518).

- (518) a. De tekst zit vol met fouten.
 the room sits full with errors
- b. Het zit vol met fouten in de tekst.
 it sits full with errors in the text
 ‘The text has errors everywhere.’

The examples in (519) provide a number of other potential cases with an adjectival complementive, although these are somewhat harder to judge given that they have a more or less idiomatic flavor. The examples in (519) are similar to the ones in (500) with the verb *krioelen* and (515) with the verbs *barsten* ‘to burst’, *stikken* ‘to suffocate’ and *sterven* ‘to die’ in that they contain an obligatory *van*-PP and likewise express that there is a high concentration of entities denoted by the nominal part of the *van*-PP at the location denoted by the reference object *die krant* ‘that newspaper’/*de stad* ‘the city’.

- (519) a. [?]Het staat bol van de fouten in die krant.
 it stands full of the errors in that newspaper
 a'. Die krant staat bol van de fouten.
 that newspaper stands full of the errors
 'That newspaper bulges with errors.'
 b. Het zag zwart van de toeristen in de stad.
 it saw black of the tourists in the city
 b'. De stad_{nom} zag zwart van de toeristen.
 the city saw black of the tourists
 'The city was swarming with tourists.'

Another set that allows the alternation consists of verbs denoting light and sound emission. Observe that the *van*-PP in (520a') is optional, but this may be due to the fact that *schitteren* 'to glitter' can also be used as a °monadic verb: *De diamant schitterde* 'The diamond sparkled'. These constructions again express that there is a high concentration of entities denoted by the nominal part of the *van*-PP at the location denoted by the reference object *de lucht* 'the sky'/*de tuin* 'the garden'.

- (520) a. Het schitterde van de sterren in de lucht.
 it glittered of the stars in the sky
 a'. De lucht schitterde (van de sterren).
 the sky glittered of the stars
 'The sky was glittering with stars.'
 b. Het gonst van de bijen in de tuin.
 it buzzes of the bees in the garden
 b'. De tuin gonst van de bijen.
 the garden buzzes of the bees
 'The garden is alive with bees.'

The examples in (521) provide a number of examples of bodily sensation/function, which seem to especially favor the construction in which the reference object is realized as the subject of the clause.

- (521) a. Het kriebelde op mijn rug van de vlooiën.
 it tickled on my back of the fleas
 a'. Mijn rug kriebelde van de vlooiën.
 my back tickled of the fleas
 b. [?]Het duizelde door zijn hoofd van de nieuwe ideeën.
 it reeled through his head of the new ideas
 b'. Zijn hoofd duizelde van de nieuwe ideeën.
 his head reeled of the new ideas
 c. ^{??}Het droop langs zijn gezicht van het zweet.
 it dripped along his face of the sweat
 c'. Zijn gezicht droop van het zweet.
 his face dripped of the sweat

III. Alternations with adverbial PPs

The discussion of subject-PP alternations discussed in the previous subsections probably only scratches the surface of a much broader range of facts. PPs that alternate with nominative phrases may not only be predicative or function as the logical SUBJECT of the clause but may also function as adverbial phrases of various types. The subjects of the adjunct middle constructions in the primed examples in (522) all have a function similar to that of the adverbial phrases in the regular primeless examples; see Section 3.2.2.3 for extensive discussion. Interestingly, the doubly-primed examples show that adjunct middles also have impersonal counterparts.

- (522) a. Els snijdt altijd met dat mes. [instrument]
 Els cuts always with that knife
 a'. Dat mes snijdt lekker/prettig.
 that knife cuts nicely/pleasantly
 'It is nice/pleasant to cut with that knife.'
 a''. Het snijdt lekker/prettig met dat mes.
 it cuts nicely/pleasantly with that knife
 'It is nice/pleasant to cut with that knife.'
- b. Peter rijdt graag op deze stille wegen. [location]
 Peter drives readily on these quiet roads
 'Peter likes to drive on these quiet roads.'
 b'. Deze stille wegen rijden lekker/prettig.
 these quiet roads drive nicely/pleasantly
 'It is nice/pleasant to drive on these quiet roads.'
 b''. Het rijdt lekker prettig op deze stille wegen.
 it drives nicely/pleasantly on these quiet roads
 'It is nice/pleasant to drive on these quiet roads.'
- c. Jan werkt het liefst op rustige middagen. [time]
 Jan works preferably on quiet afternoons
 'Jan prefers to work on quiet afternoons.'
 c'. Rustige middagen werken het prettigst.
 quiet afternoons work the most pleasant
 'It is the most pleasant to work on quiet afternoons.'
 c''. Het werkt het prettigst op rustige middagen.
 it works most.pleasantly on quiet afternoons
 'It is the most pleasant to work on quiet afternoons.'

