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Semra Kızılkaya

AFFECTEDNESS AT THE MORPHOSYNTAX-SEMANTICS INTERFACE

EVIDENCE FROM DIFFERENTIAL OBJECT MARKING

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Preface

This monograph investigates the semantic and morphosyntactic representation of the notion of affectedness in transitive predicates. Its focus lies on the question of how a participant which undergoes change is realized differently from one which does not undergo change. To provide answers to this question, three substantive steps are taken. The first one concerns a survey of current research on affectedness, which brings together important aspects of meaning and structure noted in the literature. The second one investigates the empirical desideratum of how affectedness shapes optional accusative marking patterns of direct objects. In this regard, Differential Object Marking in Turkish is studied. I provide a first in-depth investigation of how change-related properties like undergoing a change, functioning as a path to change, and resultativity determine the presence or absence of morphological accusative case. In doing so, I carefully distinguish these event semantic notions from nominal semantic ones like specificity and animacy. The observations show that affectedness, i.e., undergoing a change, is the crucial event semantic characteristic that systematically evokes morphological accusative marking on direct objects. On a theoretical level, I model this relation in a semantically motivated structural account of affectedness which builds on the model of lexical syntactic structure developed by Ramchand (2008). In a third step, the interplay between agentivity and affectedness is investigated, in particular how different properties of the agent interact with the morphosyntactic representation of the affected participant. I point out a cross-linguistically valid link between a decrease in agentivity and grammatically more prominent realizations of the affected participant, providing new empirical data for this correlation from Turkish. The original contribution of this work concerns different levels. Against the background of solid connections between event structure and accusative case, the monograph articulates a first link between affectedness in the lexical syntactic structure proposed by Ramchand (2008) and differential accusative case marking of direct objects. Furthermore, it investigates in detail the interaction of the verbal semantic property of affectedness with nominal semantic properties like referentiality and animacy. By bringing together various aspects of affectedness, which are mostly discussed separately in the literature, it presents a broad empirical and theoretical picture of this important notion at the morphosyntax-semantics interface.

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Contents

Abbreviations

The glosses conform to the Leipzig Glossing Rules as closely as possible.

1	1st person
2	2nd person
3	3rd person
Ø	zero
ABS	absolutive
ABL	ablative
ABIL	abilitative
ACC	accusative
ADESS	adessive
AGR	agreement
ANTIC	anticausative
AOR	aorist
CAUS	causative
CLF	classifier
CMPM	compound marker
COMPL	completive
COP	copula
DAT	dative
DEF	definite
DE	'de' particle (Mandarin)
DOM	differential object marker
F	feminine
GM	generalizing modality
ERG	ergative
EVID	evidential
GEN	genitive
INF	infinitive
IPFV	imperfective
LOC	locative
M	masculine
NEG	negative
NOM	nominative
OBL	oblique
PART	partitive
PASS	passive
PL	plural
PN	personal name
PRF	perfect

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PROG	progressive
PRES	present
PST	past
Q	question marker
SG	singular

1 Introduction

1.1 Research goals

This monograph investigates the semantic and morphosyntactic representation of the notion of affectedness in transitive predicates, particularly in relation to optional accusative marking patterns of direct objects. Affectedness is a semantic notion that refers to the change a participant undergoes in an event. For an illustration, compare the events in (1)a and (1)b. The verb *break* in (1)a takes an affected direct object. It lexically entails that the participant *a vase*, which is expressed as direct object, undergoes a change of state through the event. In contrast, the verb *see* takes a non-affected direct object, meaning that no change of any kind is encoded for the direct object participant. Verbs like *break* that encode a changing property predication over an individual are referred to as dynamic predicates, while *see*-type verbs which encode a non-changing property predication over an individual are referred to as stative predicates (Levin and Rappaport Hovav 2005: 88; Ramchand 2017: 6). As such, affectedness is related to one of the most basic distinctions between different kinds of verbal predicates.

(1) a. Alex broke a vase.
b. Alex saw a vase.

Specifically, in this monograph, I examine the syntactic and semantic structure of predicates that encode change and the question of how a participant which undergoes change is realized differently from one which does not undergo change. The predicates in (1)a and (1)b, for instance, differ from each other in various respects. To name a few, only the affected direct object allows for secondary resultative predication and can undergo NP/DP preposing to occur in the middle voice. Furthermore, only the transitive predicate, which is dynamic, has an anticausative alternation with the affected participant as subject. These contrasts are illustrated in (2) and (3).

(2)	a.	Alex broke the vase into a hundred pieces.	resultative predication
	b.	This vase breaks easily.	middle voice
	c.	The vase broke.	anticausative alternation

(3)	a.	*Alex saw the vase red.	resultative predication
	b.	*This vase sees easily.	middle voice
	c.	*The vase saw.	anticausative alternation

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Cross-linguistically, the notion of affectedness plays an important role in a great variety of syntactic phenomena, and has been established as a crucial pivot between predicate meaning and argument realization. Together with agentivity, it is seen as one of the two core poles of a transitive event, and has been characterized from diverse perspectives in different frameworks. In spite of its broad relevance, it is seldom the object of study itself. Often it is rather intuitively defined or put aside as a notion that is hard to capture. In the course of this work, I aim to contribute to a better understanding of affectedness and its morphosyntactic and semantic representation in three ways.

The *first* goal of this book is to provide an adequate descriptive basis for the investigation of affectedness in transitive predicates. In doing so, the monograph brings together important aspects of meaning and structure that have been associated with affectedness in the functional typological, formal semantic, and syntactic literature. Core insights include the necessity to differentiate on a theoretical level the argument that is the undergoer of change from a scale or path argument that measures out the change denoted by the predicate. With the introduction of a scalar argument, I first discuss the conceptualization of affectedness as a matter of degree in the semantic literature (Beavers 2011a), and then associate semantic properties with a structural representation. In doing so, I use the lexical syntactic structure developed by Ramchand (2008). Her first phase syntax builds on the notions of causation, change, and resultativity, and associates affected arguments with a designated syntactic position which is distinct from and hierarchically higher than those of path arguments. In reviewing the literature on affectedness, we will see that the most important link that has been drawn for this notion at the morphosyntax-semantics interface is its relation to direct objecthood and accusative case. Being affected by the action denoted by the verb has repeatedly been postulated as a defining property of direct objecthood, and recognized cross-linguistically in theories on argument selection (Dowty 1991; Primus 1999a).

However, while the link between affectedness and the grammatical role of the direct object is quite well established, there are few works systematically investigating the role of affectedness in optional accusative marking patterns of direct objects. Therefore, as a *second* goal, this book seeks to contribute from both a theoretical and an empirical perspective to the debate on how affectedness shapes the distribution of Differential Object Marking (DOM). DOM is a typologically common phenomenon where direct objects are optionally case marked depending on semantic, pragmatic, and syntactic factors (Bossong 1985; Aissen 2003). Take, as an example, the minimal pairs from Turkish in (4)–(5). In Turkish, indefinite direct objects in preverbal position can optionally be accusative marked, which is most prominently argued to depend on specificity (Enç 1991). The accusative marked indefinite in (4) a signals a specific interpretation of the noun phrase, while the unmarked version

in (4)b is ambiguous between a specific and a non-specific interpretation. Interestingly, affectedness restricts this optionality by evoking a strong preference for accusative marking on direct objects, as shown in (5). Such an impact of affectedness on the distribution has gone unnoticed in Turkish, but it has been claimed for the synchronic and diachronic distribution of DOM in various unrelated languages (Torrego 1998, 1999; von Heusinger and Kaiser 2011; Riaño Rufilanchas 2014; Witzlack-Makarevich and Seržant 2018: 14–16; Engsheden 2018 inter alia).

(4) a. Deniz bir kız-**ı** gör-dü.
PN a girl-ACC see-PST
'Deniz saw a certain girl.'
b. Deniz bir kız gör-dü.
PN a girl see-PST
'Deniz saw a girl.'

(5) a. Deniz bir kız-**ı** mahvet-ti.
PN a girl-ACC ruin-PST
'Deniz ruined a girl.'
b. *Deniz bir kız mahvet-ti.
PN a girl ruin-PST
'Deniz ruined a girl.'

In this work, I provide an in-depth investigation of how affectedness determines the presence or absence of morphological accusative case in Turkish. We will see that accusative marking is systematically evoked by affectedness encoded on different dimensions along which the direct object changes, such as a change of physical or mental state, a change of location, a change of existence, or the like. On the other hand, direct objects expressing a path to change, and those for which no change is denoted, are unmarked for verbal semantic properties but can be optionally marked for referential properties. These observations are empirically supported by a forced choice study investigating accusative marking choices with affected and non-affected direct objects of different animacy levels in the context of telic and atelic predicates. The findings show that affectedness is the crucial verbal semantic parameter enhancing the likelihood of overt accusative marking. On a theoretical level, the observations are modeled in a semantically motivated structural representation of affectedness as proposed in the lexical syntactic structure developed by Ramchand (2008). I represent affectedness in an extended syntactic structure which represents the complex event. Specifically, I associate affected direct objects with a designated syntactic position in the event domain of the clause, namely the UNDERGOER position. This is a specifier position that is distinct from the position of

PATHS or direct objects of non-dynamic verbs which occupy a complement position. I argue that direct objects which are UNDERGOERS move to a position above existential closure where they are accusative marked by a functional head. The decision to adopt a structural framework is partly motivated by the fact that some of the direct objects for which the same semantic entailment of affectedness holds behave differently in structural terms. A case in point is the divergent case marking pattern with typical change of state verbs like *break*, *burn*, and *destroy,* which favor accusative marking, and incremental theme verbs like *eat*, *drink,* and *read*, which do not favor accusative marking. This, I argue, is due to the fact that incremental themes, structurally, are not UNDERGOERS of change but PATHS to change. Furthermore, a crucial distinction between the two groups of verbs concerns the agent. While change of state verbs are compatible with inanimate causes as subject, incremental theme verbs usually take human agents which determine the starting point and endpoint of the event and can at the same time also be characterized as affected by virtue of their role as physical or psychological consumers.

As a *third* goal pursued in this work, I investigate the interrelation between agentivity and affectedness, in particular how different properties of the agent interact with entailments about event culmination and the morphosyntactic representation of the affected participant. Regarding this issue, there are different positions in the literature. While some authors argue that agentivity and affectedness are two independent poles of a transitive event, others suggest a direct correlation between the two notions, such that an increase in the agentivity of one participant would lead to an increase in the affectedness of another participant. I propose that the interplay between the two notions depends on verb class. With verbs that encode a potential change for an event participant, like contact verbs, there can be a dependency relation between agentivity and affectedness, such that a subject high in agentivity can make affected readings of the object available. In contrast, with verbs that lexically entail a change in the direct object, the same dependency relation does not hold. On the contrary, subjects high in agentivity allow for a denial of the change of state in the direct object, while subjects low in agentivity give rise to completive readings. The sentences from French in (6) illustrate a cross-linguistic correlation between agentivity on the part of the subject and non-culminating readings of the change encoded for the direct object (Martin 2015: 248). With agentive subject referents, the change of state in the direct object can felicitously be denied, as in (6)a, while the same is not possible with non-agentive, causer subjects, as in (6)b.

(6) a. Ils l'ont réparé mais ça ne fonctionne toujoures pas.
they it=have repaired but this NEG works still NEG
'They have repaired it but it still does not work.'

b. Le choc l'a réparé #mais ça ne marche toujoures pas.
The shock it=has repaired but this NEG works still NEG
'The shock has repaired it #but it still doesn't work.'

A similar contrast is observable with affected inanimate direct objects in Turkish. With agentive subject referents and stereotypical object-verb combinations, it is possible to drop DOM, and the change of state in the UNDERGOER can felicitously be denied. With non-agentive subject referents, DOM is obligatory, and the change of state in the UNDERGOER cannot be denied.

(7) a. Temizlikçi bir havlu(-**yu**) kuru-t-tu, ama kuru-ma-dı.
housekeeper a towel-ACC dry-CAUS-PST but dry-NEG-PST
'The housekeeper dried a towel, but it didn't dry.'
b. Isı bir havlu*(-**yu**) kuru-t-tu, #ama kuru-ma-dı.
heat a towel-ACC dry-CAUS-PST but dry-NEG-PST
'The heat dried a towel, #but it didn't dry.'

I argue that human agentive subjects differ from most inanimate causer subjects in that they are not only initiators of the change of state in the direct object, but by default they are continuous controllers and experiencers of the change of state event. As such, both the agent subject and affected direct object participants exhibit dynamicity. In this scenario, the direct object can be modificationally involved as a descriptor of the dynamic action pursued by the agent referent, or it can be predicationally involved as a holder of the change of state event. When it is involved as a descriptor of the dynamic action of the agent referent, the change of state in the direct object can be denied, and it can remain unmarked for case. When it is involved as a holder of the change of state, a denial of the change of state is not possible, and it gets marked for accusative case. Inanimate causes as subjects, in contrast, are only related to the initiation of the change in the direct object. They cannot control the change of state event. With them, the direct object is always involved predicationally. It has to be accusative marked and a denial of the change of state is infelicitous.

As becomes clear, I have chosen to focus solely on investigating affectedness in transitive constructions, in particular with respect to the phenomenon of DOM in Turkish. While this decision sets apart other grammatical aspects related to affectedness, like unaccusativity, diathesis, auxiliary selection, or the role of affectedness in intransitive constructions (Rosen 1981; Burzio 1986; Grimshaw 1987; Perlmutter 1989; Levin and Rappaport Hovav 1995; Sorace 2000), it has several advantages. First of all, by focusing on direct objects in transitive constructions, we can delve deeper into the role of affectedness in the context of a clear agent-patient relation-

ship. This becomes especially important for the third goal laid out above. Secondly, the reason for investigating affectedness with indefinite direct objects stems from the fact that the morphological implications of affectedness for optional accusative marking may only be visible with indefinites. It is well known that indefinites show a polyvalent behavior, for instance with regard to their scopal properties and different interpretations in terms of referentiality, which have been associated with different positions in the functional hierarchy (Diesing 1992; von Heusinger 2011; López 2012). In the further course of this book, I will argue that affectedness-related observations in the optional accusative marking behavior of indefinite direct objects can be associated with movement outside of the verbal domain. Thus, the impact of affectedness on DOM may be visible predominantly in languages which exhibit optional case marking with indefinite objects. Last but not least, studying affectedness and DOM with indefinite direct objects in Turkish also has broader implications for cross-linguistic research. In this regard, the observations made in this monograph can help uncover general patterns and principles that may apply to other languages as well, and ultimately allow for a deeper understanding of the universality and variation of the effects of affectedness on the morphological accusative marking patterns of direct objects.

Altogether, this monograph tackles various perspectives on affectedness which are seldom discussed together. It not only points out the role of affectedness for the grammatical function of direct objecthood, as in most of the previous research, but also investigates affectedness in relation to different morphological marking patterns of direct objects. In addition, it addresses the question of how properties of the agent interact with the grammatical realization of the affected direct object and with entailments about change and culmination in the event. These observations are based on theoretical and empirical grounds and provide a broad perspective on affectedness.

1.2 Data and terminology

The data in this monograph is largely derived from Turkish, and in part from English, German, and Spanish. Selected examples also come from other typologically diverse languages. The main phenomena investigated in order to understand the morphosyntactic manifestation of affectedness have cross-linguistic relevance. Differential Object Marking is a typologically common marking system in languages which exhibit object marking (Sinnemäki 2014). The correlation between weak agentivity and completive interpretations of the change event discussed in the latter part of the monograph is likewise one that has been observed across languages (Fauconnier 2012; Martin 2015). Contact verbs, to which I make reference

throughout the book, are also well-known to show variation in argument realization (Levin 1993; Lundquist and Ramchand 2012). While cross-linguistic phenomena have different instantiations in different languages, an in-depth, language-specific investigation can lead the way to overarching questions on the morphosyntax of affectedness.

Since most of the data comes from nominative-accusative languages, I refer to the grammatical roles of the two syntactically obligatory arguments of a transitive clause as subject and direct object. Non-obligatory second arguments of extended intransitives are referred to as obliques. Following Hopper and Thompson (1980), I use the notions of A and O on a semantic level of description to refer to the participants in a two-participant clause, irrespective of their grammatical encoding. A refers to the most agent-like participant, whereas O refers to the non-agent participant. The term agent itself is used in the spirit of the work of Dowty (1991) and Primus (1999a,b) as a semantic role prototype generalizing over notions like causation, control (or volition), sentience, autonomous motion, and independent existence. Since I am interested in the particular semantics of O participants and their relation to change, I mostly prefer not to use a cover term like *patient* (which is introduced together with the term *agent* in Section 2.3.1), but to differentiate for specific thematic properties. A participant that undergoes change due to the event is referred to as UNDERGOER. The semantic tests to probe for such a participant are introduced in detail in Section 2.1.1. They include the felicitous paraphrasing with *What happened to X is Y* (Cruse 1973: 13). This is shown for the O participant in (8), which is an UNDERGOER of change. The O participant in (9) is not an UNDERGOER of change and hence not felicitous with the *What happened to X is Y* paraphrase.

(8) a. Kim broke the vase.
b. What happened to the vase is Kim broke it.

(9) a. Kim saw the vase.
b. #What happened to the vase is Kim saw it.

Another important notion is that of PATH. A PATH participant can be homomorphically mapped to the temporal structure of the event, and functions as a measure of its progress. This is probed for by the possibility to equate half of the event (*V X halfway*) with half of the PATH participant (*V half of X*; Tenny 1992: 19; see (10)b–c). This notion is discussed in greater detail in Section 2.1.4.

(10) a. Kim drew a circle.
b. Kim drew a circle halfway.
c. Kim drew half of a circle.

The notions of PATH and UNDERGOER can also be subsumed within one and the same participant, as shown for the O of *destroy* in (11).

(11) a. Kim destroyed a building.
b. What happened to the building is Kim destroyed it.
c. Kim destroyed a building halfway.
d. Kim destroyed half of a building.

The grammaticality judgements which concern the English and Turkish examples in the theoretical parts of the monograph are my own if not cited as originating elsewhere. With regard to English, they follow repeatedly postulated claims in the linguistic literature on affectedness. With regard to Turkish, they follow my own intuitions, which are checked in the Turkish web corpus *Turkish Web 2012* (trTenTen12, 3.388.418.900 token) provided by the online corpus tool *Sketch Engine* (Kilgarriff et al. 2014). Crucially, most of the claims brought forward in the theoretical parts are tested and confirmed in the empirical parts of the monograph. These comprise two forced choice studies testing, amongst other things, for affectedness-related proposals, as well as those regarding the interplay between properties of agents and the realization of affected objects. Two associated pretests probed for semantic entailments related to affectedness and telicity. The particular methodology pursued, including the statistical analysis of the data, is described in the relevant empirical parts in Chapter 5, and in Section 6.4.

1.3 Structure of the book

The structure of the book follows the research goals that I have outlined. Chapter 2 deals with important aspects of meaning and structure associated with affectedness. It provides empirical diagnostics for the expression of change by means of the verbal predicate and differentiates the argument that is the UNDERGOER of change from a scale or PATH argument that measures out the change predicated of the UNDERGOER. It presents a scalar semantic definition of affectedness with four degrees that are based on monotonically weakening truth conditions. At its core, it addresses the question of how affectedness is mapped onto direct object selection and discusses in detail approaches building on generalized semantic roles and the lexical syntactic structure of an extended verbal projection.

Chapter 3 introduces the role of affectedness for DOM and singles out the relevant shortcomings in the literature that serve as a basis for the research questions to be investigated in the course of the monograph.

Chapter 4 takes on the question of how affectedness shapes DOM in Turkish. Since DOM is a multifactorial phenomenon, the chapter first discusses the nominal semantic factors involved in Turkish DOM, particularly specificity but also animacy. This enables us to then single out the successful role that affectedness plays in the distribution. I show that on a verbal semantic level, affectedness evokes DOM, while PATH objects by default stay unmarked because of their semantic role. Moreover, I distinguish between affectedness and telicity, and argue that telic predicates do not favor DOM per se. The effect of telicity on a morphological realization of the direct object with case is rather a secondary effect of affectedness. In this chapter, I also propose a structural representation of affected direct objects and model their case assignment.

Chapter 5 is an empirical investigation of the main claims brought forward with regard to the role of affectedness in DOM. I report on a forced choice study investigating accusative marking choices with affected and non-affected direct objects from different animacy levels in the context of telic and atelic predicates. Prior to the study, two pretests probed for the entailments of affectedness and telicity of the items tested. The findings of the forced choice study provide original empirical evidence supporting the argument that affectedness is an independent event semantic notion driving a morphologically case marked realization of direct objects in Turkish. They also confirm that an effect of telicity is dependent on affectedness. For animacy, which was included as a factor possibly mediating the impact of affectedness, the results indicate that it favors DOM independently of affectedness.

Chapter 6 is concerned with the interplay between agentivity and affectedness. It addresses the question of how properties of the agent interact with the grammatical realization of the UNDERGOER and with entailments about change and culmination. I explicate a solid cross-linguistic correlation between non-controlling agents and a more prominent grammatical realization of the UNDERGOER. This is reflected by the rise of completive interpretations of the UNDERGOER and the non-deniability of the change expressed for the direct object with non-controlling agents as instigators. I provide new empirical data from Turkish DOM which confirm such an interplay between agentivity and affectedness and underline the theoretical proposal. Building on prior work in the literature, I argue that a decrease in agentivity shifts the emphasis of the event towards the UNDERGOER participant.

Finally, in Chapter 7, I summarize the general conclusions to be drawn from the work undertaken in the course of this monograph.