But it is not only in adjunct middle constructions that we find that adverbial PPs alternate with subjects. Section 2.5.1.3 has shown for instance that object experiencer psych-verbs allow expression of the cause either by means of a *met*-PP or by means of a nominative noun phrase; this is illustrated again in the examples in (523).

- (523) a. De clown_{Causer} amuseerde de kinderen_{Exp} met zijn grapjes_{Cause}.
 the clown amused the children with his jokes
 a'. Zijn grapjes_{Cause} amuseerden de kinderen_{Exp}.
 his jokes amused the children

- b. Jan_{Causer} overtuigde de rechter_{Exp} met dat nieuwe bewijs_{Cause}.
 Jan convinced the judge with that new evidence
- b'. Dat nieuwe bewijs_{Cause} overtuigde de rechter_{Exp}.
 that new evidence convinced the judge

The examples in (524) show that adverbial *met*-PPs exhibit the alternation more generally. We will not attempt to characterize the semantic function of the adverbial phrases and their corresponding subjects, but refer the reader to Levin (1993:ch.3), who does try to do this for similar English examples.

- (524) a. Jan bevestigde de hypothese met een nieuw experiment.
 Jan confirmed the hypothesis with a new experiment
- a'. Het nieuwe experiment bevestigde de hypothese.
 the new experiment confirmed the hypothesis
- b. Het leger bluste de bosbrand met een helikopter.
 the army extinguished the forest.fire with a helicopter
- b'. De helikopter bluste de bosbrand.
 the helicopter extinguished the forest.fire
- c. Jan vult het tochtgat met kranten.
 Jan fills the blow.hole with newspapers
- c'. De kranten vullen het tochtgat.
 the newspapers fill the blow.hole
- d. Marie versierde de kamer met de nieuwe slingers.
 Marie decorated the room with the new streamers
- d'. De nieuwe slingers versierden de kamer.
 the new streamers decorated the room
- e. Jan bedekte de inktvlek met zijn hand.
 Jan covered the inkblot with his hand
- e'. Zijn hand bedekte de inktvlek.
 his hand covered the inkblot

Levin (1993:ch.3) provides a number of other cases with adverbial phrases headed by prepositions other than *met* that are possible in English but give rise to unacceptable or at least very unnatural results in Dutch. We confine ourselves here to just giving a number of typical examples. The alternation exemplified in (525), in which the adverbial phrase/subject refers to natural forces, is often acceptable.

- (525) a. Jan droogde zijn haar in de wind/zon.
 Jan dried his hair in the wind/sun
- b. De wind/zon droogde zijn haar.
 the wind/sun dried his hair

Alternations involving adverbial phrases denoting time, containers, prices, raw materials and sources comparable to the ones given by Levin, on the other hand, give rise to severely degraded results. However, we have to be careful not to jump to conclusions given that, to our knowledge, these kinds of alternations have not yet been investigated thoroughly for Dutch.

- (526) a. De wereld zag het begin van een nieuw tijdperk in het jaar 1492.
 the world saw the begin of a new era in the year 1492
- a'. *Het jaar 1492 zag een nieuw tijdperk.
 the year 1492 saw a new era
- b. Jan incorporeert de kritiek in de nieuwe versie van zijn proefschrift.
 Jan incorporates the critique in the new version of his thesis
- b'. *De nieuwe versie van zijn proefschrift incorporeert de kritiek.
 the new version of his thesis incorporates the critique
- c. Jan kocht een kaartje voor vijf euro.
 Jan bought a ticket for five euros
- c'. *Vijf euro koopt (je) een kaartje.
 five euros buys you a ticket
- d. Hij bakt heerlijke pannenkoeken van dat biologische boekweitmeel.
 he bakes lovely pancakes from that organic buckwheat.flour
- d'. *Dat biologische boekweitmeel bakt heerlijk pannenkoeken.
 that organic buckwheat.flour bakes lovely pancakes
- e. De middeninkomens profiteren van de belastingverlaging.
 the middle.income.earners profit from the tax.reduction
- e'. *De belastingverlaging profiteert de middeninkomens.
 the tax.reduction profits the middle.income.earners

3.4. Some apparent cases of verb frame alternation

Verb frame alternations involve changes in the number and the types of complements selected by the verb. The cases discussed in Section 3.2 are clear cases of verb frame alternations in the intended sense as they involve the demotion, suppression or addition of an external argument by, respectively, passivization, middle formation and causativization. The same thing holds for the NP/PP alternations discussed in Section 3.3, provided that we assume that the PPs in question are selected by the verb. However, Levin (1993) includes a number of cases in her inventory of verb frame alternations for which it is not so clear whether they should indeed be characterized as such (in Dutch at least). Consider the two examples in (527). Pairs like these clearly do not involve verb frame alternations in the sense defined above given that the verb selects two arguments (an agent and a theme) in both cases. Note that coreference is indicated by italics.

- (527) a. Peter ontmoette Jan in het vliegtuig.
 Peter met Jan in the airplane
- b. *Peter en Jan* ontmoetten *elkaar* in het vliegtuig.
 Peter and Jan met each.other in the airplane

Things may be different in the (a)-examples in (528), which Levin refers to as the UNDERSTOOD RECIPROCAL ALTERNATION and which seems to involve the (optional) suppression of the theme argument. It seems implausible, however, that exhibiting this alternation is a general property of verbs with an agent and a theme given that the primed (b)-example seems to be infelicitous without the reciprocal.

- (528) a. Peter kuste Jan.
 Peter kissed Jan
 a'. *Peter en Jan* kussen (*elkaar*).
 Peter and Jan kiss each.other
- b. Peter sloeg Jan.
 Peter hit Jan
 b'. *Peter en Jan* sloegen *(*elkaar*).
 Peter and Jan hit each.other

There must therefore be some other difference between verbs like *kussen* 'to kiss' and *slaan* 'to hit'. The relevant difference seems to be that *kussen* can be combined with a comitative *met*-PP, whereas this is impossible with *slaan*.

- (529) a. Jan kust met Peter.
 Jan kisses with Peter
 'Jan is kissing with Peter.'
 b. Jan slaat (*met) Peter.
 Jan hits with Peter

That this may well be the correct conclusion is strongly suggested by the fact illustrated in (530) that the understood reciprocal alternation is more generally found with verbs allowing a comitative *met*-PP; Levin refers to this case as the RECIPROCAL ALTERNATION.

- (530) a. Jan trouwt vandaag (met Marie).
 Jan marries today with Marie
 'Jan is marrying Marie today.'
 a'. *Jan en Marie* trouwen vandaag (met *elkaar*).
 Jan and Marie marry today with each other
 'Jan and Marie are going to get married today.'
 b. Jan praat (met Marie) over de vakantie.
 Jan talks with Marie about the holiday
 b'. *Jan en Marie* praten (met *elkaar*) over de vakantie.
 Jan and Marie talk with each.other about the holiday

The question as to whether we are dealing with a verb frame alternation now rests on whether the comitative *met*-PP is a complement of the verb; we are only dealing with a verb frame alternation if the answer to the latter question is positive. An argument in favor of a positive answer is that the option of having a comitative *met*-PP clearly depends on the meaning of the transitive verb, but there are also reasons for assuming that the comitative *met*-PP is an °adjunct, just like the instrumental PP *met de bal* 'with the ball' in (531), which does not allow the alternation because it does not have the semantic function of co-agent.

- (531) a. Jan speelde met Peter/met de bal in de tuin.
 Jan played with Peter/with the ball in the garden
 b. Jan en Peter/*de bal speelden in de tuin.
 Jan and Peter/the ball played in the garden

A first reason for assuming that comitative and instrumental *met*-PPs are both adjuncts is that they can readily be omitted without being semantically understood: the sentence *Jan speelde in de tuin* leaves entirely open whether Jan is playing with some other person or with some specific object. The second reason is that they both

behave like VP-adjuncts, which is clear from the fact that example (531a) can be paraphrased by means of the ... *en pronoun doet dat met-PP* clause in (532a), irrespective of the nature of the *met*-phrase. Another reason may be that these *met*-phrases may both precede the adverbial place adverbs in (532b) in neutral (non-contrastive) contexts, whereas PP-complements normally follow adverbial phrases in such cases; note that we used an embedded clause to illustrate this in order to eliminate the intervention of °extraposition. See Sections 2.3.1, sub VII, and 2.3.4, sub I, for more relevant discussion.