2 Defining affectedness

2.1 Introduction

Affectedness is a semantic notion that refers to the entailment of a changing property for a participant due to an event. Compare the affected direct object in (12)a to the non-affected one in (12)b. Only in (12)a, but not in (12)b, does the direct object undergo a change of state as a result of the event.

(12) a. Alex broke a vase.
b. Alex saw a vase.

The notion of affectedness is involved in a great variety of syntactic phenomena cross-linguistically, and has been established as a crucial pivot between predicate meaning and argument realization. As such, it has been characterized from diverse perspectives in different frameworks. Perhaps the most important link that has been drawn regarding its relevance for the morphosyntax-semantics interface is the one to direct objecthood and accusative case (see, among others, Hopper and Thompson 1980; Tsunoda 1981, 1985; Blume 1998; Næss 2004, 2007; Malchukov 2005 for transitivity; Fillmore 1968, 1970, 1977; Jackendoff 1990; Dowty 1991; Primus 1999a; Ackerman and Moore 2001; Beavers 2006 for direct objecthood; Dede 1981; Kiparsky 1998; Kratzer 2004; Çetinoğlu and Butt 2008 for accusative case). Being affected by the action denoted by the verb has repeatedly been postulated as a defining property of direct objecthood and as being involved cross-linguistically in direct object selection in two-place predicates (Dowty 1991). In recent literature, affectedness is also noted as predicting differential case marking patterns in languages with Differential Object Marking (Torrego 1998, 1999; Næss 2004, 2007; von Heusinger and Kaiser 2005, 2011; Riaño Rufilanchas 2014; Engsheden 2018; García García 2018; Romero Heredero 2020; Kizilkaya et al. 2022). While there is increasing interest in affectedness and different morphological realizations of direct objects, the role of affectedness therein is also disputed and is far from being as well researched as for direct object selection. In the course of this chapter, we will bring together major insights on affectedness as a semantic notion and its relation to the underlying event decompositions that are mapped onto the direct object function. We will then formulate the open issues and research questions with regard to the role of affectedness in differential accusative marking patterns.

Although the focus of this monograph is on the effects of affectedness in relation to direct objects and differential marking patterns, it is important to acknowledge the wider grammatical implications of this notion. Affectedness has been implicated

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in the distinction between two subclasses of intransitive verbs with different morphosyntactic behavior, namely unaccusative verbs and unergative verbs (Grimshaw 1987; Perlmutter 1989; Levin and Rappaport Hovav 1995). The subject of an unaccusative verb is a direct internal argument with patient-like properties, i.e., undergoing some kind of change of state, as in (13)a, whereas the subject of an unergative verb is an external argument with agent-like properties, as illustrated in (13)b.

(13) a. The butter melted.
b. Alex danced.

This distinction has been shown to have cross-linguistic relevance to auxiliary selection. The property of undergoing telic change expressed in unaccusative verbs has been argued to correlate with the BE auxiliary, while non-affected agentive properties expressed in unergative verbs have been argued to correlate with the HAVE auxiliary (Burzio 1986; Rosen 1981; Sorace 2000). Furthermore, there is a long line of research on affectedness in the context of possession (Havers 1911; Lee-Schoenfeld 2012) and the recipient role (Primus 1999a; Primus 2012).

Many unaccusative verbs exhibit a causative alternation which will be discussed in the course of the book. The internal causative semantics involved in the transitive variants of some of these verbs is reflected by causative morphology in Turkish. Since this monograph seeks to investigate affectedness mainly from the perspective of the Differential Object Marking found with indefinite direct objects in transitive alignments, the grammatical behavior of intransitive verbs related to affectedness will not be further considered.

Against the background of a multitude of syntactic phenomena to which affectedness has been related, the greatest puzzle is to find an adequate definition – one that stands on solid semantic ground and at the same time has the power to predict argument relations. In fact, the question of how to define affectedness and conceptualize change touches upon the very fundamental question of how to conceptualize events and event types. Therefore, the answer to this question is often found in work dealing with predicate meaning and its representation in argument structure in general, such as work on the aspectual composition of events and lexical semantics (Vendler 1957; Davidson 1967; Verkuyl 1972; Dowty 1979; Jackendoff 1990; Tenny 1992, 1994; Krifka 1998; Hay et al. 1999; Levin and Rappaport Hovav 2005; Rappaport Hovav et al. 2010), or on the syntactic decomposition of verb meaning (Hale and Keyser 1993; Borer 2005; Ramchand 2008; Travis 2010 inter alia).

This chapter explores important aspects of meaning and structure associated with affectedness, and is organized as follows. The first section is dedicated to understanding what the notion of affectedness is, how it can be empirically tested, and what aspects of meaning have to be included in a model of affectedness.

Amongst other things, it will point out the necessity of differentiating the argument that is the UNDERGOER of change from a scale or PATH argument that measures out the change predicated of the UNDERGOER (2.1). With the introduction of a scalar argument, the second section will deal with the conceptualization of affectedness as graded, which was originally brought forward in the functional typological literature but has really been formulated as a scalar approach to change in the formal semantic literature (2.2). The third section mainly addresses the question of how affectedness is mapped onto direct object selection and, in particular, what the position of affected arguments is in the syntactic decomposition of verbal meaning (2.3). Finally, we will review the relationship between affectedness and direct object realization in terms of Differential Object Marking and formulate the research questions that will be investigated later in the monograph (3).

2.1.1 Change and empirical tests

Affectedness is usually conceived of as a new state ψ which is obtained for some event participant x as a result of the action denoted by the dynamic predicate φ and which did not hold before (Dowty 1979: 140–144; Kratzer 2000; Beavers 2011a: 338). As change is dependent on some source of energy, it is only found in dynamic predicates, meaning those predicates that require a continuous input of energy, also called a force (Comrie 1976: 49; Smith 1991: 228; Copley and Harley 2015: 104). Take, as an example, the sentences in (14), which all encode some sort of affectedness or potential for affectedness for their objects, and contrast with those in (15), where no change is denoted for the O participant. The object in (14)a undergoes a change of state and the one in (14)b a change of location as a result of the actions denoted by the respective verbs. The new state ψ that is obtained can be described as a state of brokenness in (14)a and as a new location in (14)b. Objects of contact verbs like *hit* or *hammer* are recipients of a force that does not obligatorily result in change. However, these verbs exhibit the potential for change, which can be explicitly realized by resultative predication, in this case the adjective *flat*; see (14)c. In comparison, the objects in (15) are not force recipients and do not undergo change due the predicate meaning expressed by *see* or *know*.

(14) a. Alex broke the vase.
b. Alex pushed the cart.
c. Alex hammered the metal (flat).

(15) a. Alex saw the vase.
b. Alex knows the professor.

Whether an event participant undergoes some kind of change can be probed for by linguistic tests. The best-known linguistic test for affectedness is the ***What happened to X is Y* paraphrase**, which was first introduced by Cruse (1973: 13) in distinguishing agents from patients (Jackendoff 1990: 125–130; Beavers 2011a: 339–341).[1] This paraphrase picks out event participants that undergo change or have some potential for change as a result of an action denoted by a verb (Rappaport Hovav and Levin 2001: 786–787). The examples in (16)a–b illustrate that the participants undergoing a change of state or location from (14)a–b can be felicitously paraphrased via *What happened to X is Y.* Furthermore, the participant in (14)c is also compatible with the paraphrase, in both its impinged (16)c and affected (16)d interpretations. In comparison, the predicates in (15) are infelicitous with the *What happened to X is Y* paraphrase; see (17).

(16) a. What happened to the vase is Alex broke it.
b. What happened to the cart is Alex pushed it.
c. What happened to the metal is Alex hammered it.
d. What happened to the metal is Alex hammered it flat.

(17) a. #What happened to the vase is Alex saw it.
b. #What happened to the professor is Alex knows him.

Another test for affectedness is **resultative predication**. Event participants that undergo change or have the potential to do so exhibit the ability to combine with secondary resultative predication. The examples below show that all of the predicates in (14) allow result XPs for their force recipients (see (18)), while the same is not the case with the predicates in (15) (see (19)).

(18) a. Alex broke the vase into pieces.
b. Alex pushed the cart into the lake.
c. Alex hammered the metal flat.

1 The *What happened to X is Y* paraphrase is an affectedness diagnostic and generally not acceptable with agents, as in (1a), which are conversely picked out by the *What X did* paraphrase (1b). However, Cruse (1973: 18) notes that this paraphrase sometimes becomes felicitous with agents lacking volition, as can be illustrated in (1c–d). Such event participants constitute what Jackendoff (1992: 294) labels "discourse patients". They are not affected by virtue of the lexical semantics of the verb, but are considered *affected* due to some surrounding context.

(1) a. #What happened to John is he moved the table.
b. What John did is he moved the table.
c. What happened to John is he broke the vase.
d. What happened to Bill is he received this letter that said his girlfriend broke up with him.

(19) a. #Alex saw the vase red.
b. #Alex knows the professor tall.

A further semantic test that probes for an affected participant is **entailment** of change, which was introduced by Beavers (2011a: 341–342, 359). This test can be directly derived from the definition of change as a new target state ψ coming about for a participant x due to the predicate φ, which carries the implication that *φ, but not ψ* should be a contradiction. The examples in (20)a–b show that the entailment test picks out affected participants. The test is not felicitous with non-affected participants, including impinged force recipients that only potentially undergo some kind of change, as illustrated in (20)c and (21). Note also that the *φ, but not ψ* frame varies depending on the dimension of change that is dealt with. Change of state predicates are incompatible with *φ, but nothing is different about x* (20)a, while motion predicates are incompatible with *φ, but x is not somewhere else* (20)b.

(20) a. Alex broke the vase #but nothing is different about it.
b. Alex pushed the cart #but it is not somewhere else.
c. Alex hammered the metal but nothing is different about it.

(21) a. Alex saw the painting but nothing is different about it.
b. Alex knows the professor but nothing is different about him.

While linguistic tests tell us whether or not a participant undergoes change, they do not give us a full semantic characterization of the meaning and relevance of the notion of affectedness. Over the years, change has served prominently in theories on the semantics of events and argument realization, and different approaches have pointed out distinct structural aspects of its meaning that are necessary to represent affectedness. In what follows, I review selected works that make reference to important components of change that have to be included in a semantic characterization.

2.1.2 Aspectual classes

The notion of change accounts for the most fundamental distinction between the four aspectual classes – *states*, *activities*, *accomplishments* and *achievements* – which were introduced by Vendler (1957) and constitute the most widely accepted system of lexical aspectual classification. While states are characterized as not involving any change, the other three classes do involve change. Following Rothstein (2004: 12), the four classes can be differentiated with respect to two properties,

namely (i) having an inherent endpoint (i.e., telicity), and (ii) having stages, which refers whether they are events that progress or develop over time. States like *know someone* or *be tall* involve no change and are non-dynamic. They are unbounded since nothing in their description brings about an inherent endpoint, and they do not have stages, since they are inherently non-dynamic and do not develop or progress over time. Activities like *run* are iterated changes. They are unbounded, open-ended processes, but they do have stages, meaning that they do progress over time. Accomplishments like *cure a patient* also describe changes and therefore a development over time, but unlike activities, they are bounded, meaning that they do identify an endpoint. Achievements like *notice an error* are telic; the verb describes the moment of transition to an endpoint. However, because of their instantaneous nature, they are too short for stages to be distinguished.

Table 1: Aspectual classes as proposed by Vendler (1957).

aspectual class	stages	telicity
states: *know someone*, *love someone*, *be tall*	–	–
activities: *run, play the piano, laugh*	+	–
achievements: *notice an error, break a vase, die*	–	+
accomplishments: *cure a patient, build a wall, fix a sink*	+	+

These two properties of having stages and being telic can be probed for by aspectual diagnostics. In English, having stages is tested via the progressive. Activities and accomplishments figure in the progressive aspect, while states and achievements are not as acceptable in the progressive; see (22) (Rothstein 2004: 36–58).

(22) a. #Alex is knowing Milena. state, no stages
b. Alex is pushing a cart. activity, stages
c. #Alex is breaking a vase. achievement, no stages
d. Alex is building a wall. accomplishment, stages

Telicity, in turn, can be probed for by time adverbials. Telic predicates prefer interval adverbials of the type *in x time* over measure adverbials of the type *for x time*. Conversely, atelic predicates prefer measure adverbials over interval adverbials (Krifka 1989), as illustrated in (23).

(23) a. Alex knew Milena ??in/for 20 years. state, atelic
b. Alex pushed a cart ??in/for five minutes. activity, atelic
c. Alex broke a vase in/??for seconds. achievement, telic
d. Alex built a wall in/?for two hours. accomplishment, telic

Vendler's (1957) classification has promoted lots of research on event structure that points out the temporal properties of affectedness that have to be represented in the lexical structure. The examples for the various classes in Table 1 illustrate that the aspectual classification does not make direct predictions about the syntactic behavior of the verb classes, since some of them include transitives as well as intransitives. Levin and Rappaport Hovav (2005: 91) note that it is, rather, certain of their properties, like measurable change or telicity, which have been implied to be relevant in argument realization, especially direct objecthood, and have thus motivated the importance of aspectual notions. Moreover, aspectual classifications do not distinguish for which participant the asserted change holds. *To notice an error* and *to break a vase,* for instance, are both achievements, but the O participant only changes in the latter, whereas the former describes a cognitive change of state of the A participant. Such distinctions can and will prove useful with respect to argument realization later in this monograph (e.g., Section 4.3.1).

2.1.3 Decomposing predicates

In decompositional approaches, event structure is represented by a set of lexical semantic primitives and their combination. Building on Dowty (1979), Rappaport Hovav and Levin (1998) decompose predicates into the ACT, CAUSE, and BECOME primitives, whereby the component of change is represented by the primitive BECOME. The primitives do not encode idiosyncratic, but rather, "constant" components of meaning that are generalized over classes of verbs. The idiosyncratic element of an individual verb is contributed by the root. A root's ontological type plays an important role in identifying the event structure type. A transitive change of state event as in *Alex broke a window* in (24)a corresponds to the structure in (24)b. The externally caused change of state verb *break* identifies a CAUSE primitive which takes as its first argument a causing ACT subevent and relates it to the second argument, a caused change of state subevent. The latter is represented by the BECOME primitive, which relates the affected participant to a new result state that obtains for it, in this case the state of being broken. Here, the root fills an argument position of the BECOME primitive. The causative structure of transitive change of state predicates is reflected in the intransitive, anticausative alternations that a class of such predicates allows. The causative nature of the clause in (24)a corresponds to the template in (24)b. The clause in (24)c provides the anticausative variant of (24)a, and corresponds to the template in (24)d. In comparison, the transitive event *Alex saw a window* in (25)a does not involve a causative structure and corresponds to the template in (25)b, where the root representing the idiosyncratic information denoted by the verb identifies the manner of the ACT primitive.

(24) a. Alex broke the window.
b. [[*x* ACT] CAUSE [*y* BECOME <BROKEN>]
c. The window broke.
d. [*x* BECOME <BROKEN>]

(25) a. Alex saw the window.
b. [*x* ACT$_{\langle see \rangle}$ *y*]

In predicate decomposition approaches, the linearization of event participants in the template determines their morphosyntactic realization. Participants that are less embedded in the structures are taken to be more prominent and therefore map onto more prominent morphosyntactic structures. In (24)d, the only participant is mapped onto the subject position. In (24)b, the less embedded participant, which is the argument of ACT, maps onto the subject position, while the argument of BECOME maps onto the direct object position.

Decompositional approaches make reference to event types and subevent structures, both of which are necessary to represent verbs encoding changes. Almost every approach dealing with affectedness and argument realization makes use of the structural primitives CAUSE and BECOME that decompositional approaches have introduced. However, as Beavers (2006: 249–262) convincingly argues, the basic lexical decompositions are not fine-grained enough to distinguish the temporally bounded (*kill x*), unbounded (*push x*), and continuous (*warm x*) or punctual changes (*break x*) that may be expressed by BECOME. These properties are not captured but do have relevance for argument realization.

2.1.4 Disentangling paths and undergoers

There is a group of verbs, so-called incremental theme verbs, which has motivated the introduction of a PATH or scale argument to the definition of affectedness. This group is crucial for understanding the temporal dimension of change and the relationship of affectedness to lexical aspect (Tenny 1994; cf. Krifka 1989). For a direct object, being an incremental theme means that its part-whole structure aligns homomorphically with the part-whole structure of the event. Accordingly, (un) boundedness in the domain of nominal reference maps onto the (un)boundedness of the entire event. Typical examples are creation and consumption predicates, as exemplified in (26). If the direct object has quantized reference, as in (26)a (a glass of wine plus a glass of wine are two glasses of wine), the predicate is telic. Conversely, if it has cumulative reference (wine plus wine is wine), the predicate is atelic; see (26)b.

(26) a. Alex drank a glass of wine in/??for an hour.
b. Alex drank wine ??in/for an hour.

Incremental themes function as PATHS for the event. It has been noted that they provide a scale structure which measures the run time of the event: "[E]very part of a drinking of a glass of wine corresponds to a part of the glass of wine" (Krifka 1989: 92). The homomorphic relation between the direct object and the temporal structure of the event can be probed for by whether half of the event (*V X halfway*) can be equated to half of the argument in direct object position (*V half of X*) (Tenny 1992: 19; Beavers 2011a: 347).

(27) a. Alex drank a glass of wine halfway.
b. Alex drank half a glass of wine.

The characteristic of incremental themes functioning as a measure for the progress of the event is one of Tenny's (1992, 1994) motivations for providing a definition of affectedness that is based on aspectual properties instead of change:

> An affected argument has been generally described as an argument which undergoes some change. Undergoing change is a temporal process. An affected argument can be more adequately described in aspectual terms, as an argument which measures out and delimits the event described by the verb. (Tenny 1992: 9)
>
> The term 'measure out' is used here in an informal sense, as a convenient metaphor for uniform and consistent change, such as change along a scale. [. . .] A delimited event is one that the language encodes as having an endpoint in time. (Tenny 1992: 4–5)

This definition of Tenny's unites, under a single notion of affected argument, the entity that undergoes change and the property of measuring out the event along a scale. This is evidenced by the fact that syntactic constraints tied to affectedness, like NP/DP preposing, not only pick out arguments undergoing change, like *the vase* in (28)a–b, but also PATH arguments like *the desert* in (28)c–d.

(28) a. Alex broke the vase.
b. This vase breaks easily.
c. Alex crossed the desert.
d. This desert crosses easily.

However, it has been argued that the two notions of undergoing change and being a PATH to change do not always neatly overlap and should not be conflated, as in fact both PATHS and UNDERGOERS of change delimit an event, but only PATHS and not UNDERGOERS consistently measure out the event (Beavers 2011a: 346–349). The

property of delimiting is illustrated for UNDERGOERS and PATHS in (29) (Beavers 2011a: 347). As can be seen, the referential properties of UNDERGOERS and PATHS align with the telicity of the predicate. Definite, specific DPs produce telic readings, as in (29)a–b, while bare plurals result in atelic readings, as in (29)c–d. Note that direct objects which are neither UNDERGOERS nor PATHS do not have the same effect; see (30) (Beavers 2011a: 347).

(29)	a.	Alex destroyed the building in/??for an hour.	telic, UNDERGOER
	b.	Alex crossed the desert in/??for ten days.	telic, path
	c.	Alex destroyed buildings ??in/for an hour.	atelic, UNDERGOER
	d.	Alex crossed deserts ??in/for days.	atelic, path

(30)	a.	Alex avoided (the) reunion(s) ??in/for an hour.	atelic
	b.	Alex awaited (the) pilgrim(s) ??in/for three days.	atelic

With respect to measuring out, incremental theme objects of creation and consumption verbs unite properties of both undergoing change and serving as PATHS in a single argument. This is not the case with motion verbs, where the two properties are disentangled. As noted by Jackendoff (1996: 310–311) and Beavers (2011: 348), with this group of verbs, the PATH measures out the event, whereas the UNDERGOER does not. Half of the argument (*V half of X*) can only be equated to half of the event (*V X halfway*) with PATH arguments (31), not with UNDERGOER arguments (32).

(31) a. The ball rolled down half of the hill.
b. The ball rolled down the hill halfway.

(32) a. Half the ball rolled down the hill.
b. The ball rolled down the hill halfway.

The same applies to change of state predicates, where it is not the UNDERGOER that measures out the event (see (33)), but rather a property of it, in this case relative dimness, which serves as a PATH to the event's progress (see (34)) (Beavers 2011a: 348; cf. Gawron 2006: 32).

(33) a. Alex dimmed half of the lights.
b. Alex dimmed the lights halfway.

(34) a. Alex dimmed the lights half dim.
b. Alex dimmed the lights halfway.

As we have seen, the properties of undergoing change and providing a scale to measure out the change event can be conjoined in a single argument, as with some incremental themes, but they can also be distributed to separate arguments, as with motion predicates. Moreover, PATHS can be expressed explicitly but they can also stay implicit. For a definition of affectedness, both notions are necessary and have to be differentiated from each other at the theoretical level. Change is only entailed for the UNDERGOER, measuring out is done by the PATH argument, while both UNDERGOER and PATH influence the telicity of a predicate and therefore delimit the event (see Table 2).

Table 2: Diagnostics of UNDERGOERS and PATHS, following Beavers (2011a: 348).

	UNDERGOER	**PATH**
change is entailed	+	–
measures out (halfway/half of)	–	+
delimits event	+	+

To sum up, it can be stated that different frameworks and approaches to affectedness and the characterization of events point to different components necessary for a representation of affectedness. Amongst them are, besides change itself, the notion of causation, a result or target state representing telicity, the notion of PATH or scale representing the dimension of change and providing a measure for it, and the notions of durativity and punctuality. The fact that dynamic predicates differ in telicity and in whether they encode necessary or potential affectedness has led to a conceptualization of affectedness as a matter of degree. This was introduced quite early in the functional typological literature by Tsunoda (1985) and in subsequent approaches building on his work. With the introduction of a scale argument in the semantic literature, affectedness has been modeled in scalar approaches to change, most prominently in the work of Beavers (2006, 2010, 2011a,b), which leans on prior work by Hay et al. (1999) and Kennedy and McNally (2005). The next section will lay out a characterization of affectedness as degree, as has been done in the functional typological and lexical semantic literature.

2.2 Affectedness as degree

2.2.1 Transitivity-based approaches

In the functional typological literature, affectedness has been conceptualized as a measure of transitivity and defined as a matter of degree from early on. Degrees of

affectedness have been related to the individuation of the O participant (Hopper and Thompson 1980; Næss 2004, 2007), or defined among various verb classes depending on the effectiveness of the action denoted by them on the O participant (Tsunoda 1985; Malchukov 2005). This section lays out some of the different approaches.

For Hopper and Thompson (1980: 252), affectedness comprises one of ten component parts of transitivity, as illustrated in Table 3. Transitivity is essentially understood as the effective transfer of an action from one participant to another. The more properties a clause exhibits in the "high" column, the more likely it is to be coded as formally transitive cross-linguistically.

Table 3: Hopper and Thompson's (1980: 252) transitivity features.

	HIGH	**LOW**
A. Participants	2 or more participants, A and O	1 participant
B. Kinesis	action	non-action
C. Aspect	telic	atelic
D. Punctuality	punctual	non-punctual
E. Volitionality	volitional	non-volitional
F. Affirmation	affirmative	negative
G. Mode	realis	irrealis
H. Agency	A high in potency	A low in potency
I. Affectedness of O	O totally affected	O not affected
J. Individuation of O	O highly individuated	O non-individuated

The authors define affectedness as a matter of degree serving as a direct measure for transitivity: "[t]he degree to which an action is transferred to a patient is a function of how completely that patient is AFFECTED" (Hopper and Thompson 1980: 252–253). For them, affectedness and the individuation of the patient are both object-oriented and pattern together, as "an action can be more effectively transferred to a patient which is individuated than one which is not" (1980: 253). The individuation of a patient is in turn defined as its distinctness from the agent and against its own background, and linked to its total vs. partial involvement in the event as well as to the focus of attention on the effect of the event. It is argued that an action may be more effectively transferred to a definite object (35)a than to an indefinite one (35)b, since the definite object referent is conceived as being totally involved in the action, while the indefinite object is taken as being only partly involved. Likewise, it is argued that an action may be more effectively transferred to an animate patient than to an inanimate one, since the focus on the effect of the event is more likely to be on the O participant or on both participants if the O participant is animate (36)a rather than inanimate (36)b. For the latter, it is suggested that the focus of attention presumably lies more on the agent participant.

(35) (Hopper and Thompson 1980: 253)
a. Fritz drank the beer.
b. Fritz drank some beer.

(36) (Hopper and Thompson 1980: 253)
a. I bumped into Charles.
b. I bumped into the table.

Following Hopper and Thompson (1980), Næss (2004) exploits the correlation between affectedness and high individuation by defining affectedness as a concept that co-varies according to the parameter of individuation. She evaluates the affectedness of an entity on the levels of part-whole relations and salience. Part-whole relations are taken to be mirrored in definiteness contrasts. According to her, indefiniteness, as in *I drank some milk* or *We killed a pig,* for instance, expresses that a subpart of the whole entity was subjected to the action expressed by the verb (i.e., some of the available milk or one of several pigs, respectively). This comprises a lower degree of affectedness than definite expressions like *the milk* or *the pig*, which induce a reading of total affectedness (Næss 2004: 1202). The dimension of salience is taken to be mirrored by animacy contrasts. It is argued that verbs like *kill*, with animate objects, encode higher degrees of affectedness than verbs like *break* that take inanimate objects, as animate or human entities are in general more salient to human perception than inanimate ones. Accordingly, the effect on a human entity in the event *Peter killed John* may be perceived as more dramatic than the effect on an inanimate entity, as in *Peter broke the pot* (Næss 2004: 1202).

In other approaches, degrees of affectedness are kept apart from referential properties and are defined in terms of verb classes and the effect they bring about in the O participant. Tsunoda (1981, 1985) investigates two-place predicates and their case marking patterns in a cross-linguistic sample of languages. He posits the affectedness hierarchy in Table 4, with weakening degrees from left to right (Tsunoda 1985: 389). This hierarchy is derived from the occurrence of transitive case frames in individual languages. From left to right, the verb classes decrease in their likelihood of being realized in a transitive case frame (i.e., a nominative-accusative or ergative-absolutive pattern). If a certain verb class on the scale carries a transitive case frame, the ones to the left share the same case frame.

According to Tsunoda (1985: 387), the most affected patients and at the same time the most transitive verbs are those that "describe an action that not only impinges on the patient but necessarily creates a change in it", like *kill*, *destroy*, or *break*. These verbs belong to the resultative subgroup of effective action verbs. For objects of these verbs, the action they are involved in results in a change. This is not the case with the non-resultative subtype of effective action verbs like *hit* or *kick*,

Table 4: Tsunoda's (1985: 388) Affectedness Scale.

Effective action >		**Perception >**		**Pursuit >**	**Knowledge >**	**Feeling >**	**Relation**
+result	–result	+attained	–attained	*search,*	*know,*	*want,*	*resemble,*
break	*hit*	*see*	*listen*	*wait*	*understand*	*like*	*consist*

where the O participant is impinged upon without resulting in change. Furthermore, O participants that are perceived are argued to be more affected than those of pursuit type verbs which are not even perceived. The right end of the table does not contain actions but states, where the O participant is only loosely involved. The separation of the various types of verbs like "knowledge" and "feeling" and their subtypes is always motivated by evidence from a group of languages exhibiting distinct case marking patterns in relation to the postulated verb types.

Tsunoda also discusses a potential correlation between agentivity and affectedness for the case marking patterns examined. Interestingly, he argues that the correlation between agentivity and affectedness is irrelevant to the selection of case frames and sometimes even non-existent or contradictory. Examples for this come from English (37) and the Tibeto-Burman language Chepang (38). The subject participant in the English minimal pair in (37)a is compatible with a non-volitional and therefore non-agentive reading, while the one in (37)b is only compatible with an agentive reading. The UNDERGOER, however, is more affected in (37)a in the nominative-accusative case frame and less affected in (37)b in the nominative-oblique realization. Similarly, in Chepang, (38)b denotes an agentive involvement of the subject participant, but (38)a does not. The O participant is, however, more attained in (38)a with *hear* and less attained in (38)b with *listen*. Again, higher degrees of affectedness outrank agentivity in manifestations of transitive case frames.

(37) (Tsunoda (1985: 393)
  a. I hit him.
  b. I hit at him.

(38) DeLancey (1981: 634–635), cited in Tsunoda (1985: 393)
  a. ngaa-?i wa17aysaay?-naa-ng
     I-ERG bird.ABS hear-PRES-1SG
     'I hear a bird.' (non-agentive)
  b. ngaa-?i waa?-ka17aysaay?-naa-ng
     I-ERG bird-DAT hear-PRES-1SG
     'I listen to a bird.' (agentive)

On the basis of these examples, Tsunoda argues against an obligatory co-variation of affectedness with agentivity, further arguing that "one can accidentally/non-volitionally kill someone just as effectively as one would when acting intentionally/volitionally" (1985: 392). For him, it really is the affectedness of the O participant that matters for the manifestation of case frames. Nonetheless, Tsunoda's hierarchy has been criticized for conflating two separate levels of information, namely (i) the decreasing affectedness of the UNDERGOER, and (ii) the decreasing agentivity (or control) of the agent participant (Lehmann 1991: 234; Malchukov 2005: 79–81). As Malchukov (2005: 80) notes, when comparing effective action verbs like *break* or *destroy* to pursuit verbs like *wait* or *search for*, it becomes clear that the O participant is affected by virtue of undergoing change in the former, but not in the latter. Further comparing these verb classes to verbs of contact like *hit* shows that contact verbs are located precisely between these two classes, as they are recipients of a force but do not result in change. In this regard, the hierarchy accurately reflects decreasing affectedness, where *break* ranks higher than *hit* and *hit* ranks higher than *wait*. However, the situation gets more complicated when verbs such as *see* and *like* come into the picture, as the difference between the two relates not only to properties of the O but also to those of the A. Malchukov does not reject the claim that these verbs encode decreased affectedness for the O participant, but he notes that the differences between them are also related to decreased agentivity. The subject of an emotional verb such as *like* is not a controlling one, but rather an experiencing one, and thereby an affected participant itself. In this sense, perception verbs like *see* are in between effective action verbs like *break* and emotion verbs such as *like* in terms of the level of agentivity. Therefore, the author suggests a modified verb type hierarchy which is sensitive to the different dimensions of deviation from the transitive prototype, as illustrated in Figure 1.

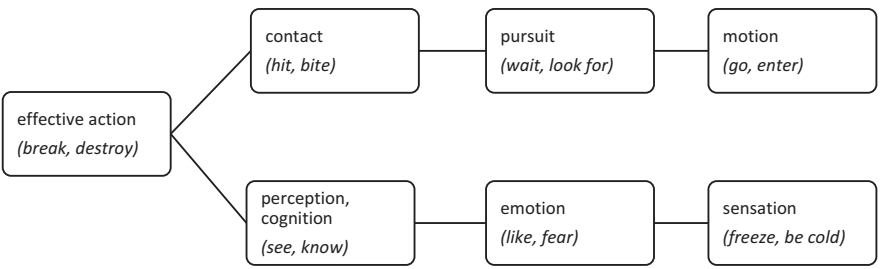


Figure 1: Malchukov's (2005: 81) two-dimensional verb type hierarchy.

This hierarchy is based on the data provided by Tsunoda (1981, 1985), but also draws on additional cross-linguistic data which motivates the addition of motion and sen-

sation classes. It reflects a high degree of agentivity and affectedness for the various event participants with effective action verbs. Decreased affectedness of the patient is reflected from effected action verbs to motion verbs (i.e., from *break* type verbs to *go* type verbs). Decreased agentivity is reflected from effected action verbs to sensation verbs (i.e., from *break* to *resemble* type verbs). The hierarchical ordering of the verb classes from left to right predicts that if a transitive pattern is found with some category lower on the hierarchy, it is also found with the category higher on the hierarchy.

In bringing together the observations made so far, several things can be learned about affectedness from the functional typological work. First, affectedness is a crucial notion in systematically predicting the morphosyntactic manifestations of argument realization across languages. In doing so, it is conceptualized best not as a binary concept but as a matter of degree reflected by various classes of verbs and possibly interacting with the individuation of the O participant. Furthermore, the discussion urges differentiation between different levels of information encoded by verbs that make reference not only to affectedness but also to agentivity. Related to this, the observations pose the question of whether affectedness and agentivity interact, and if they do, what the nature of this interaction is. Although this question is partly addressed by Tsunoda (1985), it calls for further cross-linguistic investigation.

Finally, definitions of affectedness which are derived from cross-linguistic transitivity patterns are a major contribution to research on valency patterns. However, semantic definitions that are posited solely on the basis of the morphosyntactic relations they are meant to explain run into the danger of circularity of argumentation. Symptomatic of this hazard is the overlap of definitions of transitivity and affectedness mentioned above. For both Hopper and Thompson (1980), as well as Tsunoda (1985), affectedness and transitivity share a very similar or the exact same definition. For Hopper and Thompson (1980), transitivity is "the effective transfer of an action from one participant to another", and "[t]he degree to which an action is transferred to a patient is a function of how completely that patient is AFFECTED" (Hopper and Thompson 1980: 252–253). Similarly, for Tsunoda (1985: 387), transitive verbs are "those verbs which describe an action that not only impinges on the patient but necessarily creates a change in it", which is the same definition that underlies his affectedness scale. As an alternative, Beavers (2011a) provides an independent semantic definition of degrees of affectedness based on monotonically weakening truth conditions. This approach is outlined in the following section.

2.2.2 Independent scalar semantic approach

One of the few works that takes the semantics of affectedness as its core object of study is that of Beavers (2011a, but see also 2006, 2010, 2013). He develops a scalar

approach to change that is not derived from morphosyntactic prominence relations, but follows an independent semantic motivation. Affectedness is modeled as a relationship between a theme participant that undergoes change or impingement in some property, and a scale participant that represents the dimension along which the theme participant changes. For the sake of a unified terminology, I will refer to the theme participant as the UNDERGOER (participant) or – where it fits with its grammatical role – as the O participant. Based on how specific a predicate is about the UNDERGOER's final state on the scale, affectedness is defined as a graded phenomenon with four degrees that differ in semantic properties and can be disentangled by linguistic tests. In what follows, we lay out the details of this approach.

Following Tenny (1992, 1994), Beavers (2011a: 339) summarizes the various types of predicates that have been considered to encode change as those expressing a change of state, a change of location, surface contact, and creation/consumption. Change of state verbs encode observable, physical changes, as is the case for the object of *break* in (39)a. Change of location verbs express a directed motion, as illustrated by the object of *push* (39)b. Objects of verbs of surface contact or contact by impact are impinged upon by the action, as with the object of *kick* (39)c. This group of verbs differs from change of state and change of location verbs in that it only possibly encodes a change of state or location for the impinged participant, which can be disambiguated by resultative predicates (*Susi kicked the table apart*) or directional PPs (*Susi kicked the ball into the goal*). In addition, verbs of creation and consumption (39)d–e are also discussed in the context of affectedness. Although some authors characterize coming into being (39)e as a change of state (Dowty 1991: 573), objects of creation verbs are distinguished from *affected* objects as *effected* objects by virtue of not undergoing change but being brought about by the actions denoted by the verbs (Quirk and Greenbaum 1973: 174–75; Hopper 1985: 67).

(39) a. Alex broke the vase.
b. Alex pushed the cart.
c. Susi kicked the table.
d. Kim ate an apple.
e. Ali built a house.

Crucially, Beavers departs from defining different types of affectedness in terms of different types of changes that predicates encode. In scalar approaches to affectedness, the different dimensions of change are represented by different types of scales along which the UNDERGOER transitions (see Hay et al. 1999; Kennedy and Levin 2008). Thus, predicates encoding different kinds of change differ only in what the scale is. A change in some property is expressed by the UNDERGOER's transition

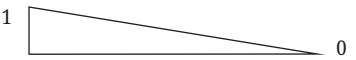
from one degree of having a certain property on a scale to another. In such an approach, the properties of the scale are crucial on at least two dimensions. First, the scale's mereological complexity (i.e., the values it is composed of) figures in the aspectual composition of the predicate. Second, the specificity of a change predicate about the theme's final state on the scale motivates the definition of four degrees of affectedness in an implicational affectedness hierarchy. Let us illustrate the central pillars of this approach first informally and then in greater detail.

With the telic change predicate *break* in (40)a–b, for instance, the change of state involves a transition of the UNDERGOER *the vase* from the initial degree NOT BROKEN to the final degree BROKEN on a two-point scale of material integrity, as in (40)c. Simplex scales consist of two values (Ø and ¬Ø), the minimal amount of atomic parts for a change to occur, and mirror punctual changes. Predicates describing punctual changes are compatible with interval adverbials in *after* readings. In (40) b, the *in x time* adverbial refers to the time it took for the breaking event to start.

(40) a. Alex broke the vase.
b. Alex broke the vase in a minute. (after a minute)
c. simplex scale of material integrity for theme (the vase):

Complex scales consist of more than two values and mirror durative events (Beavers 2013: 692). This is the case with the consumption event in (41)a, where the property scale represents the part-whole structure of the apple's relevant volume in the consumption event and consists of multiple degrees from 1 to 0, as exemplified in (41)c. Durative telic events are compatible with interval adverbials in both *during* and *after* readings.

(41) a. Alex ate an apple.
b. Alex ate an apple in a minute. (after/during a minute)
c. complex scale of volume for theme (the apple):



Based on how specific a change predicate is about the UNDERGOER's final state on the scale, Beavers (2006, 2011a) defines four degrees of affectedness, informally illustrated in (42)–(43). A participant is *totally affected* by the action denoted in the predicate if it undergoes a change that brings about a result state (**quantized**

change) – in (43)a, the state of being BROKEN on a scale of material integrity. A result state defines the temporal end of an event; such predicates are thus aspectually telic. In comparison, a participant is *affected* if the predicate encodes that it undergoes a change without necessarily culminating in a result state (**non-quantized change**). In (43)b, *the cart* undergoes a change of location but need not reach a specific location on a directed PATH that functions as a scale. The third degree of affectedness is represented by participants that are *impinged* upon during the event, meaning that they are recipients of the force brought about by the agent without having to change in some observable property (*Alex hammered the metal but nothing changed about it*). Predicates that take impinged participants have the **potential for change**, which can be linguistically specified (*Alex hammered the metal flat*). The final degree in the affectedness hierarchy is reserved for predicates that are lexically **unspecified for change** in the event participant. The O participant of *see* in (43)d is not a force recipient, and no change is brought about through the action of being seen.

(42) degrees of affectedness for (UNDERGOER) participant x

totally affected(x)	affected(x)	impinged(x)	participant(x)
quantized change	non-quantized change	potential change	unspecified for change

(43) a. Alex broke the vase.
b. Alex pushed the cart.
c. Alex hammered the metal.
d. Alex saw the painting.

In more formal terms, a predicate of change φ is defined as a relation between an event e of change, a participant x that is the UNDERGOER of change, and a scale participant s that measures the change undergone by x (Beavers 2011a: 350–352). Entities are considered to possess properties like warmth, volume, position, height, etc. that form scales along which they transition from some initial to some final state. A scale is a triplet $\langle S, R, \delta \rangle$, where δ represents the property in relation to which the theme participant changes, S a set of degrees of having that property, and R the ordering of members of S (see Hay et al. 1999; Kennedy and McNally 2005). A change in property δ for the UNDERGOER x is a transition from an initial state of having a property to a certain degree to a final state of having that property to a certain degree (see (45) with degrees in bold). For the sake of simplicity, the state g of having a property to a certain degree is noted mnemonically, such as the state CLEAN on a cleanliness scale or BROKEN on a material integrity scale. Initial and final states on a scale s in the event e are given by the operators SOURCE and GOAL,

whereby SOURCE(*s, b, e*) means that the theme is at state *b* on scale *s* at the beginning of event *e*, and GOAL(*s, g, e*) means that the theme is at state *g* on *s* at the end of event *e*. The operator *result'*, as defined in (44), indicates that for the event *e* described by the predicate *φ*, the state *g* on *s* is the target state of *x* on *s* iff *x* transitions to *g* by the end of *e* from a contextually determined state b_c on *s* at the beginning of *e* (Beavers 2011a: 351):

(44) For all dynamic predicates *φ*, themes *x*, events *e*, states *g*, and scales *s*:
[[*φ*(*x, s, e*) ∧ *result'*(*x, s, g, e*)] ↔ [*φ*(*x, s, e*) ∧ SOURCE(*s,* b_c*, e*) ∧ GOAL(*s, g, e*)]]

The scalar approach to change has the key advantage that it unites different kinds of changes under a single formal model. Predicates encoding a change of location, change of state, and change of existence, for instance, share the same semantic representation and differ only in what their scale is. In change of location predicates, a directed PATH functions as the scale; in change of state predicates, the UNDERGOER argument undergoes change along a property scale; and in change of existence predicates, the UNDERGOER argument's own physical extent functions as the scale (Beavers 2013: 685). Consider the examples in (45) (Beavers 2011a: 352). With the change of location predicate in (45)a, the scale comprises a directed PATH measuring John's position from a contextually defined starting location to the cafe as the final location. Thus, *walk'*(John, s, e) describes a walking event e of *John* along s, and *result'*(John, s, cafe, e) describes *John* as having transitioned from some initial point on the PATH s to a subsequent point on s, which is where *the cafe* is. Similarly, the change of state event in (45)b corresponds to a wiping event e of *the table* along a scale s that measures its cleanliness. The UNDERGOER transitions from a contextually defined degree of cleanliness to the target degree *clean* on s. Analogously, the consumption predicate in (45)c indicates that there is an eating event of *the apple* by *John*. In this event, *the apple* transitions along a scale of volume or existence from an initial degree which is non-zero to the final degree zero, meaning that it is fully eaten up. Depending on the real-world concept of change that is represented, the type of scale varies, but formally, the predicates share the same underlying event structure.

(45) a. John walked to the cafe. (scale s: position of John)
∃e∃s[walk'(**john**, s, e) ∧ result'(**john**, s, **cafe**, e)]
b. John wiped the table clean. (scale s: cleanliness of the table)
∃e∃s[wipe'(**john**, s, **table**, e) ∧ result'(**table**, s, **clean**, e)]
c. John ate the apple. (scale s: existence of the apple)
∃e∃s[eat'(**john**, s, **apple**, e) ∧ result'(**apple**, s, **0**, e)]

The parallelism of the event structures that different classes of verbs encode makes redundant the question of whether an UNDERGOER participant is more affected if it is eaten up, wiped clean, torn apart, killed, etc. Beavers (2011a) distinguishes the degree of affectedness from the class of verb and instead links it to another factor, namely the specificity of change. Based on how specific a verb is about the target state of the UNDERGOER's transition on the scale, the four degrees of affectedness given in (46) are defined (Beavers 2011a: 358).