- (532) a. Jan speelde in de tuin en hij deed dat met Peter/de bal.
 Jan played in the garden and he did that with Peter/the ball
- b. dat Jan <met Peter/de bal> in de tuin <?met Peter/de bal> speelde.
 that Jan with Peter/the ball in the garden played

If we are to conclude from these facts that the comitative *met-PP* is simply an adjunct, we should also conclude that Levin's understood reciprocal alternation is not a verb frame alternation: we are simply dealing with (pseudo-)intransitive verbs. An additional argument against postulating an understood reciprocal verb frame alternation is that the constructions with and without a reciprocal are not semantically equivalent. This is clear from the fact that there is no implication relation between the primeless and primed examples in (533) whatsoever: the primeless examples simply state that Jan and Peter like to kiss/play in general, without there being an implication that they like to do that together; the primed examples, on the other hand, do express that Jan and Peter like to kiss/play together, but they do not imply they like to do that in general, that is, with other individuals.

- (533) a. Jan en Peter kussen graag.
 Jan and Peter kiss gladly
 'Jan and Peter like to kiss.'
- a'. *Jan en Peter kussen elkaar graag.*
 Jan and Peter kiss each.other gladly
 'Jan and Peter like to kiss each other.'
- b. Jan en Peter spelen graag.
 Jan and Peter play gladly
 'Jan and Peter like to play with each other.'
- b'. *Jan en Peter spelen graag met elkaar.*
 Jan and Peter play gladly with each.other
 'Jan and Peter like to play with each other.'

The conclusion that there is no (understood) reciprocal verb frame alternation holds not only for the cases above with a comitative *met-PP* but also for other syntactic configurations in which a noun phrase may bind a reciprocal. This holds especially for resultative constructions such as (534), in which the °logical SUBJECT of the predicative PP can act as the antecedent of a reciprocal embedded in the PP.

- (534) a. Marie legde de brieven bij de enveloppen.
 Marie put the letters with the envelopes
 ‘Marie put the letters with the envelopes.’
- a'. Marie legde *de brieven en de enveloppen* bij *elkaar*.
 Marie put the letters and the envelopes with each other
 ‘Marie put the letters and the envelopes together.’
- b. De auto botste tegen de bus.
 the car collided with the bus
 ‘The car collided with the bus.’
- b'. *De auto en de bus* botsten tegen *elkaar*.
 the car and the bus collided with each.other
 ‘The car and the bus collided.’

The examples in (535) show that the reciprocal construction is also semantically different from the non-reciprocal construction in this case. The primed examples are only possible if the primeless examples are symmetrical in the sense that they allow the two noun phrases to change places: cf. *Marie legde de enveloppen bij de brieven* ‘Marie put the envelopes with the letters’ versus ^{\$}*Marie legde de voordeur bij de brieven* ‘Marie put the front door with the letters’. This shows clearly that the alternation is determined by the nature of the noun phrases rather than that of the verb.

- (535) a. Marie legde de brieven bij de voordeur.
 Marie put the letters near the front.door
 ‘Marie put the letters near the front door.’
- a'. *Marie legde *de brieven en de voordeur* bij *elkaar*.
 Marie put the letters and the front.door near each other
- b. De auto botste tegen het hek.
 the car collided with the fence
 ‘The car collided with the fence.’
- b'. **De auto en het hek* botsten tegen *elkaar*.
 the car and the fence collided with each.other
 ‘*The car and the fence collided.’

Similar objections can be raised to other cases that Levin collects under the general denominator of reciprocal alternation like the *samen*-alternation in (536). Given that the particle *samen* ‘together’ in (536a’&b’) may precede the adverbial phrase and the PP-complement, it is clearly not a verbal particle selected by the verb, and consequently we may safely conclude that we are not dealing with a verb frame alternation. Similarly, it seems that in the (c)-examples the PP and *samen* have the same syntactic function, viz. that of °complementive, and it is therefore again not justified to consider this a case of verb frame alternation.