(46) a. x undergoes a quantized change iff $\phi \rightarrow \exists e \exists s[\text{result}'(x, s, g_{\phi}, e)]$
(e.g., accomplishments/achievements: *break*, *shatter*, *destroy*, *devour x*)
b. x undergoes a non-quantized change iff $\phi \rightarrow \exists e \exists s \exists g[\text{result}'(x, s, g, e)]$
(e.g., degree achievements/cutting: *widen*, *cool*, *lengthen*, *cut*, *slice x*)
c. x has potential for change iff $\phi \rightarrow \exists e \exists s \exists \theta[\theta(x, s, e)]$
(e.g., surface contact/impact: *wipe*, *scrub*, *rub*, *punch*, *hit, kick*, *slap x*)
d. x is unspecified for change iff $\phi \rightarrow \exists e \exists \theta'[\theta'(x, e)]$
(e.g., other activities/states: *see, laugh at*, *smell, follow*, *ponder*, *ogle x*)

Quantized change constitutes the highest degree of affectedness, followed by non-quantized change. Both encode the event participant as undergoing change, but they differ in how specific the verb is about the target state of the UNDERGOER's transition on the scale. The event undergoes quantized change if ϕ entails that the UNDERGOER x transitions to a specific target state g_{ϕ} on s in the event e (see (46)a), and non-quantized change if the predicate ϕ entails that x transitions to some goal state g (see (46)b). An even lower degree of affectedness is encoded by predicates that entail no change but that take force recipients as event participants. They represent a potential for change which is expressed by the existence of a scale argument s in the event, even though the relationship between the UNDERGOER and the scale is underspecified (see (46)c). At the bottom of the scale, we find participants that are unspecified for change (i.e., are not recipients of a force and have a role without specifying the existence of a scale) (see (46)d). As becomes evident, the different degrees are related to each other by monotonically weakening truth conditions that are defined by existential generalization. As the author notes, "[n]on-quantized change is an existential generalization over the goal of a quantized change, potential for change is an existential generalization over the θ-relation between the UNDERGOER, scale, and event, and being unspecified for a change is an existential generalization over the thematic role of the UNDERGOER" (Beavers 2011a: 358). Thus, the various degrees fall into a hierarchically ordered implicational affectedness hierarchy (47), meaning that if a theme carries the degree n on the hierarchy, it entails all the degrees to the right of n. Reaching a specific target state on s entails reaching

some target state on s, which in turn entails the existence of a scale s, which entails being an event participant (Beavers 2011a: 358).

(47) The Affectedness Hierarchy: for all x, ϕ, e,
$\exists s[result'(x, s, g\phi, e)] \rightarrow \exists s\exists g[result'(x, s, g, e)] \rightarrow \exists s\exists\theta[\theta(x, s, e)] \rightarrow \exists\theta'[\theta'(x, e)]$
(*quantized*) (*non-quantized*) (*potential*) (*unspecified*)

The various degrees of affectedness can be singled out by linguistic tests. As illustrated in (48), the force recipients (i.e., the affected and impinged direct objects from (43)a–c), can felicitously be paraphrased via the ***What happened to X is Y*** paraphrase (see (48)a–c). In contrast, the direct object in (48)d, which is unspecified for change, cannot be paraphrased via *What happened to X is Y.*

(48) a. What happened to the vase is Alex broke it.
b. What happened to the cart is Alex pushed it.
c. What happened to the metal is Alex hammered it.
d. #What happened to the painting is Alex saw it.

Moreover, only a subset of the predicates that take force recipients bring about a change in the event participant (i.e., subsume the affected entities). The **entailment test** (*φ, but not ψ* is a contradiction for appropriate *φ*) is felicitous with participants undergoing quantized and non-quantized change as in (49)a–b, but not with impinged themes or participants as in (49)c–d.

(49) a. Alex broke the vase #but nothing is different about it.
b. Alex pushed the cart #but it is not somewhere else.
c. Alex hammered the metal but nothing is different about it.
d. Alex saw the painting but nothing is different about it.

Finally, predicates entailing a quantized versus a non-quantized change for the theme participant differ in telicity. By definition, a theme participant that undergoes quantized change (i.e., transitions to a specific target state on a scale) requires the predicate to be telic. This is illustrated in (50).

(50) a. Alex broke the vase in/?for a minute.
b. Alex pushed the cart ?in/for five minutes.
c. Alex hammered the metal ?in/for five minutes.
d. Alex saw the ring ?in/for five minutes.

These empirical diagnostics group the various predicates into a subset relation, where those passing *n* tests are a subset of those passing *n–1* tests (see Table 5).

Table 5: Affectedness diagnostics based on Beavers (2013: 689).

Diagnostics	Degree of affectedness of *x* entailed by *φ*			
	quantized	non-quantized	potential	unspecified
φ is telic	+	–	–	–
Change entailed of *x*	+	+	–	–
What happened to *X* is *Y*	+	+	+	–

2.2.3 Discussion

Beavers' (2011a) scalar approach to change provides a major contribution to research on the semantics of affectedness. It presents affectedness as an intuitive semantic notion with four degrees which can be distinguished by linguistic tests and which are ordered in an implicational hierarchy with monotonically weakening truth conditions. For the author, the degree of affectedness encoded by the verb for a participant can be conceived of as semantic prominence, whereby the relative strength of truth conditions about what happens to a participant in an event is associated with a higher degree of prominence for that participant. Cutting across predicates, arguments that assemble a stronger set of truth conditions associated with them are semantically more prominent than those that assemble a weaker set. In informal terms, the more specific a verb is about the change undergone by a certain argument, the more prominent that argument is. This is an understanding of the notion of semantic prominence that follows directly from the meaning of a predicate, and not from how this meaning is represented. Crucially, it implies that the lexical semantics of a verb includes a cluster of entailments that differ in specificity and that figure in generalizations about argument structure (Beavers 2010: 858).

A great advantage of the scalar semantic model is that it is independently motivated and not defined on the basis of the morphosyntactic argument relations that it should ideally be able to explain. This being said, it is of course an open question whether the well-defined semantic properties identified for an event participant correlate with a syntactic form. Is there a one-to-one correspondence of the semantic properties with a syntactic decomposition or form, or are there aspects of information that motivate a different classification? This question becomes especially viable with respect to creation/consumption predicates which are semantically unified with change of state and motion predicates. Under a scalar approach, the

only difference between predicates encoding a change of state, change of location, or change of existence for the UNDERGOER is that they select for different scales or dimensions along which the event participant changes. While this unification is semantically comprehensible, there are important differences between the objects of these predicates. One such difference is independent existence. Objects of change of location and change of state verbs have an independent existence prior to the event. In contrast, objects of creation verbs have a dependent existence. They do not exist independently of the event and are introduced as the result of the action denoted by the verb, which is also reflected in some of the proposed affectedness diagnostics. The *What happened to X is Y* paraphrase and secondary resultative predication are only felicitous with creation predicates if their objects are interpreted as existing before the event. Beavers himself notes that "prior existence must therefore also be a factor relevant for affectedness – perhaps something cannot be 'affected' if it did not exist prior to the event" (Beavers 2011a: 341), but for his analysis he sets this factor aside as orthogonal to change over time. The syntactic differences, however, point to a potentially different structure for both. In other approaches, creation/consumption predicates are set apart from typical change of state or motion predicates in terms of subevent structure and event complexity, but also cross-linguistic transitivity (Levin and Rappaport Hovav 2005: 116–117; Næss 2007: Chapter 4). As will be shown in Section 2.3.2, Ramchand (2008: 29) argues that those kinds of objects are more similar to PATHS than to UNDERGOERS, and are therefore associated with a different structure. Later in this monograph, we will see that creation/consumption verbs also behave differently with respect to direct object realization (i.e., the DOM patterns they exhibit).

A further issue not discussed by Beavers is how non-physical changes fit into this model. The author sets changes of non-physical or mental properties apart from his analysis but suspects that it may well be extended to them. Moreover, his analysis does not discuss the relationship between affectedness and agentivity, even though the agent participant manifests the source of the force that acts upon the UNDERGOER. Thus, the interaction between these two crucial concepts remains an important question to be investigated, and, ideally, our understanding of affectedness should have the flexibility necessary to model or reject such an interaction.

Against the background of a clear semantic definition of affectedness, let us now turn to the interface of semantics with syntax. The syntactic operationalization will tell us which distinctions are more important than others, and what components of affectedness are the relevant ones in formulating the mapping between meaning and form.

2.3 Affectedness and direct object selection

In research on the semantics of argument realization, a very prominent link has been drawn between affectedness and direct objecthood (Fillmore 1968, 1970, 1977; Hopper and Thompson 1980; Tsunoda 1981, 1985; Jackendoff 1990; Dowty 1991; Tenny 1992, 1994; Blume 1998; Primus 1999a; Ackerman and Moore 2001; Næss 2004, 2007; Malchukov 2005; Beavers 2006; Ramchand 2008 inter alia). Being affected by the action denoted by the verb has been postulated repeatedly as a defining property of direct objects cross-linguistically. Before diving into the theoretical approaches that articulate this link, let us illustrate the interrelationship between affectedness and direct objecthood with a few examples.

To start with a trivial one, the verb *destroy* selects for two event participants, an agent and an UNDERGOER. The UNDERGOER participant is affected by the action denoted by the verb; it undergoes a change of state. At the same time, it is an incremental theme, meaning that its part-whole structure serves as a measure for the progress of the event. The agent is the causer of the change of state in the UNDERGOER and presumably acts on intention. As the sentence in (51) shows, the agent *Alex* is lexicalized as subject, whereas the UNDERGOER *the building* is lexicalized as direct object.

(51) Alex destroyed the building.

The relationship between affectedness and direct objecthood can also be illustrated on the basis of argument/oblique alternations. In such alternations, one and the same event participant can be realized as either a direct object or an oblique argument. The conative alternation in (52) exemplifies that argument realization reflects a contrast in affectedness. When the UNDERGOER is realized as a direct object, as *the rope* is in (52)a, it is affected by the action, whereas the realization with the preposition *at* does not necessarily imply that the rope is cut.

(52) a. Alex cut the rope.
b. Alex cut at the rope.

Looking beyond English, Germanic languages such as German and Swedish manifest an affectedness condition for direct object selection with verbs of contact by impact. Verbs of contact by impact entail a potential for change. This means that they imply contact between two entities, one moving (subject participant) and the other receiving the force (O participant). Their semantics, however, does not entail that this contact necessarily results in change on the part of the force recipient (Fillmore 1970: 125; Levin 1993: 150; Tsunoda 1999: 5–6). With respect to argument realization, in both languages, inanimate objects of the contact by impact verb

schlagen 'hit' are by default realized as oblique (see (53)a for German and (54)a for Swedish). Such objects are "impinged" and do not necessarily change via the action denoted by the verb. However, if an affected interpretation is made linguistically explicit through resultative predication, the UNDERGOER is realized as a direct object, as in (53)b for German and (54)b for Swedish (see Lundquist and Ramchand 2012; Fleischhauer 2018).

(53) a. Der Junge schlug *(gegen/auf) den Tisch. German
the.NOM boy hit against/on the.ACC table
'The boy kicked against/on the table.'
b. Der Junge schlug den Tisch in Stück-e.
The.NOM boy hit the.ACC table in part-PL
'The boy hit (broke) the table into pieces.'

(54) (Lundquist and Ramchand 2012: 25; #2, #10) Swedish
a. Jag sparkade *(på) bordet
I kicked on table.DEF
'I kicked (on) the table.'
b. Jag sparkade sönder bordet
I kicked apart table.DEF
'I kicked the table apart.'

Interestingly, Lundquist and Ramchand argue that in both languages, animacy interacts with affectedness in making available an interpretation of the participant as affected. Objects of contact by impact verbs are not only realized as direct objects if affectedness is made explicit by resultative predication, but also when the participant is animate; see (55)a for German and (55)b for Swedish. According to them, this is due to the fact that animates, by virtue of possessing an internal mental life, can be subject to psychological changes and thus be affected without a visible physical change (Lundquist and Ramchand 2012: 3). I think that further evidence for this comes from the fact that in German, an animate direct object of *schlagen* 'hit' has to be interpreted as 'beaten up', see (56).

(55) (Lundquist and Ramchand 2012: 1–2; #1a–b)
a. Ich habe ihn getreten. German
I have him kicked
'I kicked him.'
b. Jag sparkade honom. Swedish
I kicked him
'I kicked him.'

(56) Ich schlug ihn.
I hit him
'I beat him up.'

In Japanese and Turkish, similar contrasts can be observed with respect to affectedness and the accusative case frame. In Japanese, different classes of verbs show distinct case marking behavior. For instance, the dynamic predicate *kowasu* 'break' in (57)a takes an affected object which is case-marked in the accusative. In contrast, the stative predicate in (57)b does not encode change on behalf of its object participant but marks it in the nominative (Uesaka 1996: 102; Hirakawa 1994: 4; see also Travis 2010: 3).

(57) a. John-ga omocha-**o** kowas-ta Japanese
John-NOM toy-ACC break-PST
'John broke the toy.'
b. John-ga nihongo-**ga** suki-na
John-NOM Japanese-NOM like-COP.PRES
'John likes Japanese.'

In Turkish, a group of verbs can realize one and the same argument with the accusative or the dative case frame, with the different realization patterns reflecting the affectedness of the participant. The contact by impact verb *vurmak* 'hit' is among these verbs. It does not necessarily encode change for the participant receiving the force, but only potentially. Here, different interpretations of the event participant with respect to affectedness are signaled by different case marking patterns. In the interpretation of being impinged by the action, the force recipient figures as indirect object in the dative case frame (58)a, while in the interpretation of being an UNDERGOER of change, in this case being 'shot', it figures as direct object in the accusative case frame (58)b (Çetinoğlu and Butt 2008).

(58) a. Avcı ayı-**ya** vur-du.
Hunter bear-DAT hit-PST
'The hunter hit the bear.'
b. Avcı ayı-**yı** vur-du.
Hunter bear-ACC hit-PST
'The hunter shot the bear.'

As the above examples demonstrate, there is an obvious link between affectedness and the direct object position. Early approaches articulating this link can be found in traditional work on thematic roles, which formulated generalizations about the

semantic properties of event participants and the syntactic positions they occur in (Gruber 1965; Fillmore 1968; Larson 1988; Grimshaw 1990; Jackendoff 1990 inter alia). Depending on the particular framework, these lists included semantic hierarchies of thematic roles such as agent, experiencer, theme, patient, source/goal, and benefactive, which were taken to figure in argument realization via some linking rule (Fillmore 1968: 55; Larson 1988: 382; Grimshaw 1990: 24; Jackendoff 1990: 258). The thematic roles postulated for the affected event participant were the theme and patient roles; the theme role was more closely associated with a change of location and the patient role with a change of state (Gruber 1965: 47–50; Keenan 1984: 205; Jackendoff 1990: 50, 94 inter alia). However, on many occasions they were used interchangeably or generalized over one another (Baker 1997). Assessing the rank of the theme/patient on these hierarchies was often accompanied by difficulty, and varied across the literature. This was also due to their variable syntactic behavior; depending on the type of predicate, themes/patients could be realized as syntactic subjects (intransitives) or objects (transitives) and compete with the goal for the first object position (ditransitives). Eventually, due to the lack of agreement on the number of thematic roles, their distinctness from each other, their hierarchical ordering, and their predictive power, discrete thematic role lists were abandoned. In the current literature, syntactic structure is not taken to operate based on a list of thematic roles. Moreover, it has been observed that grammatical distinctions do not always translate into semantic distinctions between thematic roles, but rather treat sets of thematic roles in the same way. This has led to the articulation of semantic role prototypes, so-called proto-roles (Dowty 1991) or semantic macroroles (Van Valin 1999, 2005). Van Valin (1999, 2005: 53–67) posits the two generalized semantic macroroles of ACTOR and UNDERGOER,[2] with the actor generalizing over agent, experiencer, instrument, and recipient properties, and the UNDERGOER generalizing over theme, patient, recipient, and stimulus properties. Another very influential approach in this respect has been brought forward by Dowty (1991), who postulates the thematic role prototypes of a PROTO-AGENT and a PROTO-PATIENT, both of which are defined by a set of verbal entailments that constrain argument selection with a certain flexibility. In what follows, we will discuss Dowty's approach in greater detail.

2 Note that Van Valin's use of the term "UNDERGOER" as a semantic macrorole differs from our more restricted use of the term as referring to a participant that undergoes change in some property.

2.3.1 Generalized semantic roles

Dowty (1991) proposes a theory of argument selection in which two thematic role prototypes determine subject and object selection. He defines the two cluster concepts of PROTO-AGENT and PROTO-PATIENT roles, which are "higher-order generalizations about lexical meanings" (Dowty 1991: 577). Each of them assembles a set of lexical entailments that a verb can encode for its event participant(s) (59)–(60), whereby PROTO-AGENT entailments motivate subject selection, and PROTO-PATIENT entailments motivate object selection.

(59) PROTO-AGENT properties (Dowty 1991: 572; #27)
   a. volitional involvement in the event or state
   b. sentience (and/or perception)
   c. causing an event or change of state in another participant
   d. movement (relative to the position of another participant)
   e. exists independently of the event named by the verb

(60) PROTO-PATIENT properties (Dowty 1991: 572; #27)
   a. undergoes change of state
   b. incremental theme
   c. causally affected by another participant
   d. stationary relative to movement of another participant
   e. (does not exist independently of the event, or not at all)

Lexical entailments refer to aspects of meaning of a verb that arise either via implicature or presupposition and remain true in every possible situation (Dowty 1991: 552). The set of entailments for a canonical agent includes the following: it is a volitionally acting participant (59)a, it has sentience with respect to the event (59)b, it is the causer of the event (59)c, and its movement is not caused by another participant (59)d. Furthermore, it has independent existence (59)e, meaning that it exists before and after the event, but Dowty is uncertain about including this property in the definition of the proto-role.

In contrast, a canonical patient is a participant that undergoes change through the event (60)a, which, for Dowty, covers coming into existence, going out of existence, and change in some quality or location of an existing entity. In addition, it is an incremental theme (60)b, meaning that its part-whole structure aligns homomorphically with the part-whole structure of the event; it is causally affected by the action of another participant (60)c; its movement is stationary from the perspective of another participant (60)d; and it may not exist independently of the event (60)e

(i.e., it is created via the event). All these properties are hypothesized to be semantically isolable and independent. Each of them can suffice to motivate either subject or object selection. This is illustrated for the PROTO-AGENT role with the examples in (61), where each agent property is separately shown to be entailed for the subject argument. Regarding independent existence, Dowty (1991: 573) notes that it can be found in isolation in (59)a–d, but if (59)a–d are entailed, they necessarily entail (59)e.

(61) Independence of PROTO-AGENT entailments (Dowty 1991: 572–573; #29)
   a. VOLITION ALONE: *John is being polite to Bill/is ignoring Mary*.
   b. SENTIENCE/PERCEPTION ALONE: *John sees/fears Mary*.
   c. CAUSATION ALONE: *His loneliness causes his unhappiness*.
   d. MOVEMENT ALONE: *The bullet overtook the arrow*.
   e. INDEPENDENT EXISTENCE: *John needs a new car*.

The same is illustrated for the PROTO-PATIENT role with the examples in (62), where each patient property is separately shown to be entailed for the object argument:

(62) Independence of PROTO-PATIENT entailments (Dowty 1991: 573; #30)
   a. CHANGE OF STATE: *John moved the rock.*
   b. INCREMENTAL THEME: *John filled the glass with water.*
   c. CAUSALLY AFFECTED: *Smoking causes cancer.*
   d. STATIONARY RELATIVE TO ANOTHER PARTICIPANT: *The bullet entered the target/overtook the arrow*
   e. EXISTENCE NOT INDEPENDENT OF THE EVENT: *John built a house*.

Note that lexical entailments differ from entailments in the traditional sense, in that they keep their relevance under negation and behave more like presuppositions or conventional implicatures. In *John did not kill a man,* for instance, the relevant agent and patient entailments do not hold, but *John* is still the subject of the clause and *a man* is still its direct object. Thus, this type of entailment is best conceived of as a property that a verb associates with an event participant in the lexicon (see also Beavers 2006: 22). Furthermore, Dowty differentiates the above-mentioned lexical entailments from entailments that can arise through the semantics of nominal arguments. The sentence *Mary slapped John,* for instance, would suggest that John has a perception of the action. However, the verb *slap,* unlike verbs like *wake,* does not entail sentience with respect to the event for its patient participant, as it is also compatible with non-sentient patients as objects

(e.g., *Mary slapped the table/the corpse*). A verb can entail all of the above-mentioned properties of the PROTO-AGENT or PROTO-PATIENT role for a single participant, but it is also possible that a subset or a combination of properties from both role prototypes could be entailed for a single participant. What is crucial for argument selection is the relative prototypicality of participants. The PROTO-AGENT or PROTO-PATIENT of the event is the one participant that exhibits the highest number of entailments relative to another participant. The argumentation is that natural language lexicalizes the argument with the greatest number of PROTO-AGENT properties as subject and, conversely, the argument with the greatest number of PROTO-PATIENT properties as direct object (63):

(63) ARGUMENT SELECTION PRINCIPLE (Dowty 1991: 576; #31)
In predicates with a grammatical subject and object the argument for which the predicate entails the greatest number of PROTO-AGENT properties will be lexicalized as the subject of the predicate; the argument having the greatest number of PROTO-PATIENT entailments will be lexicalized as the direct object.

An important detail of this "argument selection principle" is that it deviates from the traditional understanding of the term "selection" as a linking mechanism between two levels of representation, namely the thematic level and the syntactic level. Dowty (1991: 576) states that it is rather to be understood as "a constraint on what kind of lexical predicates may exist in a natural language". For instance, a verb like *build* as in *Mary built a house* entails all properties defining the agent role and none defining the patient role for the BUILDER. For the BUILDEE, it entails all properties defining the patient role and none defining the agent role (Dowty 1991: 572; Beavers 2006: 19). Thus, the argument selection principle predicts that the BUILDER is lexicalized as subject and the BUILDEE as direct object, which is the case in English and, as predicted, should be the case cross-linguistically in nominative-accusative languages.

Of course, many verbs do not neatly align the PROTO-AGENT and PROTO-PATIENT properties with their event participants in this way. If a transitive predicate distributes equal numbers of PROTO-AGENT and PROTO-PATIENT properties across its event participants, one corollary of the selection principle states that in such a case both participants may be realized as either subject or object (Dowty 1991: 576). Furthermore, for ditransitive predicates, a second corollary of the selection principle states that the participant with the most PROTO-PATIENT properties will be lexicalized as direct object and the other one as oblique. In cases where both of the non-agent participants share equal numbers of PROTO-PATIENT properties, either of them can figure as direct object.

(64) Corollary 1 (Dowty 1991: 576; #32)
If two arguments of a relation have (approximately) equal numbers of entailed PROTO-AGENT and PROTO-PATIENT properties, then either or both may be lexicalized as the subject (and similarly for objects).

(65) Corollary 2 (Dowty 1991:576, #33)
With a three-place predicate, the nonsubject argument having the greater number of entailed PROTO-PATIENT properties will be lexicalized as the direct object and the nonsubject argument having fewer entailed PROTO-PATIENT properties will be lexicalized as an oblique or prepositional object (and if two nonsubject arguments have approximately equal numbers of entailed P-Patient properties, either or both may be lexicalized as direct object).

Over the years, Dowty's thematic proto-role approach has been criticized and refined. Amongst the major points of criticism is, first of all, its limited scope. The argument selection principle is mainly about subjecthood and objecthood in transitive predicates; little is said about intransitives, or about two-place and three-place predicates with one oblique argument. For our purposes, however, this is not much of a problem, since the data in this book is mainly limited to transitive predicates. Furthermore, the argument selection principle determines subject and object selection without differentiating case and grammatical role, which is a relevant distinction for languages where the two do not fully overlap. Languages with Differential Object Marking, which are at the center of the present work, are a case in point. A further important critique concerns the nature and ordering of the set of lexical entailments. For the author, lexical entailments are determined by the verb, and are to be differentiated from entailments that arise from the referential properties of the event participant in argument position. However, as the introductory examples from German and Swedish contact verbs have shown, argument-based entailments like animacy or entailments arising from resultative predication can mediate or interact with verb-based entailments and are also relevant for argument realization. This in turn gives rise to the question of why entailments that determine argument selection should not be determined by the predicate as a whole. With respect to the ordering of lexical entailments, an important issue is whether all entailments should be treated the same or whether some are more "important" than others. It has been argued that causation, in particular, outranks other entailments when it comes to subject selection (Primus 1999a; Davis 2001; Levin and Rappaport Hovav 2005). Finally, some lexical entailments are in fact not independent of each other. For instance, being *causally affected* by the action or *undergoing a change of state* on the part of the PROTO-PATIENT presupposes *causation* on the part of the PROTO-AGENT, just like being *stationary relative to another*

participant as a PROTO-PATIENT entailment presupposes *autonomous movement* on the part of the PROTO-AGENT.

Some of the above-mentioned critical issues have led to refined versions of Dowty's approach, one of which is found in Primus (1999a, b, 2006). Amongst Primus' main innovations is the differentiation between the role-semantic dimensions *involvement* and *thematic dependency*, whereby involvement determines morphosyntactic linking (i.e., the case marking of a participant) and thematic dependency determines structural linking to grammatical roles. The involvement of a participant is measured by the number of consistent role-semantic properties entailed for it, while thematic dependency concerns the causal relation that distinguishes the agent and patient proto-roles from each other. The characteristics that describe the agent and patient are shown in Table 6, with the semantic primitives and their descriptions (Primus 1999a: 48; Primus 1999b: 141). As can be deduced, the characterization of the PROTO-PATIENT is derived from that of the PROTO-AGENT, with the converse relations implied for the patient prototype rather than for the agent prototype (see Primus 2006: 59f).

Table 6: Proto-role properties according to Primus (1999a,b).

PROTO-AGENT properties		◄►	**PROTO-PATIENT properties**	
a. CTRL(x,. . .)	x is the controller	◄►	CTRL(x, s,. . .)	the situation s denoted by the predicate is controlled by x (with y in s)
b. MOVE(x,. . .)	x is physically active or moves	◄►	MOVE(x, y,. . .)	y is moved by x
c. EXP(x,. . .)	x is sentient	◄►	EXP(x, y,. . .)	y is experienced by x
d. POSSESS(x,. . .)	x is the possessor	◄►	POSSESS(x, y,. . .)	y is possessed by x

For Primus, the proto-roles are defined along the same set of semantic primitives, but the PROTO-PATIENT stands in a causal dependency relationship with the PROTO-AGENT. It is a participant whose kind of involvement in the event "depends on the kind of involvement of another participant, the PROTO-AGENT" (2006: 56). The dependency relation is understood in the following way: "If a participant would not have a specific property, the event denoted by the predicate and the specific properties of the other participants in that event would not obtain" (Primus 2006: 57). This is illustrated in (66) for transitive predicates (Primus 1999a: 52; 2006: 59). For any thematic predicate PRED(x, y), the participant (embedded in) y is dependent on the participant (embedded in) x. The PROTO-AGENT is the participant with the properties for x, and the PROTO-PATIENT is the participant with the properties for y.

(66) type of involvement of y depends on type of involvement of x =
PROTO-PATIENT
↓
PRED(x, y)
↑
independent involvement of x = PROTO-AGENT

Unlike Dowty (1991), Primus discusses differential case marking patterns of patients (direct objects) depending on the number of thematic entailments as well as the referential properties of the event participant, such as its animacy, definiteness, aspect/tense, person, etc. (1999a: 78–83). In more recent work on Spanish DOM (García García 2007, 2014, 2018; Primus 2012), Primus' proto-role model has served as a framework for arguing that a specific role-semantics of the direct object reflects the distribution of the DOM marker.

Bringing the above observations together, Primus' proto-role model resolves some of the shortcomings of Dowty's (1991) model. It defines the agent and patient proto-roles in terms of the same set of semantic primitives and articulates the thematic dependency relation between entailments associated with the agent and the patient. While, in Dowty's (1991) model, the number of entailments determines subject and object selection without differentiating case and grammatical role, in Primus' (1999a,b, 2006) model, the involvement of a participant determines its case, and thematic dependency determines its grammatical role. Furthermore, the articulated thematic dependency between participants in Primus' account makes concrete predictions about the interaction of agentivity and affectedness that have to be tested cross-linguistically. Since the patient is exclusively defined through its dependency on agent entailments, this means that an increase in agentivity would result in an increase in affectedness. However, the conceptualization of the patient as a mirror image of the agent also comes at its own cost. There are some properties related to patienthood or the direct object position which cannot be captured via causal dependency between the agent and the patient. One of them is the notion of incremental theme, or, in the current literature, PATH or scale, which is included in Dowty's but not Primus' list of proto-role entailments. Since causal dependency does not apply to this notion, Primus has to introduce incremental theme as an additional dimension of involvement (2006: 58–59). Another property is that of independent existence, which is recognized neither by Dowty (1991) nor by Primus (1999a,b, 2006) as a characteristic of the PROTO-PATIENT. For Dowty, this has to do with his conception of independent existence as comprising *de re* rather than *de dicto* interpretations and referring to the existence of a participant before and after the event. Since created objects (which are patients for Dowty) have no existence before the event, and destroyed

objects have no existence after the event, patients have dependent existence. That being said, the author is not sure whether the independent-dependent existence distinction is a discourse or proto-role property. If we exclude the association of *de re*/*de dicto* readings with independent existence and treat it as a verbal entailment, it seems that some generalizations are still missed. For one thing, not all affected event participants get destroyed through the event. Participants undergoing a change of location, a change of state which does not affect their material integrity, or a mental change of state, do have an existence before and after the event. In fact, independent existence prior to the event has been noted as a characteristic and pre-requisite of affectedness: "prior existence must therefore also be a factor relevant for affectedness – perhaps something cannot be 'affected' if it did not exist prior to the event" (Beavers 2011a: 341). With effected objects denoting a dependent existence and affected objects denoting an independent existence, at least prior to the event, this means that we have two types of participants that essentially differ with respect to their existence during the event. Regarding argument realization, typological work shows that verbs with affected participants exhibit quite stable transitive behavior, whereas effected participants are more labile and often figure in intransitive constructions, which is why they are sometimes referred to as "pseudo-transitives" (Næss 2007, 2011). This suggests that independent existence is better fitted to be a PROTO-PATIENT entailment than dependent existence. But if independent existence is a characteristic entailment of the PROTO-PATIENT, this conflicts with the view of a patient that must be defined in all properties in opposition to the agent. While causal dependency distinguishes the agent from the patient in terms of their verb-based semantic roles, perhaps it should not be extended to an understanding of the patient as exclusively defined by the opposite properties, especially with regard to referent-based properties. This is in line with some of the introductory observations in this section, from which we have seen that a referent-based property like animacy may mediate the ability of an event participant to be interpreted as affected, and thus to be realized in a transitive construction. Later in this monograph (3.1, 4.2.3), we will also see that in DOM languages, features like animacy trigger the overt case marker cross-linguistically.

Let us summarize this subsection. The lexical-thematic approach to argument realization provides a very influential account for capturing argument realization patterns, especially regarding two-place predicates. The refinement of Dowty's (1991) model by Primus (1999a,b, 2006) differentiates case from grammatical role, and provides a framework that could possibly be used in investigating differential case marking phenomena related to affectedness. Furthermore, it points to a dependency relationship between agent and patient, and thus makes predictions about the interaction of agentivity and affectedness. Note that both accounts abandon the tradi-

tional understanding of a linking mechanism between two levels of representation, namely the thematic level and the syntactic level. Proto-roles are "higher-order generalizations about lexical meanings" (Dowty 1991: 577) that are argued to indicate the likelihood of event participants getting lexicalized in a certain pattern in natural language. The interplay of different properties and their weighing against each other creates a very flexible system for predicting different alignment patterns. However, it does not tell us about different predicational or syntactic properties between different types of patients or agents. More concrete predictions about the architecture of events and the mapping between the semantics and the syntax of certain kinds of arguments are made in syntactic approaches. In the following subsection, I will present one such approach pursued by Ramchand (2008).

2.3.2 Syntactic decomposition

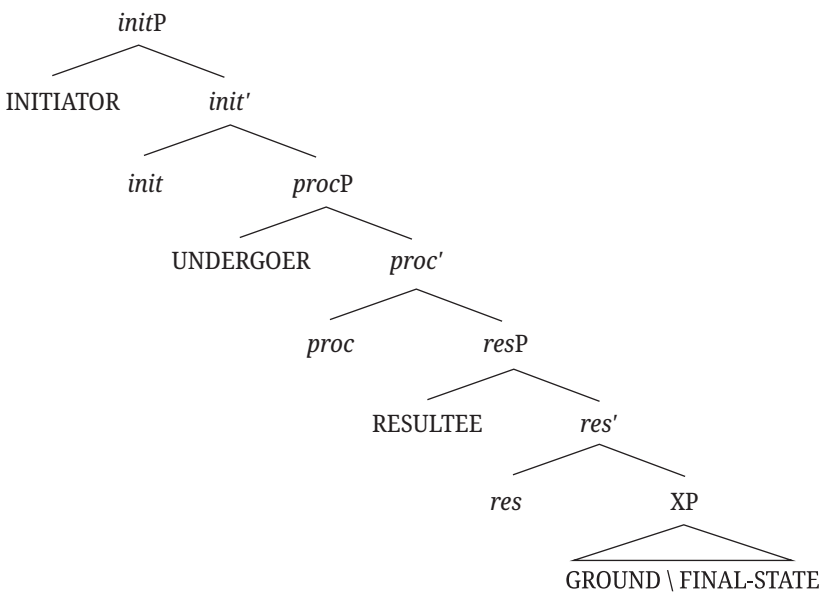
This section provides an overview of the syntactic decomposition of events as brought forward in Ramchand (2008), and the representation of affectedness therein. Theoretically, the enterprise is situated between minimalism and cartography, and can be described as part of a minimalist agenda which seeks to isolate irreducible syntactic combinatorial primitives that correlate with structural semantic primitives (Ramchand 2011: 1). In what follows, I will introduce the author's proposal for a lexical syntactic structure that is based on the notions of causation, change, and resultativity, and then discuss the semantics associated with the syntactic nodes and the predicational asymmetry between different structural positions.

One of the leading ideas in the literature on event structure is that verb meaning is determined by lexicon-external compositional processes. This proposal evolves from the cross-linguistic observation that there are systematic aspects of verb meaning that correlate with morphosyntactic representation. The original claim is rooted in work by Lakoff (1965) and McCawley (1968), and was revived by Hale and Keyser (1993) when entertaining the view that grammatical properties of a lexical item are identified in syntactic projections. Following Hale and Keyser (1993), a series of proposals have articulated a system of syntactic functional projections that is based on event structure (Ritter and Rosen 1998; Borer 2005; Ramchand 2008; Travis 2010). One of the most influential of these is the first phase syntax developed by Ramchand (2008).

Ramchand (2008) adopts a constructionist view of grammar, where event structure is systematically constructed on a lexical syntactic level, which she calls first phase syntax. In such an approach, syntactic structure carries meaning, and grammatically relevant information is derived from the interpretation of the syntactic

structure that a verb identifies. Dynamic verbs representing complex events decompose into predications over maximally three subevents, namely a causing subevent representing causation, a process-denoting subevent representing change, and a subevent denoting a result state. Each of these subevents has its own predicational subject position and is represented by its own syntactic projection. The subevents are linked via a generalized "cause" relation, leading to the hierarchically ordered maximal structure of the lexical syntactic level that she proposes, as shown in (67) (Ramchand 2008: 39; Ramchand 2014: 10; Ramchand 2017: 239).

(67)



The ***init*** (initiation) head represents a causational projection that introduces the external argument, the INITIATOR. It is similar to the external argument introducing a *v* head in the literature (Kratzer 1996). The ***proc*** (process) head represents a dynamic process expressing change through time and introduces the entity undergoing change, the UNDERGOER. The ***res*** (result) head represents a stative projection expressing the result or telos of the event and introduces the entity that comes to hold the result state, the RESULTEE (Ramchand 2008: 40).

The architecture of the syntactic structure itself is motivated by empirically necessary primitives in lexical semantic decomposition, as well as by core participant roles and syntactic argument types. Causation is a primitive that has been established in event conceptualization and argument realization, especially in determining subject choice, and underlies the external/internal argument distinction (Dowty 1991; Van Valin and La Polla 1997; Primus 1999a; Levin and Rap-

paport Hovav 2005; Beavers 2006: 25–28; see Section 2.3.1). Cross-linguistically, it often shows up as overt verbal morphology (Comrie 1985; Haspelmath 1993; Levin and Rappaport Hovav 1995; Wunderlich 1997; Zúñiga and Kittilä 2019). The concept of change is the crucial notion characterizing dynamic events and distinguishing them from states (Vendler 1957; Dowty 1979; Kearns 2011: Chapter 8). Telicity has also been shown to be an isolable component in the decomposition of verbal meaning, and as being involved in verbal morphology and case marking reflexes across languages (Tenny 1994; Filip 1997; Kiparsky 1998; Ritter and Rosen 1998; Kratzer 2004; Borer 2005). Together they make up the necessary components to build various event structures, of which the decomposition in (67) expresses the maximal structure. The actual decomposition varies depending on the type of predicate that is being dealt with. Crucially, the "process" component, as it is referred to here, is the correlate of dynamicity and change and therefore present in all dynamic events, capturing activities and accomplishments just as well as achievements. It is presupposed for the concepts of initiation and result, which themselves can be absent in a dynamic event. Note that the term "process" as it is used here is not to be confused with or limited to the understanding of the term "process" in the Vendlerian sense (Vendler 1957), where it refers to a transition going on in time (process) as compared to one occurring at a single moment (non-process).

In a generative, constructionist approach, the nature of the structure is more important than the nature of each lexical item entering the structure. For Ramchand (2008: 58), lexical items are not structured syntactic entities that project their information in syntactic representation. The syntax which carries semantic structure is built up autonomously. However, unlike in more radical constructionist theories, lexical items in her system are also not devoid of any syntactically relevant information (Marantz 1997; Borer 2005). Verbal roots do come with some selectional information, i.e., they bear category features which are restricted to those present in the syntactic computation. In Ramchand's terms (2008: 58), verbal roots "identify" certain category features and thereby a particular syntactic structure. Different verbal lexical items come with different bundles of category features that match the subevental heads. A verb like *run,* for example, identifies an initiated process and thus carries the features [*init*, *proc*]. In addition to these features, a verb like *break* identifies a result component and thus exhibits [*init*, *proc*, *res*]. In this system, verbal roots are not inserted under a single syntactic node, but rather "multi-attach" via their features to (parts of) the structure in a parallel manner, meaning that they lexicalize different spans in the extended verbal projection (Ramchand 2008: 63, 2017: 240). Details about how the first phase syntax is built up by Merge are laid out in Ramchand (2008: 58–59). Since the syntactic structure, including its semantic interpretation, is independent of idiosyncratic

information, the different heads that verbs lexically identify may differ between languages. While, in English, the verb *break* identifies all three heads synthetically, other languages may have causative morphology for *init*, or resultative morphology for *res*, etc.

2.3.2.1 Semantic interpretation of structure

With regard to the semantic interpretation of structure, the categorial nodes in the tree "denote relations between properties of events and properties of events, constructing more and more complex event descriptions" (Ramchand 2008: 44). There is one basic rule of event composition, expressing the "leads to" relation (68). Furthermore, two general primitive predicates correspond to the basic event types, as specified in (69):

(68) Event Composition Rule (Ramchand 2008: 44; cf. Hale and Keyser 1993)
$E = e_1 \rightarrow e_2$: e consists of two subevents, e_1, e_2, such that e_1 causally implicates e_2

(69) a. State(e) : e is a state
b. Process(e) : e is an eventuality that contains internal change

The initiation and the result subevents are both assumed to be states, with their specific interpretation following from their arrangement in the hierarchical structure. The state introduced by the *init* head receives a causational interpretation, and the state introduced by the *res* head receives a causally implicated, resultative interpretation (Ramchand 2008: 44). Based on this, two derived predicates over events are defined:

(70) IF $\exists\, e_1, e_2$[State(e_1) & Process(e_2) & $e_1 \rightarrow e_2$], then by definition Initiation(e_1)

(71) IF $\exists\, e_1, e_2$[State(e_1) & Process(e_2) & $e_2 \rightarrow e_1$], then by definition Result(e_1)

2.3.2.2 Specifier positions

The 'subjects' of the particular subevents, which are represented in the specifier positions, are interpreted according to the primitive role types defined in (72). The denotations of the particular heads are given in (73) (Ramchand 2008: 45).

(72) a. Subject (x, e) and Initiation(e) entails that x is the INITIATOR of e.
b. Subject (x, e) and Process(e) entails that x is the UNDERGOER of e.
c. Subject (x, e) and Result(e) entails that x is the RESULTEE of e.

(73) a. [[*res*]] = λPλxλe[P(e) & *res*'(e) & State(e) & Subject (x,e)]
b. [[*proc*]] = λPλxλe∃e_1,e_2[P(e_2) & *proc*'(e_1) & Process(e_1) & e = (e_1 →e_2) & Subject (x,e_1)]
c. [[*init*]] = λPλxλe∃e_1,e_2[P(e_2) & *init*'(e_1) & State(e_1) & e = e_1→e_2 & Subject (x,e_1)]

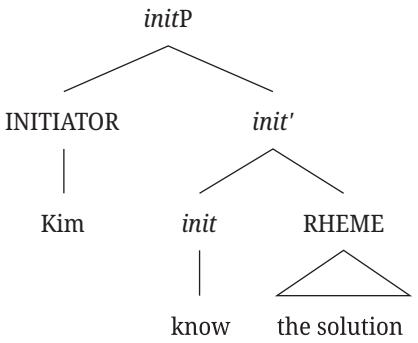
It is important to note that this kind of semantic structure has to be filled with lexical encyclopedic content, but it already contains crucial components of meaning that are independently built up by virtue of the labeled structure.

In terms of predicational relations, arguments which occur in specifier positions are aspectually relevant arguments related in a one-to-one fashion to the subevent projections. These heads are the "subjects" of these projections and are interpreted as building a state or process description, with the entity in specifier position uniformly interpreted as the "holder" of the static or changing property denoted by its sister.

INITIATORS are individuated entities which possess some property that is responsible for the event coming about. They are said to be "subjects" or "holders" of the initiation/causation subevent. They are present in states and verbs that express a causational state which leads to a process coming about (74) (Ramchand 2008: 52). The tree structure for (74)c is illustrated in (75). The rhematic object in complement position serves as part of the description of the property predicated over the INITIATOR. Specific properties of RHEMES will be discussed below in Section 2.3.2.3.

(74) a. *The key* opened the lock. INITIATORS
b. *John* persuaded Mary.
c. *Kim* knew the solution.