- (536) a. dat *Jan en Peter* met *elkaar* in de tuin spelen.
 that Jan and Peter with each.other in the garden play
- a'. dat Jan en Peter samen in de tuin spelen.
 that Jan and Peter together in the garden play
- b. dat *Peter en Jan* met *elkaar* aan een boek werken.
 that Peter and Jan with each.other on a book work
- b'. dat Peter en Jan samen aan een boek werken.
 that Peter and Jan together on a book work
- c. dat *Jan de boter en het meel* bij *elkaar* voegt.
 that Jan the butter and the flour with each.other puts
- c'. dat Jan de boter en het meel samen voegt.
 that Jan the butter and the flour together puts

This section has discussed a number of systematic alternations and considered the question as to whether we are dealing with verb frame alternations in the restricted sense defined earlier, that is, as changes in the number and the types of complements selected by the verb. We concluded that this is not the case for the alternations discussed here, which implies that such alternations are not interesting from a syntactic point of view (which of course leaves open that they may be interesting from, e.g., a semantic point of view).

3.5. Bibliographical notes

This chapter has profited much from the seminal work on verb alternations in Levin (1993), and Levin & Rappaport (1995), as well as the research survey in Levin & Rappaport (2005). Although there is a great deal of (older and newer) work on incidental cases of verb alternations like passive, dative shift, and, to a lesser extent, middle formation, similar reference works are not available for Dutch, although Van Hout (1996:ch.2) provides an overview of a number of common cases.

Syntax of Dutch will include the following volumes:

Nouns and Noun Phrases (volume 1): Hans Broekhuis & Evelien Keizer	[appeared in 2012]
Nouns and Noun Phrases (volume 2): Hans Broekhuis & Marcel den Dikken	[appeared in 2012]
Adjectives and Adjective Phrase Hans Broekhuis	[appeared in 2013]
Adpositions and Adpositional Phrases Hans Broekhuis	[appeared in 2013]
Verbs and Verb Phrases (volume 1) Hans Broekhuis, Norbert Corver & Riet Vos	[this volume]
Verbs and Verb Phrases (volume 2) Hans Broekhuis & Norbert Corver	[appears simultaneously with this volume]
Verbs and Verb Phrases (volume 3) Hans Broekhuis & Norbert Corver	[to appear in 2016]

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With the rapid development of linguistic theory, the art of grammar writing has changed. Modern research on grammatical structures has tended to uncover many constructions, many in depth properties, many insights that are generally not found in the type of grammar books that are used in schools and in fields related to linguistics. The new factual and analytical body of knowledge that is being built up for many languages is, unfortunately, often buried in articles and books that concentrate on theoretical issues and are, therefore, not available in a systematized way. The *Comprehensive Grammar Resources* (CGR) series intends to make up for this lacuna by publishing extensive grammars that are solidly based on recent theoretical and empirical advances. They intend to present the facts as completely as possible and in a way that will “speak” to modern linguists but will also and increasingly become a new type of grammatical resource for the semi- and non-specialist.

Such grammar works are, of necessity, quite voluminous. And compiling them is a huge task. Furthermore, no grammar can ever be complete. Instead new subdomains can always come under scientific scrutiny and lead to additional volumes. We therefore intend to build up these grammars incrementally, volume by volume.

The *Syntax of Dutch* already resulted in 6 volumes covering the noun phrase, the prepositional phrase, the adjective phrase, and a substantial part of the verb phrase, but other projects are also under way. In Hungary, a research group is working on a grammar of Hungarian. In Beijing efforts are being undertaken to set up a project to produce a Grammar of Mandarin, and plans for other languages are also being drawn up.

In view of the encyclopaedic nature of grammars, and in view of the size of the works, adequate search facilities must be provided in the form of good indices and extensive cross-referencing. Furthermore, frequent updating of such resources is imperative. The best way to achieve these goals is by making the grammar resources available in electronic format on a dedicated platform. Following current trends, the works will therefore appear in dual mode: as open access objects freely perusable by anyone interested, and as hard copy volumes to cater to those who cherish holding a real book in their hands. The scientific quality of these grammar resources will be jointly guaranteed by the series editors Henk van Riemsdijk and István Kenesei and the publishing house Amsterdam University Press.