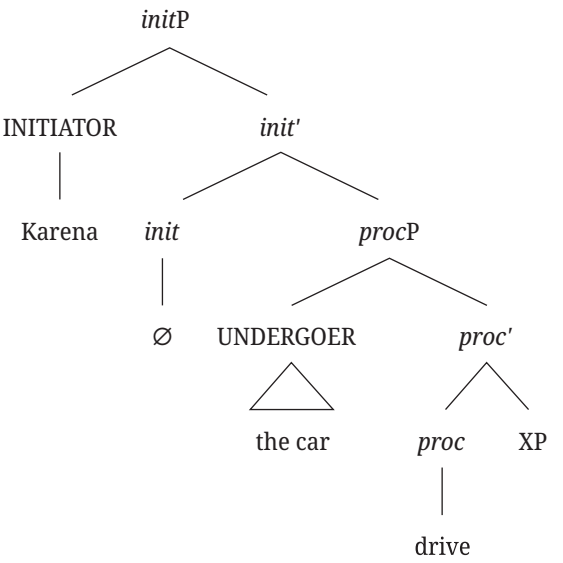
(75)



UNDERGOERS represent "subjects" of the process, that is of the *proc* head, and thereby the affected argument. They are individuated entities whose change in some property is homomorphically related to a scale (PATH) measuring the event time. They are present in every dynamic verb (Ramchand 2008: 52). The tree structure for (76)a is given in (77).

(76) a. Karena drove *the car*. UNDERGOERS
b. Kim dried *the coffee beans*.
c. *The window* broke.

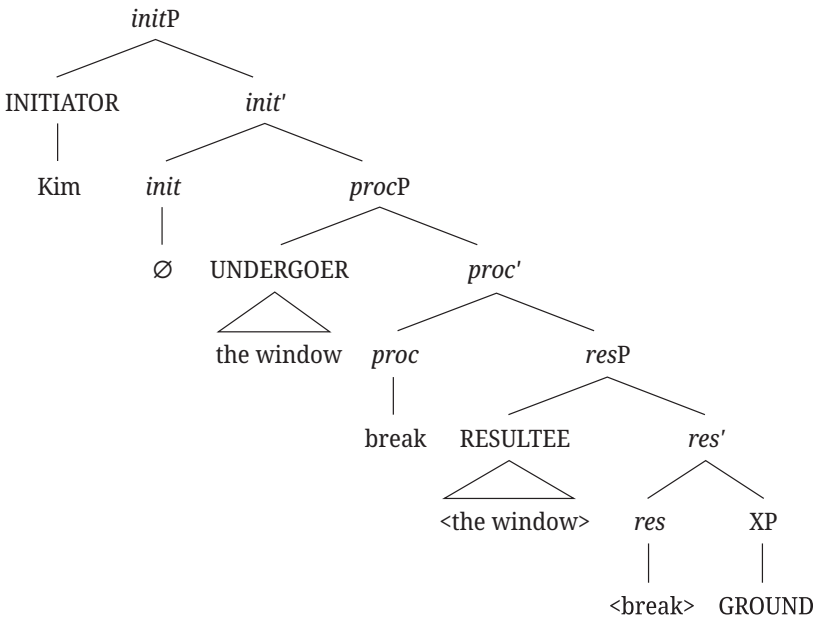
(77)



RESULTEES are individuated entities expressing a result state which is described in relation to the resultative property. A *resP* is only present if the meaning of the verb explicitly entails a resultative predication. It does not correspond to telicity or aspectual boundedness in general, which can also arise due to DP entailments interacting with the verb (Ramchand 2008: 40, 52). The structure for (78)c is illustrated in (79).

(78) a. Katherine ran *her shoes* ragged. RESULTEES
b. Kim tore apart *the box*.
c. Kim broke *the window*.

(79)



2.3.2.3 Complement positions

Between the specifier and the complement positions in the first phase syntax, there is a predicational asymmetry, also called a "THEME-RHEME" asymmetry. The entities in the specifier position of each of the three heads are the THEMES of the predication; as mentioned above, they are the "holders" of a static or changing property. In contrast, the entities in complement position are RHEMES; they serve as modifiers that are part of the description of the property predicated over the theme. A dynamized subcase of a RHEME corresponds to a PATH, which is the function of a complement of the *proc* head. According to Ramchand, unlike the subjects of the eventive heads, "RHEMES, and as an important subcase PATHS, do not describe elements that are referentially individuated and predicated over within an event topology, but those that actually construct the specific predicational property (static or dynamic) that the 'subject' is asserted to have" (2008: 46). In terms of Higginbotham (1985), RHEMES combine with the head as further descriptors of the properties of the subevent via event "identification", which refers to the conjunction of event predications (Ramchand 2008: 46). In this sense, RHEMES are also similar to predicate modifiers, as described by de Hoop (1992).

In stative predications, the RHEME is a non-aspectual internal argument projected as the complement of *init*, which is not interpreted as causational but as a state, since it does not cause a further subevent. While the specifier positions are

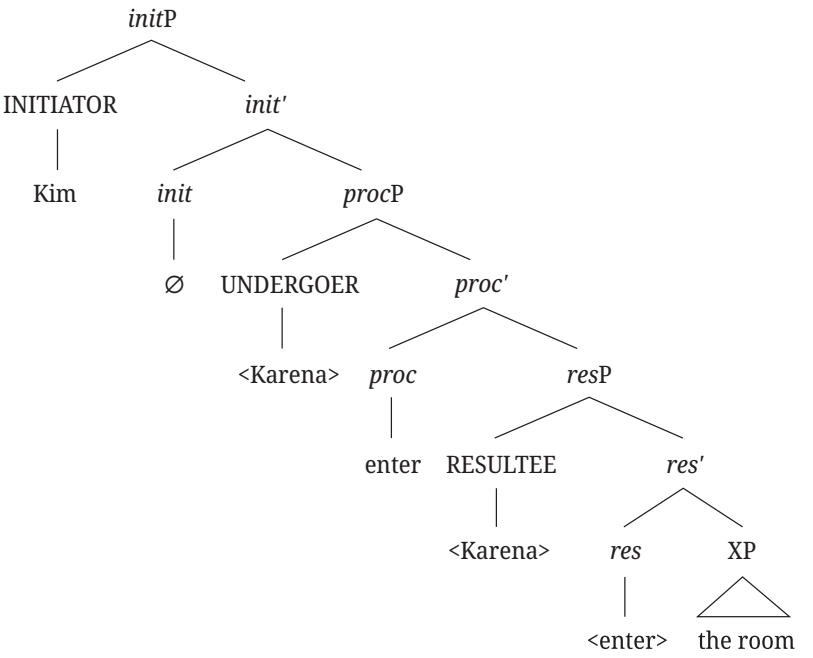
reserved for DPs, complement positions can be filled by XPs (i.e., NPs/DPs, PPs, Aps, etc.). Examples of RHEMES are given in (80) (see Ramchand 2008: 33, 55–56). The first phase syntax of (80)c was shown in (75).

(80) a. Alex weighs *thirty pounds*. RHEME
b. Katherine fears *nightmares*.
c. Kim knew *the solution*.

Note that RHEMES can also be complements of a *resP* embedded in a dynamic event, and serve as GROUNDS OF RESULT. GROUNDS OF RESULT denote inherent non-gradable properties that further describe the result state. Examples are given in (81) (see Ramchand 2008: 52), with the first phase structure of (81)a shown in (82). With a verb like *enter*, when Karena *enters the room*, she is the INITIATOR of a process and at the same time its UNDERGOER, as she is the entity in motion. In addition, she is the RESULTEE for which the final location described by the RHEME, the GROUND OF RESULT, is obtained.

(81) a. Karena entered *the room*. RHEME (GROUND OF RESULT)
b. Kayleigh arrived *at the station*.

(82) Karena entered the room.



So far, we have exemplified rhematic material from stative subevents, which can be found in the complement position of *initP* or *resP*. Since rhematic material matches the topological properties of the event, the complements of processes are dynamized versions of RHEMES. In dynamic verbs, the THEME, which is the UNDERGOER, is the entity that changes along a PATH, and the PATH co-describes the change subevent predicated over the undergoer by functioning as a trajectory of change. Dynamic verbs come with a part-whole structure and the PATH determines a scale which is "a set of 'measures' of a particular property which is monotonic with respect to the part–whole structure of the object" (Ramchand 2008: 47). At this point, I will not provide the specific semantics of PATHS as defined by Ramchand (2008: 46–51), as her understanding of the notion of PATH is actually quite similar to that of Beavers (2011a), which was introduced in Section 2.2.2. The semantics of a *proc* head combining with a PATH is as follows:

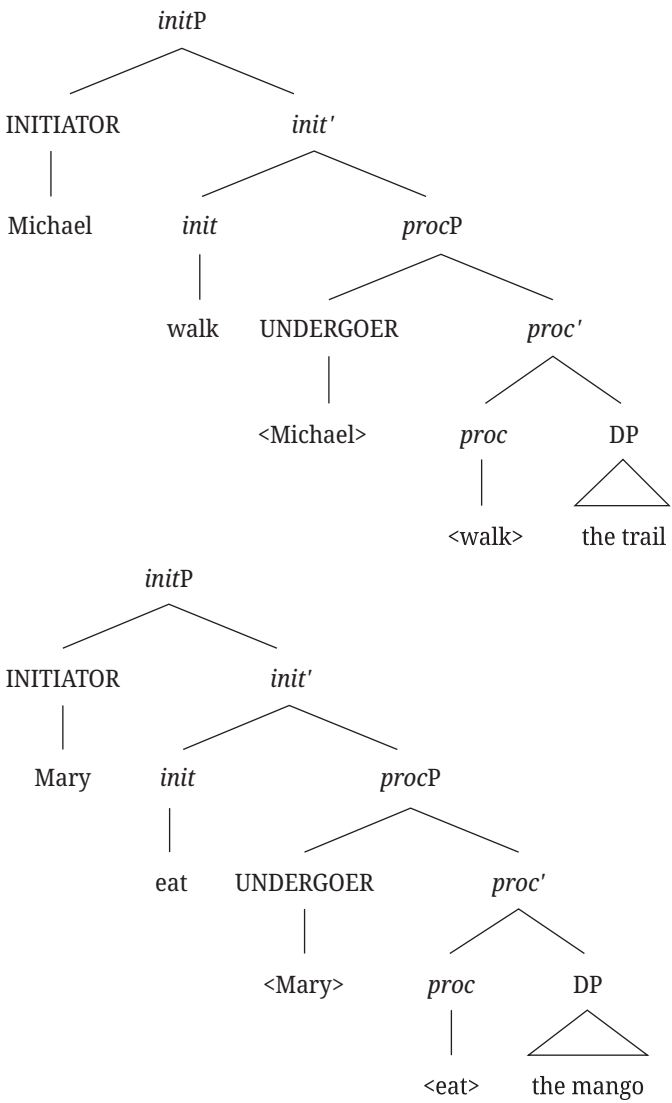
(83) [[proc]] = λyλxλe[Path(y,e) & *proc'*(e) & Process(e) & Subject(x,e)]

Examples of PATH objects are given in (84) (Ramchand 2008: 66). In the literature, such objects are also known as incremental themes. The generalization about the PATH DPs is that they possess a property inherent to the DP that is mapped onto the process and does not itself change. Ramchand advocates the view that DP objects of creation and consumption predicates do not travel on some abstract PATH of change, but define the PATH of change itself (2008: 30). Of course, this conflicts with the view that in the real world an apple changes through the action of being consumed, but the argumentation is that, linguistically, this group of verbs share the same structure. The analysis of such objects as PATHS and not UNDERGOERS is also supported by the fact that cross-linguistically, they are often formally realized as adjuncts in intransitive constructions. Furthermore, in many languages, PATH objects but not UNDERGOERS can be dropped or expressed as cognate objects (Levin and Rappaport Hovav 2005: 117).

(84) a. John read *the article*. PATH
b. Michael walked *the trail*.
c. Mary ate *the mango*.

In the first phase syntax of all of the sentences in (84), the direct object is the PATH and occupies the complement position of the *proc* subevent, while the subject is not only INITIATOR but also UNDERGOER. The structures of (84)b and (84)c are illustrated in (85). In (84)a, the configuration of the agent as UNDERGOER is possible since, as a sentient agent, *John* can be interpreted as a continuous experiencer of the event. In (84)b, *Michael* undergoes directed motion, and in (84)c, *Mary* is an affected agent.

(85)



While analyzing *Mary* as an UNDERGOER can seem unorthodox, this view is actually quite common with consumption predicates (Haspelmath 1994: 161; Wierzbicka 1982; Næss 2007: Chapter 4).

Because PATHS are homomorphic to the events' runtime, they evoke aspectual boundedness. Note that this type of telicity arises from entailments correlated with the DP structure and differs from telicity arising from the semantics of the verbal predicate. This means that in the Ramchandian system there is no unified account

of the "structure" of telicity, but instead there are different types of aspectually relevant internal arguments.

2.3.3 Discussion

In the first phase syntax proposed by Ramchand (2008), the semantics of event structure is built up compositionally by a lexical syntactic structure. This structure singles out the primitive notions of causation, change, and resultativity that together make up the maximal complex event, and associates each of these notions with a subevent represented by its own functional projection. The great advantage of a lexical syntactic structure is that it only includes those aspects of meaning that are genuinely predictable and systematic, and thereby makes precise predictions about the syntactic positions of participants and related predicational asymmetries. At the same time, it is flexible enough to represent a number of different event types and to include aspectual notions such as PATH which are homomorphically related to the events' runtime. As we have seen, Ramchand distinguishes between UNDERGOERS and PATHS and associates both types of arguments with different structural positions. She also makes a major predicational distinction between two types of direct objects, namely those that are predicational (i.e., THEMES of a subevent) and those that are modificational (i.e., RHEMES of a subevent). Syntactically, THEMES are represented in a hierarchically higher position than RHEMES. While the former occupy a specifier position, the latter are complements. Another advantage is that, in the first phase syntax, direct objecthood is not limited to affectedness. Since the framework differentiates structurally between events involving change and those that do not, in non-dynamic events, direct objecthood does not relate to affectedness. In dynamic events, direct objecthood is also not only reserved for UNDERGOERS; PATHS can also be direct objects. At the same time, there is a special relationship between being an UNDERGOER of change and direct objecthood, since there is a privileged syntactic position that carries the interpretation of being affected. This position can only be filled by subjects or direct objects.

A difference from the semantic approach laid out by Beavers (2011a) in Section 2.2.2 concerns the analysis of incremental themes. In Beavers' scalar semantic approach to change, incremental themes such as the objects of creation and consumption verbs share the same semantic structure that change of state and change of location verbs have. For Ramchand, who has not only a semantic but also a syntactic perspective, objects of creation and consumption verbs are PATHS, while objects of change of state and change of location verbs are UNDERGOERS, and thus the two types of objects are associated with different syntactic positions. Furthermore, Ramchand's approach allows different structures to be associated with different

types of agents, such as controlling versus non-controlling agents, which can also have an impact on the position of the UNDERGOER.

In sum, the present approach makes concrete mapping assumptions about syntactic positions and the semantics of participants. It does not predict a unified account of telicity, nor a unified account of the semantics of direct objects. Instead, it comes with a number of predictions about the syntax and semantics of participants and different types of events which can be tested cross-linguistically. What it does not discuss is how the particular positions relate to case and/or the different morphological realization of participants. With the overarching goal of this monograph being concerned with the question of how participants that change in some property are realized differently from those that do not change, the different structural positions proposed by Ramchand (2008) can serve as a basis from which to test the concrete mapping assumptions, and – possibly – to correlate them with different morphological realizations of participants.

3 Affectedness and Differential Object Marking

The previous chapters have shown that affectedness is a crucial semantic notion implicated in a variety of syntactic phenomena, especially regarding transitivity, valency patterns, and direct objecthood. We have seen that from a semantic perspective, affectedness can be conceptualized in an implicational hierarchy, where increasing degrees of affectedness entailed for an event participant indicate its increasing semantic prominence. In the literature on argument realization, the affectedness of an event participant has been linked to its grammatical realization as direct object and to its accusative or absolutive case marking. Furthermore, direct objects that are affected have been associated with a different structural position than direct objects that are non-affected, or PATHS.

In English, these kinds of semantic distinctions between direct objects are reflected solely in their syntactic behavior, but not in overt case marking patterns, as direct objects (full noun phrases) are realized morphologically uniformly. However, many languages of the world exhibit differential marking systems of their direct objects. Typological data in Sinnemäki (2014), which ranges over 744 languages, reveals that the majority of languages investigated (n = 521; 70%) do not have object case marking. Interestingly, however, those languages which do have object marking (n = 223; 30%) mark their objects differentially in 80% of all cases (n = 178 languages) and uniformly in 20% of all cases (n = 45) (Sinnemäki 2014: 293). This gives rise to the question of what role affectedness plays in the differential marking of direct objects in these languages. While our knowledge on affectedness in direct object selection is more or less robust, only little is yet known of how affectedness shapes the different morphological realization of direct objects.

Over recent years, affectedness has been related to Differential Object Marking (DOM), but relatively few works thoroughly investigate the semantic roles of participants and relate them to different realizations of one and the same direct object. Amongst the languages in which affectedness has been argued to play an important role in the DOM system are Abui (a Papuan language of the Alor-Pantar family) (Kratochvíl 2014), Ancient Greek (Riaño Rufilanchas 2014), Djapu (Næss 2007: 205), Lycopolitan Coptic (Engsheden 2018), Mongolian (Guntsetseg 2008: 64–65), Spanish (Torrego 1998, 1999; von Heusinger and Kaiser 2011; von Heusinger 2008; Romero Heredero 2020), and Tagalog (Latrouite 2011), as well as Turkish and Uzbek (Kizilkaya et al. 2022). The emerging literature on affectedness and DOM is also accompanied by controversy, especially since Differential Object Marking patterns have traditionally been described in terms of the lexical, referential, and information structural properties of the noun phrase. Furthermore, sceptics point out that affectedness is intuitively defined and a hard notion to measure (de Hoop

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2015). Against the background of the precise definition of affectedness, including its syntactic distribution, that was introduced in the earlier parts of this chapter, this section will elaborate on the notion of Differential Object Marking and exemplify the role that has been claimed for affectedness therein, using examples from Spanish. This will motivate the detailed investigation of affectedness and DOM in one particular language, namely Turkish, later in this monograph.

3.1 Differential Object Marking

Differential Object Marking refers to the optional case marking of direct objects and is a very common phenomenon across the languages of the world. As mentioned above, typological data from languages with object marking demonstrate that it is the norm rather than the exception for object marking to be differential or "restricted", instead of uniform (Sinnemäki 2014: 293). In DOM languages, the question of whether a direct object is morphologically case marked or remains unmarked is traditionally argued to depend on lexical, referential, and information structural properties of the noun (Bossong 1985; Aissen 2003; Dalrymple and Nikolaeva 2011; Bárány and Kalin 2020), but there is also literature pointing to the importance of properties of the verb (Næss 2004; Malchukov and de Hoop 2011).

The examples below instantiate DOM as correlating with specificity in Turkish (86) and with animacy and definiteness in Spanish (87)–(88). In Turkish, DOM is expressed via the differential use of the accusative suffix *(y)I,* which has the vowel harmony variants *-(y)ı, -(y)i, -(y)u,* and *-y(ü).* The preverbal indefinite, which is accusative marked, is incompatible with a semantically non-specific reading of the direct object referent, and in this respect behaves differently from its unmarked counterpart (Enç 1991). In Spanish, DOM is expressed via the accusative marker *a,* which is homophonous with the dative marker *a* and the directive preposition *a*. The accusative marker is more or less obligatory with human definite direct objects, and ungrammatical with inanimate ones, as the contrast in (87) illustrates for definites (Brugè and Brugger 1996; Leonetti 2003; Laca 2006). With indefinite human direct objects, it is optional (88) (García García 2018: 211). The general assumption is that DOM is required if they are specific, although this does not mean in turn that all marked direct objects necessarily carry a specific interpretation.

(86) a. Deniz bir sekreter-**i** ara-dı. Turkish
PN a secretary-ACC look.for-PST
'Deniz looked for a certain secretary.'

b. Deniz bir sekreter ara-dı.
PN a secretary look.for-PST
'Deniz looked for a secretary.'

(87) a. Maria vio *(**a**) la mujer. Spanish
PN see.PST.3SG DOM the woman
'Maria saw the woman.'
b. Maria vio (***a**) la casa.
PN see.PST.3SG DOM the house
'Maria saw the house.'

(88) Maria busc-a (**a**) una actriz. Spanish
PN look for-3SG DOM an actress
'Maria is looking for an actress.'

From a functional perspective, there are two very influential lines of explanation linked to DOM (Dixon 1979, 1994; Comrie 1989; de Hoop and Malchukov 2008; Dalrymple and Nikolaeva 2011: 3–8). One of the functions of case marking is argued to be a *distinguishing* one (also called discriminatory or disambiguating), serving to disambiguate the roles of the respective arguments in clauses with more than one argument. For this type of case marking, the relation between the arguments in a clause is crucial. The second function is argued to be an *indexing* (also called highlighting or identifying) one, serving to flag certain properties that an argument carries, independent of its relationship to another or the other argument of the clause (Witzlack-Makarevich and Seržant 2018: 30). Note that the two functions are not mutually exclusive. They can provide different perspectives on a certain property that induces case marking on an argument, but also come with different predictions that may render them more or less applicable to a certain language. For a language that marks animate but not inanimate direct objects, for instance, it can be argued from a *distinguishing* perspective that the animacy of a direct object which is "prototypically" inanimate renders it more similar to "prototypically" animate subjects, hence the object has to be differentiated from the subject by means of case marking. This account would predict that animacy is a property inducing case marking on objects but not on subjects. From an *indexing* perspective, one may argue, for the same language, that case marking identifies a certain property, in this case animacy, of an argument, irrespective of whether it is subject or object.

A strong generalization that emerges from the functional-typological literature on DOM aligns case marking with prominence: the more prominent a direct object is, the more likely it is to be morphologically case marked (Aissen 2003: 436). This generalization has repeatedly been postulated as a language universal (Haspelmath

2020: 9–11), and can be related to either or both of the above-mentioned functional explanations. The prominence status of a particular object is determined by interacting prominence hierarchies or scales, such as the Animacy/Person Hierarchy (89), the Referentiality Hierarchy (90), the Topicality Hierarchy (91), or the Affectedness Hierarchy (92).

(89) **Animacy/person** (Silverstein 1976; Croft 1988; Comrie 1989)
1/2 > 3 pronoun > name > human > animate > inanimate

(90) **Referentiality** (definiteness/specificity) (Silverstein 1976; Croft 1988; Comrie 1989; Aissen 2003)
pronoun > name > definite > specific indefinite > non-specific > non-referential

(91) **Information structure** (Dalrymple and Nikolaeva 2011)
topic > non-topic

(92) **Affectedness** (Næss 2004; Beavers 2006, 2011a)
totally affected > affected > impinged > non-affected

These scales express increasing prominence on the various levels of description from right to left and are conceived of as implicational in nature. Upon alignment with DOM, the morphology distributes continuously; that is, if case marking is required for any direct object carrying a feature on a particular scale, then it is also required for direct objects which are higher on the scale. Conversely, if case marking is infelicitous for any direct object carrying a feature on a particular scale, then it is also infelicitous for direct objects which are lower on the scale. Importantly, individual languages differ greatly with regard to the transition points for case marking, i.e., the cut-off point(s) on the hierarchies between marked and unmarked objects and whether the coding splits are of categorical or gradable nature. Categorical splits are invoked by certain features that require DOM, whereas gradable splits refer to features invoking a (strong) preference for DOM. Furthermore, in most languages the distribution of DOM is conditioned by multiple interacting parameters.

Amongst the parameters or hierarchies constraining DOM, the ones that are most thoroughly researched are animacy and referentiality, followed by the ones discussing information structure (topicality). In comparison to the nominal semantic-pragmatic parameters, the influence of verbal semantics on DOM is cross-linguistically under-studied at both the theoretical and empirical levels and is often addressed as a side issue, if mentioned at all. There are some exceptions to this, like Spanish, where DOM has traditionally been described as being conditioned by animacy and referentiality (Aissen 2003: 470; Leonetti 2004; von Heusinger and Kaiser 2005;

Laca 2006), but where a growing body of research points to the influence of additional verbal semantic factors like agentivity or affectedness to account comprehensively for its distribution (Torrego 1998; von Heusinger and Kaiser 2007, 2011; Næss 2007; García García 2014; García García et al. 2018; Romero Heredero 2020). In the following, we will exemplify the impact of affectedness on DOM with data from Spanish.

3.2 The role of affectedness

The role of affectedness in differential case marking has actually been noted from early on. Bossong (1991) mentions properties of the verbal complex under the term *constituency* which, together with *inherence* and *reference*, forms one of the three basic dimensions that capture the semantic-pragmatic factors contributing to DOM. He distinguishes between verb and direct object combinations with objects that are tightly connected to the verb and do not exist independently of it, and those with more autonomous objects that exist independently. While, in the former type of combination, the direct object tends to be unmarked in DOM systems, in the latter type of combination, it tends to be marked. He notes that in some languages, the difference between affected (autonomous) and effected (dependent) objects can be the predominant factor in the distribution of DOM, but in many languages, this dimension is instead concomitant with the inherent and referential properties of the object. With affectedness being partly related to lexical aspect, there are also a variety of languages that use DOM to encode tense and aspect contrasts (Malchukov and de Hoop 2011). Objects are differentially marked depending on whether the event is bounded or unbounded and whether it is the agent that is in focus (imperfective) or the patient (perfective). For Næss (2004, 2007), affectedness is the central notion behind DOM. In her account, what is marked by accusative case is not definiteness or animacy but a high degree of affectedness that correlates with the two parameters. Following Hopper and Thompson (1980: 253), who argue that a definite object is more completely affected by the action than an indefinite one, Næss reasons that the affectedness of an object co-varies with its definiteness and animacy. In doing so, she evaluates affectedness on the level of part-whole relations, which are related to definiteness contrasts, and saliency, which is related to animacy contrasts. According to her (see Section 2.2.1), indefiniteness represents partial affectedness, as compared to the total affectedness encoded by definites. A sentence like *I drank some milk* expresses that only a subpart of the milk is affected by the action, while in the definite counterpart, *I drank the milk*, it is the whole rather than a part of it. Evidence for this claim comes from the fact that Finnish accusative-partitive case contrasts relate similarly to both part-whole relations and contrasts in degree of affectedness, as exemplified in (93) (Kittilä 2002: 113–114).

Note, however, that the examples from Finnish refer to an alternation between two types of overt morphological case rather than to an alternation between the presence and the absence of morphological case (De Hoop and Malchukov 2007: 1640). Therefore, they actually refer to a contrast between a direct object and an oblique realization. What we will be interested in in the remainder of this section and in the rest of the monograph is DOM in the narrow sense, which refers to the alternation between the presence or absence of morphological case.

(93) a. Hän jo-i maido-**n**
s/he drink-PST.3SG milk-ACC
'S/he drank (all) the milk.'
b. Hän jo-i maito-**a**
s/he drink-PST.3SG milk-PART
'S/he drank (some) milk.'
c. Hän tappo-i miehe-**n**
s/he kill-PST.3SG man-ACC
'S/he killed the man.'
d. Hän lö-i mies-**tä**
s/he hit-PST.3SG man-PART
'S/he hit the man.'

With respect to saliency, Næss argues that the effect of an action on a human entity in *Peter killed John* may be perceived as more dramatic than the effect on an inanimate entity in *Peter broke the pot*, as animate or human entities are in general more salient in human perception than inanimate ones (Næss 2004: 1202). From these observations, she concludes that in DOM languages, it is affectedness that is operationalized by the properties definiteness and animacy:

> The tendency to case-mark objects that are high in definiteness and animacy is in fact a reflection of the accusative case as marking objects which are construed as being highly affected. [. . .] [W]hen a language has to decide which kinds of objects are 'affected enough' to receive case-marking, it may make this categorisation on the basis of more easily measurable properties on which affectedness depends [. . .], and so definiteness and animacy provide the yardsticks by means of which affectedness may be measured. (Næss 2004: 1203)

This type of evaluation of affectedness has also received criticism. De Hoop's (2015: 170) criticism is that in examples like (93)a–b, the part of milk that is drunk in (93)a is just as affected as the one in (93)b; Beavers (2011a) likewise pleads to differentiate quantity from degree of affectedness (2011: 357). With respect to animacy the situation is more complicated. On the one hand, the verbs *break* and *kill* are both equally specific about the change they encode for the object participant: both

of them denote change and a result state. On the other hand, animate entities do possess more dimensions on which they can be affected. As has been shown, this can, at least with certain groups of verbs, mediate the availability of affected readings. Evidence for such an interrelation between affectedness and animacy has been claimed for direct object selection in German, Swedish, and Dutch (Lundquist and Ramchand 2012; Fleischhauer 2018). It seems that the interrelation between affectedness and animacy is still an important question that should be investigated with respect to direct object realization.

One language with DOM where the impact of affectedness is quite well researched is Spanish. DOM in Spanish depends on a multifactorial analysis. It is determined not only by nominal parameters such as animacy and definiteness, which were introduced above, but also verbal semantic ones such as aspect, affectedness, and agentivity (Torrego 1998, 1999; Barraza Carbajal 2008; von Heusinger and Kaiser 2011; García García 2014, 2018; Romero Heredero 2020). The impact of affectedness has been acknowledged from early on (Spitzer 1928; Pottier 1968) and has been revived by Torrego (1998, 1999). Torrego provides examples like in (94) with the verb *golpear* 'beat up', which takes an affected direct object and obligatory DOM.

(94) (Torrego 1999: 1791)

a. Golpe-aron **a** un extranjero. Spanish
beat up-PST.3PL DOM a foreigner
'They beat up a foreigner.'

b. *Golpe-aron un extranjero.
beat up-PST.3PL a foreigner
intended: 'They beat up a foreigner.'

Other verbs with affected objects that show the same behavior are *castigar* 'punish' and *sobornar* 'bribe' (Leonetti 2004: 84). However, the impact of affectedness has also been questioned with these verbs as they are only acceptable with human direct objects. Nevertheless, Torrego's (1998, 1999) work has inspired further studies arguing that affectedness has an impact on the synchronic (Romero Heredero 2020) and diachronic distribution (von Heusinger 2008; von Heusinger and Kaiser 2011; Romero Heredero 2020) of DOM in Spanish. Using the affectedness scale proposed by Tsunoda (1985: 388), which was discussed in Section 2.2.1, von Heusinger and Kaiser (2011) carried out diachronic corpus research in the *Corpus del Español* and *Corpus diacrónico del Español* (*CORDE*), which includes a total of 14 verbs arranged on Tsunoda's hierarchy (1985: 388), as repeated in (95).

(95) effective action (±result) > perception (±attained) > pursuit > knowledge > feeling

Their data cover the 15th, 17th, and 19th centuries, with around 2000 relevant hits in the corpora for definite and indefinite noun phrases. The results with respect to indefinite direct objects are summarized in Table 7.

Table 7: Proportion of DOM (a-marking) with human indefinite direct objects for five verb classes (von Heusinger and Kaiser 2011: 611).

Class	15th cent.	17th cent.	19th cent.
1a+1b Effective Action: *matar, herir, golpear, tirar*	18% (9/51)	40% (21/53)	79% (46/58)
2a–2b Perception: *oir, ver, eschuchar, mirar*	17% (1/16)	71% (22/31)	93% (27/29)
3 Pursuit: *buscar, esperar*	11% (1/9)	23% (8/35)	41% (17/41)
4 Knowledge: *conocer, entender*	– (0/0)	31% (5/16)	67% (14/21)
5 Feeling: *querer, temer*	– (0/0)	52% (11/21)	75% (15/20)

The findings show that verb class clearly correlates with the diachronic development of DOM and that there is a partial correlation between the affectedness the verb classes encode for the direct object and the rising proportion of DOM they are associated with through time. The verbs in the effective action group, for instance, show clearly diverging behavior as compared to those in the pursuit and knowledge groups, suggesting that affectedness enhances the likelihood of being DOM marked. At the same time, the perception and feeling groups conflict with the predictions made. Here, the authors note that the investigated verbs in these classes pattern heterogeneously. In the perception group, *temer* 'fear' takes more DOM than *querer* 'like', and in the feeling group, *escuchar* 'listen to' and *oir* 'hear' show a stronger preference for DOM than do *ver* 'see' or *mirar* 'look at'. They suggest that this divergent behavior might have nothing to do with affectedness, but instead with the agent-like properties that are encoded for the objects of *temer* 'fear', *escuchar* 'listen to', and *oir* 'hear' (von Heusinger and Kaiser 2011: 613). That Spanish DOM also reflects agentivity is supported by the work of García García (2014), among others.

While von Heusinger and Kaiser (2011) tested only a small number of verbs per group, their claim that affectedness shapes the diachronic distribution of DOM in Spanish is supported by the recent work of Romero Heredero (2020), who in fact extends it to the synchrony of DOM in Spanish. Romero Heredero carries out a diachronic corpus study in the *Corpus del Nuevo Diccionario Histórico del Español* (CDH), spanning the 14th, 16th, and 20th centuries and having 3200 tokens, consisting of indefinite and definite human direct objects in affected (1600 tokens) and non-affected contexts (1600 tokens). The author searched for corpus examples of a large number of verbs across all three centuries and classified the object of the verbs in the sentences investigated as [±affected] depending on whether they passed the

What happened to X is Y test. None of the verbs included in his study contributed more than 10% of the total number of tokens investigated. His findings reveal that in each of the centuries investigated, affected direct objects show a higher preference for DOM than non-affected ones. Furthermore, the overall preference for using DOM on affected direct objects rises throughout the centuries investigated. Figure 2 shows the findings for indefinites.

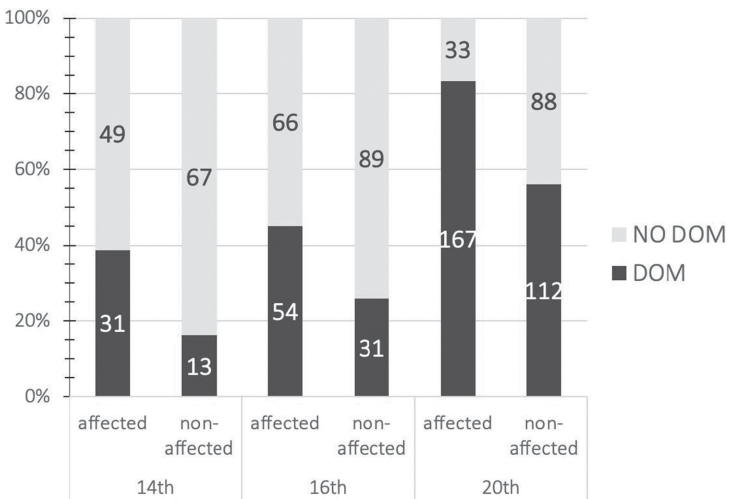


Figure 2: Diachronic distribution of DOM in terms of affectedness in the CDH (Romero Heredero 2020: 111).

In addition, the author reports on a forced choice experiment which tested the synchronic distribution of DOM with affected and non-affected human indefinite direct objects in the context of telic and atelic predicates. His findings indicate that affectedness significantly raises the likelihood of a direct object being DOM marked. Interestingly, the results do not confirm a higher preference for DOM in telic predicates as compared to atelic ones, which indicates that verbal semantic DOM in Spanish is conditioned by affectedness, not telicity or total affectedness.

As the brief overview on Spanish shows, the impact of affectedness on DOM in this language has been replicated in a number of studies. In this respect, Spanish is a cross-linguistic exception. There are only a few languages for which we know how affectedness shapes the realization of direct objects from both a theoretical and an empirical perspective. This means that major questions about how affectedness shapes the morphosyntax-semantics interface remain under-studied. This research desideratum serves as a basis for the in-depth investigation of affectedness and DOM in Turkish in the following chapters of this book.

3.3 Open questions

Summing up, it can be stated that affectedness has been attributed an important role in direct object realization from early on. In the literature on DOM, it was noted by Bossong (1991) to constitute one of three basic dimensions contributing to its distribution. For some languages, the distinction between affected and effected objects has even been claimed to be the predominant factor. From a functional perspective, affectedness has been related to notions such as patient focus, saliency, and prominence.

In spite of these references, our knowledge concerning affectedness and direct object realization still relies on a small set of languages. In this regard, open issues range from (i) the specific aspects of meaning determining different realizations of direct objects, to (ii) the interrelation between affectedness and nominal semantic properties of the direct object, such as animacy, to (iii) the interaction of affectedness and agentivity.

The first issue refers to the commonalities and differences between the impact of affectedness on direct object selection as compared to direct object realization. Affectedness has been related to both of these phenomena, but what needs further investigation is the question of whether the same aspects of meaning that determine a more prominent grammatical role (i.e., direct object versus oblique) also determine a more prominent morphological realization (i.e., marked versus unmarked direct object), or whether there are distinct aspects of meaning at play for the different phenomena. This issue also refers to the question of whether affectedness is best conceived of as a unified semantic notion capturing different kinds of changes which pattern alike, or whether certain shared semantic properties correspond to different structural decompositions. Since the literature has identified distinctions as well as commonalities between predicates expressing change of location and change of state on the one hand and change of existence (i.e., creation and consumption predicates) on the other, our investigation will provide its own contribution to the conflicting predictions that have been made.

With regard to the second issue, recall that, with some classes of verbs, animacy has been implicated in the availability of affected interpretations. Also, similar to notions such as definiteness or specificity, affectedness too has been related to the individuation of the O participant, either in terms of the distinctness of semantic role properties from the agent or of total involvement in the event (see Hopper and Thompson 1980; Næss 2004, 2007; Section 2.2.1). Therefore, it remains an open question as to how affectedness and the nominal semantic properties of the direct object relate to each other, that is, whether they have effects independent of each other, or whether they interact or depend on each other.

Finally, an issue that was repeatedly touched upon in the discussion of the previous sections concerns the interaction between affectedness and agentivity. We have seen that the interaction between the two crucial event semantic notions in a transitive event is often only discussed as a side issue when it comes to representing affectedness. In addition, there is a controversy around it, since the various frameworks or authors make different predictions: Tsunoda (1985) predicts no correlation, or even, at first glance, a contradictory one between a decrease in the agentivity of the subject and higher degrees of affectedness of the object. In contrast, the account of co-argument dependency by Primus (2012) predicts increasing affectedness with increasing agentivity.

These questions relate to the two remaining goals to be pursued in this book, and will guide us through the subsequent chapters. In attempting to provide some answers, the primary language under investigation will be Turkish. Turkish is a promising candidate for at least two reasons. First, it has received much attention in the literature on differential case marking with respect to its referential and information structural distribution. This work will take the well-described nominal semantic distribution of DOM in Turkish as a starting point in order to then exclude any confusion with nominal semantic properties and to differentiate them from the event structural aspects that shape the case marking alternation. Secondly, and perhaps more importantly, Turkish exhibits case marking optionality with indefinites. Indefinites possess existential readings which are associated with the verbal domain of the clause (Diesing 1992). This could be a relevant factor in the influence of verbal semantic properties like affectedness on morphosyntax, since their impact may be visible predominantly in DOM languages where objects with dropped case morphology still "can" sit in the verbal domain.

All in all, DOM will serve as a valuable tool for comprehending how affectedness shapes the (morpho)syntax-semantics interface. Owing to the broad typological relevance of the phenomenon, insights about affectedness and DOM from one or several languages have the potential to motivate research on possibly similar patterns in other languages and may lead to parallel observations on argument realization across languages.

4 Affectedness and DOM in Turkish

4.1 Introduction

This chapter examines the role that affectedness plays in object marking in languages that exhibit Differential Object Marking (DOM). It concentrates on one particular language which is well investigated in the literature on DOM, namely Turkish. It is organized as follows: To exclude confounds between the different factors involved in DOM, I first provide an overview of the nominal semantic-pragmatic factors involved in DOM in Section 4.2. These include syntactic and information structural properties, as well as specificity and animacy. I then examine the distribution of DOM in relation to verbal semantic properties, which include affectedness, telicity, and the notion of PATH in Section 4.3. In Section 4.4, I provide a structural representation of affectedness and its relationship to differential accusative marking.

4.2 Nominal parameters

This section is concerned with various semantic and pragmatic parameters of the direct object that condition DOM in Turkish, i.e., the nominal parameters. It lays out the syntactic and information structural constraints on DOM and how accusative marking is related to the specificity and animacy of direct object referents.

Turkish is a head-final nominative-accusative language with agglutinative morphology. The unmarked word order follows an S-O-V (subject – direct object – verb) configuration, but constituents can be scrambled for information structural reasons (Kornfilt 1997: 91). Like in many languages, there is no overt case marker for the nominative. Noun phrases in the accusative may carry the case suffix *-(y)I*, which, following vowel harmony, can take the variants *-(y)ı, -(y)i, -(y)u,* and *-y(ü).* Turkish has no definite article, but has the indefinite article *bir*, which is derived from the numeral *bir* 'one'. However, it differs from the numeral in various aspects: it can be deaccented and takes a different position in the nominal phrase (see Göksel and Kerslake 2005: 184–186; von Heusinger and Kornfilt 2005: 4; Kornfilt 1997: 98). All pronouns, proper names, demonstrative noun phrases, and definite noun phrases are obligatorily accusative marked (see (96)a–d). Note that (96)d without accusative marking would be ungrammatical in the definite interpretation. Indefinite direct objects are preceded by the indefinite article *bir* and are optionally accusative marked (see (96)e-f), which most prominently has been argued to signal the specificity of the noun phrase referent (Erguvanlı 1984; Kelepir 2001; von Heusinger and

https://doi.org/10.1515/9783111311272-004

Kornfilt 2005). An accusative marked indefinite in its syntactic base position, as in (96)e, is not compatible with a semantically non-specific reading. Bare nouns, as in (96)g, signal a non-referential interpretation and have been analyzed as (pseudo-) incorporated (Kornfilt 2003; Aydemir 2004; Levy-Forsythe 2018; Sağ 2019; Seidel 2019a,b). Note that accusative marking on the bare noun in (96)g would be incompatible with a non-specific, non-referential interpretation.

(96) a. Deniz on*(-**u**) gör-dü.
PN her.him.it-ACC see-PST
'Deniz saw her/him/it.'

b. Deniz Oya*(-**yı**) gör-dü.
PN PN-ACC see-PST
'Deniz saw Oya.'

c. Deniz bu tilki*(-**yi**) gör-dü.
PN this fox-ACC see-PST
'Deniz saw this fox.'

d. Deniz tilki-**yi** gör-dü.
PN fox-ACC see-PST
'Deniz saw the fox.'

e. Deniz bir tilki-**yi** gör-dü.
PN a fox-ACC see-PST
'Deniz saw a certain fox.'

f. Deniz bir tilki gör-dü.
PN a fox see-PST
'Deniz saw a fox.'

g. Deniz tilki gör-dü.
PN fox see-PST
'Deniz saw (a) fox(es).'

In our discussion of DOM in Turkish, we will address the contrast in accusative marking of non-topical indefinite direct objects in preverbal position, as only with them is the marking optional.

4.2.1 Syntax and information structure

With regard to accusative marking and word order, the immediate preverbal position is the only position where the accusative marker can be dropped. As Erguvanlı (1984: 27) notes, direct objects without accusative marking "must occur in the position immediately preceding the verb". The only elements that can inter-

vene between an unmarked direct object and a verb are clitics or particles, like the focus-sensitive polar question clitic *-mI* and focus particles like *dahi* 'even' (Erguvanlı-Taylan 1986; Öztürk 2005; Kamali 2015). This applies both to indefinite direct objects with the indefinite article *bir*, as well as to bare nouns (97).

(97) a. Deniz (bir) adım **mı** at-tı?
PN a step Q put-PST
'Did Deniz take a step?'
b. Deniz (bir) adım **dahi** at-ma-dı.
PN a step even put-NEG-PST
'Deniz did not even take a step.'

All scrambled indefinites obligatorily carry accusative marking. In (98), this is illustrated for a topicalized direct object. The canonical topic position in Turkish is the sentence initial position (Erguvanlı 1984: 37–42; Kornfilt 1997: 190; Işsever 2003: 1024). In this position, the indefinite is only felicitous with accusative marking.

(98) a. Deniz kurnaz bir tilki(-**yi**) gör-dü.
PN cunning a fox-ACC see-PST
'Deniz saw a cunning fox.'
b. Kurnaz bir tilki*(-**yi**) Deniz gör-dü.
cunning a fox-ACC PN see-PST
'A cunning fox Deniz saw.'

Note that the optionality of accusative marking on direct objects in preverbal position does not require the accusative marked objects to stay in the same syntactic position as unmarked ones. In fact, accusative marked direct objects in Turkish have been argued to occupy a VP external position (Diesing 1992; Zidani-Eroğlu 1997; Kelepir 2001; Kornfilt 2003). This can be probed for via VP adverbials. Accusative marked direct objects are most naturally realized to the left of adverbials that mark the edge of the verb phrase, like 'badly' in (99) or 'quickly' in (100). The order in (100)b is felicitous, but it is marked and implies contrastive focus.

(99) a. Deniz sen-**i** **fena** sev-iyor.
PN you-ACC bad love-IPFV
'Deniz loves you badly.'
b. *Deniz **fena** sen-**i** sev-iyor.
PN bad you-ACC love-IPFV
'Deniz loves you badly.'

(100) a. Deniz bir çorba-**yı** **hızlıca** iç-ti.
PN a soup-ACC quickly drink-PST
'Deniz quickly ate a soup.'
b. Deniz **hızlıca** bir çorba-**yı** iç-ti.
PN quickly a soup-ACC drink-PST
'Deniz quickly ate a SOUP.'

A further contrast between accusative marked and unmarked direct objects is pointed out by Kornfilt (2003). It concerns the scrambling out of subconstituents of indefinite direct objects, a phenomenon called subscrambling. Scrambling in Turkish can even lead to non-verb final orders, which is typologically rare in an S-O-V language. Kornfilt observes that scrambling out adjectival modifiers is felicitous with phrases that lack accusative marking, while it is unacceptable with accusative marked counterparts. (101) is adapted from her example (14c) (Kornfilt 2003: 130).

(101) a. Dün sokak-ta [e_i bir adam] gör-dü-m *çok yaşlı*$_i$.
yesterday street-LOC a man see-PST-1SG very old
'Yesterday I saw a very old man in the street'
b. *Dün sokak-ta [e_i bir adam-**ı**] gör-dü-m *çok yaşlı*$_i$.
yesterday street-LOC a man-ACC see-PST-1SG very old
'Yesterday I saw a very old man in the street'

This observation is not limited to Turkish but is rather taken to reflect a more general phenomenon called the *Specificity Constraint*. This constraint refers to the observation that the scrambling out of specific constituents is blocked (Enç 1991; Diesing 1992; Karimi 1999). Specific complements are taken to occupy a VP external position. This being a non-theta-governed position, extraction out of scrambled positions is prohibited. The following examples illustrate Diesing's (1992: 129) original observation with data from German.

(102) Diesing (1992: 129, #86a–b)
a. daß Otto immer [$_{DP}$ Romane von Joseph Roth] gelesen hat
that Otto always novels of Joseph Roth read has
'that Otto has always read novels by Joseph Roth'
b. Was$_i$ hat [$_{IP}$ Otto immer [$_{VP}$ [$_{DP}$ t$_i$ für Romane] gelesen]]?
what has Otto always for novels read
'What kind of novels has Otto always read?'

(103) Diesing (1992: 129, #87a–b)

a. daß Otto [$_{DP}$ Romane von Joseph Roth] immer gelesen hat
that Otto novels of Joseph Roth always read has
'that Otto has always read novels by Joseph Roth'

b. *Was$_i$ hat [$_{IP}$ Otto [$_{DP}$ t$_i$ für Romane]$_j$ [VP immer t$_j$ gelesen]]?
what has Otto for novels always read
'What has Otto for novels always read?'

As becomes evident, it is hardly possible to sketch the syntactic distribution of Turkish accusative marked and unmarked direct objects without making reference to specificity. At this point we will not delve deeper into a syntactic analysis. For our purposes, the important generalization that emerges is that there is a strong correlation between syntactic freedom in terms of the scrambling of an indefinite direct object and morphological case inflection on it. In the following section, we will explore the relationship between specificity and DOM in Turkish.

4.2.2 Specificity

The association of the Turkish accusative case marker with specificity has a long-standing tradition. Specificity is a semantic-pragmatic notion that is based on the *referential intention* of the speaker, corresponding to the speaker having a particular entity or individual "in mind" when they use a specific indefinite (Karttunen 1968; Fodor 1970; Fodor and Sag 1982; Abusch 1994; Ionin 2006; Kamp and Bende-Farkas 2006; von Heusinger 2011, 2019). The core semantic function of specificity is characterized by von Heusinger (2002: 45) within the more abstract concept of *referential anchoring*, where the referent of a specific indefinite "is linked by a contextually salient function to the referent of another expression". Von Heusinger (2011, 2019a,b) distinguishes between specificity in the narrow sense and specificity related phenomena, as illustrated in Figure 3.

All of the above-mentioned types of specificity and related phenomena have been discussed with respect to the Turkish accusative case marker. A full comprehensive overview of the whole literature on this topic is beyond the scope of this section. Rather, I aim to provide an overview of some important research on specificity and Turkish DOM, to then exclude possible effects due to specificity when it comes to the investigation of affectedness and DOM. I will start with more general literature on specificity and the accusative marking alternation and subsequently discuss in more detail the referential, scopal, and epistemic types of specificity. It will be argued that Turkish DOM signals the referential-semantic or scopal rather than the semantic-pragmatic kind of specificity.

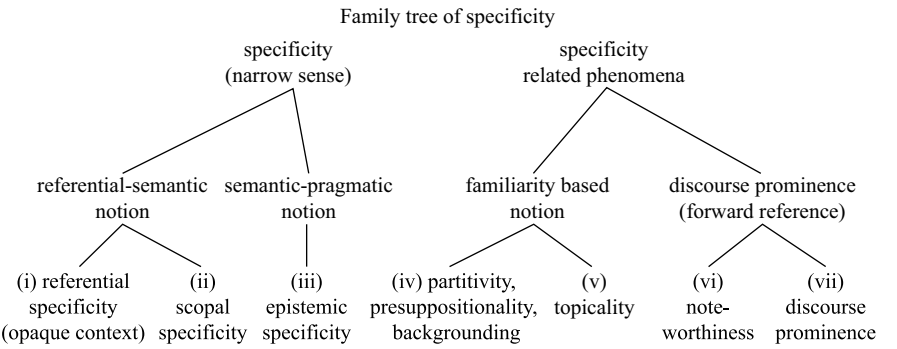


Figure 3: A family resemblance notion of specificity (von Heusinger 2019a: 157).

Before the formalization of the linguistic notion of specificity, Lewis (1975/2000: 244) notes in his grammar of Turkish that a case marked indefinite in the sentence *her gün bir gazete-**yi** okuyorum* 'Every day I read a newspaper-ACC' implies that "one particular" newsletter was read. Further short notes on the Turkish accusative marker with indefinites and specificity are found in the works of Johanson (1977) and Erdal (1981). Johanson (1977: 1188) describes case marked indefinites as specific and paraphrases them with "a certain". For him, specificity is a notion which is similar to definiteness but lacks identifiability. Unlike Lewis and Johanson, who only mention the availability of a specific reading with respect to case marked indefinites, Erdal (1981: 43) notes that unmarked indefinites can also signal specificity: "Specific direct objects either have the indefinite article *bir* or the accusative ending or both". Erguvanlı (1984) is the first to provide a more elaborated analysis of Turkish indefinites and case marking in relation to specificity. She argues that accusative marked indefinites signal a specific reading, while unmarked indefinites are interpreted as non-specific. What distinguishes a referentially specific expression from a non-specific one is, for her, that the former refers to "a particular individual or entity in the universe of discourse", whereas a non-specific expression refers to any individual or entity in the discourse universe (Erguvanlı 1984: 18). Importantly, she notes that case marked indefinites can also exhibit non-specific readings if they are scrambled out of their preverbal base position for information structural reasons or carry the case marker for other reasons, such as the animacy of the noun phrase (see Section 4.3.3).

In her seminal paper on the semantics of specificity, Enç (1991) makes use of the Turkish case marking alternation to argue for a notion of specificity that is based on partitivity. For Enç, accusative marked indefinite direct objects are semantically interpreted as partitive. The examples in (104) illustrate her main line of argumentation. (104)a introduces a set of individuals into the discourse, say a set *M*. The interpretation of (104)b requires that the set of girls is a subset of the introduced

set *M*, while the interpretation of the set of girls in (104)c – lacking an overt accusative – requires that they are excluded from this set.

(104) a. (Enç 1991: #16; author's translation, my glosses)
Oda-m-**a** birkaç çocuk gir-di.
room-1.SG-DAT several child enter-PST
'Several children entered my room.'

b. (Enç 1991: #17; author's translation, my glosses)
İki kız-**ı** tanı-yor-du-m.
two girl-ACC know-IPFV-PST-1.SG
'I knew two girls.'

c. (Enç 1991: #18; author's translation, my glosses)
İki kız tanı-yor-du-m.
two girl know-IPFV-PST-1.SG
'I knew two girls.'

Thus, according to Enç (1991), the meaning difference in terms of specificity that is encoded in a noun phrase lies in the different domains of discourse for which noun phrases are suitable or which they structure. Although this approach to specificity has initiated very interesting and productive research, empirical and theoretical perspectives on this issue have shown that such a close correlation between case marking, partitivity, and specificity does not hold (von Heusinger and Kornfilt 2005; Kamp and Bende-Farkas 2006; von Heusinger et al. 2019, inter alia). Farkas (2006: 634) notes that partitivity is orthogonal (i.e., independent from scopal and epistemic specificity): the overt partitives in (105) and (106) may get either a referential or a non-referential reading. In (105), the continuation indicated forces a scopally non-specific reading, where the partitive is interpreted within the scope of the intensional predicate *want*. Similarly, the continuation in (106) forces an epistemically non-specific interpretation of the partitive. This view of specificity as being orthogonal to partitivity has also been argued to account for Turkish on the basis of theoretical and empirical research (Kelepir 2001; von Heusinger, Kornfilt and Kızılkaya 2019).

(105) John wants to marry **one of Steve's sisters** (he doesn't care which).

(106) **One of Steve's sisters** cheated (we have to find out which).

Von Heusinger and Kornfilt (2017, 2005) refrain from advocating a strict correlation between case marking and referentiality. They argue that the case marker does signal specificity in terms of referential anchoring under certain morphosyntactic conditions. However, the accusative marker also follows formal requirements. It

becomes obligatory after nominal agreement marking on a nominal phrasal head and in that case it is compatible with both specific and non-specific readings. This is illustrated in (107), where the dropping of the accusative marker after the third person singular agreement marker results in ungrammaticality.

(107) Kitap-lar-ın **iki-sin*****(-i)** al,
book-PL-GEN two-3AGR-ACC buy
'Take (any) two of the books and
geri-sin-i kutu-da bırak.
remainder-3AGR-ACC box-LOC leave
leave the remainder [of the books] in the box.'

For further specificity related aspects of case marked indefinites, like presuppositionality, the reader is referred to Diesing (1992), Kennelly (1997), Kelepir (2001), Ketrez (2005), and Özge (2011, 2013a,b), among others. Özge et al. (2016) and Özge and von Heusinger (2020) discuss the discourse structuring potential of case marked and unmarked indefinites in terms of forward and backward looking potentials.

In sum, it is quite well established that there is a relationship between differential accusative marking and specificity in Turkish, but the exact nature of the distribution is controversial. What seems to be agreed upon is the strong association of accusative marked indefinites with specific readings. Unmarked indefinites prefer non-specific readings but many authors follow the view that they are ambiguous between specific and non-specific readings (among others, Erdal 1981; Dede 1986: 158; Kennelly 1997; Kelepir 2001; von Heusinger and Kornfilt 2005; Arslan Kechriotis 2009; Özge 2011; Kamali 2015). The following example from Kamali (2015: 112) illustrates this ambiguity of the unmarked indefinite in interaction with the universal quantifier.

(108) (Kamali 2015, #11a, author's translation, my glosses)
Herkes içeride bir film izli-yor.
everyone inside a movie watch-IPFV
(i) 'Everyone is watching a movie inside.'
(ii) 'There exists a movie such that everyone is watching it inside.'

Moreover, the question still remains as to what kind of specificity Turkish DOM marks. The variety of related contrasts covered by the notion of specificity are grouped differently in the literature. Above, we have introduced specificity in the narrow sense, consisting of the referential, scopal, and epistemic subtypes.

Referential specificity expresses a contrast between those indefinite noun phrases which have an existential presupposition and those which do not. Such contexts are created by intensional verbs like *search for, desire*, and *expect*, as well

as verbs of propositional attitude like *believe*, *fear*, *want*, and *think*, modals, the future tense, and conditionals (von Heusinger 2019b: 78). Consider the example in (109). It is assumed that the case marked version of (109) induces a referentially specific reading consistent with (i). There is a particular doctor the speaker has in mind who can be substituted by a referentially identical expression. The unmarked version of the indefinite is ambiguous between (i) referentially specific and (ii) non-specific readings. In the non-specific reading, there is no particular doctor; the indefinite is not referring in some sense but is rather *descriptive*, or *attributive*.

(109) Deniz bir doktor-(**u**) ara-dı.
PN a doctor-ACC search-PST
(i) *referential specific*: 'A doctor is such that Deniz searched for her/him.'
There is a doctor; possible continuation: This doctor was Prof. Ilhan.
(ii) *referential non-specific*: 'Deniz searched for some doctor or other.'
There is a doctor; possible continuation: But he couldn't find one.

Empirically, a study on specificity effects and Turkish DOM by von Heusinger and Bamyacı (2017a) confirmed that accusative marked indefinites clearly preferred specific over non-specific continuations, while with unmarked direct objects, specific continuations decreased and non-specific continuations were preferred.

Scopal specificity refers to the interpretation of indefinites outside the scope of certain operators like extensional quantifiers. In the example sentence (110), the scopal specific, wide scope, or independent reading of the indefinite refers to one costume that all children tried on (i). The indefinite takes scope over the universal quantifier. In the scopal non-specific, narrow scope, or dependent reading, the value of the costumes varies with the value of the children (ii). The indefinite is interpreted within the scope of the universal quantifier.

(110) Bütün çocuk-lar bir kostüm(-**ü**) dene-di.
All child-PL a costume-ACC try-PST
(i) *scopal specific*: 'A costume is such that all children tried it on.'
y[costume(y) x[child(x) try(x,y)]]
possible continuation: All of them tried on the Ghost costume.
(ii) *scopal non-specific*: 'All children tried on some costume or other.'
x[child(x) y[costume(y) try(x,y)]]
possible continuation: Laila tried the *Ghost* costume, Sara the *Batman* costume, and Deniz the *Penguin* costume.

In a further empirical study, von Heusinger and Bamyacı (2017b) tested for the scopal specificity of DOM. Their data revealed that accusative marked indefinites

are preferably interpreted outside of the scope of the universal quantifier (i.e., take wide scope readings), while unmarked indefinites prefer narrow scope readings (i.e., a non-specific interpretation). From this, it can be concluded that DOM is sensitive to contrasts in scopal specificity.

The epistemic kind of specificity is closely related to the *referential intentions* of the speaker, paraphrased as "the speaker has a particular individual in mind" (Karttunen 1968: 20). For Farkas (1994), this term captures the contrasts found in transparent contexts without any other operator and caused just by the option of a referential intention. This type of specificity refers to the knowledge a speaker has about an entity or individual. It does not encode different truth-conditions and is argued to be of a pragmatic nature. Von Heusinger and Kornfilt (2005: 13) illustrate this contrast with the following example from Fodor and Sag (1982: 355), for which they provide a continuation that motivates a specific interpretation in (i) and a non-specific one in (ii).

(111) A student in syntax 1 cheated on the exam.
  (i) *epistemic specific*: His name is John.
  (ii) *epistemic non-specific*: We are all trying to figure out who it was.

A Turkish example is given in (112). It is assumed that case marked indefinites in transparent contexts encode a specific reading which is motivated in (i), whereas unmarked indefinites are ambiguous between specific and non-specific readings, as indicated in the respective continuations.

(112) Deniz bir kitab(**-ı**) oku-du.
  PN a book-ACC read-PST
  'Deniz read a book.'
  (i) It is the new book *Mahrem* by Elif Shafak.
  (ii) I have no idea what book it was.

Von Heusinger and Bamyacı (2017a) also tested Turkish DOM for epistemic specificity effects. The results indicate that DOM does not reflect contrasts in epistemic specificity. Specific vs. non-specific continuations were selected by participants for marked and unmarked indefinites to a similar extent and there was no bias towards either one of the continuations. The authors note that this corroborates the findings of the sentence continuation experiment undertaken by Özge, Özge and von Heusinger (2016), where DOM marking on the direct object did not show any effect on its likelihood of being taken up in further discourse.

Summing up, this section has provided an overview of the distribution of Turkish DOM in relation to specificity and has discussed the referential, scopal,

and epistemic types of specificity. The general assumption regarding specificity and DOM is that accusative marked indefinites in preverbal position signal specific readings, while unmarked indefinites prefer non-specific readings but are ambiguous between specific and non-specific readings. The results from various empirical studies show that in opaque contexts or in contexts with extensional operators, accusative marked indefinites prefer specific readings, while unmarked indefinites prefer non-specific readings. This is not the case in transparent contexts, where the experimental findings were not able to illustrate any specificity contrasts in relation to DOM. The observations suggest that Turkish DOM reflects the referential-semantic notion of specificity rather than the semantic-pragmatic one. In grammatical contexts that create ambiguities in scope or existential entailment, DOM is a semantic operator that signals a specific reading of the indefinite.

4.2.3 Animacy

Animacy is an inherent property of a noun phrase referent and is involved in many grammatical phenomena across the languages of the world. As mentioned in 3.1.1, it is a crucial cross-linguistic feature in Differential Object Marking. In Turkish, the animacy of a direct object referent does not categorically determine DOM. Consider the examples in (113), where accusative marking is optional with animate direct objects.

(113) a. Deniz bir sekreter(**-i**) ara-dı.
PN a secretary-ACC search-PST
'Deniz searched for a secretary.'
b. Deniz bir öğretmen(**-i**) selamla-dı.
N a teacher-ACC greet-PST
'Deniz greeted a teacher.'

However, this does not exclude animacy as a useful predictor for the distribution of Turkish DOM. The relevance of animacy with respect to Turkish direct objects is shown in (114), which is adapted from Comrie (1975: 14). The example illustrates that accusative marking is obligatory in the case of the animate interrogative pronoun *kim* 'who', whereas it is optional in the case of the inanimate interrogative pronoun *ne* 'what'.

(114) a. Deniz kim-**i**/*kim-Ø gör-dü?
PN who-ACC/*who-Ø see-PST
'Whom did Deniz see?'

b. Deniz ne-**yi**/ne-Ø gör-dü?
PN what-ACC/what-Ø see-PST
'What did Deniz see?'

Erguvanlı (1984: 20, 33) notes that animate direct objects enforce accusative case assignment, especially in what she calls "sentences of generic truth" (ibid.: 19). Consider her example in (115) with the generalizing modality marker on the nominal 'crime'. According to her, in such cases the accusative marker is obligatory and therefore no longer serves as an indicator of specificity.

(115) Erguvanlı (1984: #48), author's translation, my glosses
Bir insan-**ı** öl-dür-mek büyük suç-tur.
a human being-ACC die-CAUS-INF big crime-GM
'Killing a human being is a big crime.'

Similarly, Dede (1986: 157–59) argues that a direct object's animacy may interact with its referentiality. For her, in the first person, direct objects of the verb *kaybetmek* 'lose' have to be referential. In this context, animate direct objects require accusative marking, while inanimate objects reject it.

(116) Dede (1986: #53), author's translation, my glosses
Bir öğrenci*(-**yi**) kaybet-ti-m. Bul-a-mı-yor-um.
a student-ACC lose-PST-1SG find-NEG.ABIL-NEG-IPFV-1SG
'I lost a student of mine. I can't find him.'

(117) Dede (1986: #53), author's translation, my glosses
Bir kitab(-*ı) kaybet-ti-m. Bul-a-mı-yor-um.
a book-ACC lose-PST-1SG find-NEG.ABIL-NEG-IPFV-1SG
'I lost a book of mine. I can't find it.'

While I assume that Dede's grammaticality judgements are too strict, they nevertheless illustrate different preferences for DOM with animate vs. inanimate referents in the given context.

In a recent paper, Krause and von Heusinger (2019) argue for animacy as a gradual predictor of Turkish DOM, with referents that are high in animacy being more likely to trigger overt DOM on direct objects. The authors tested the acceptability of sentences with accusative marked (ACC) and unmarked (ZERO) indefinite direct object referents of the three main animacy levels: (i) human, as in 'host a lawyer' in (118)a, (ii) animal, as in 'catch a cat' in (118)b, and (iii) inanimate, as in 'bring a chair' in (118)c, with two subclasses each.

(118) a. Ayça dün ev-in-de bir avukat(**-ı**) ağırla-dı.
PN yesterday house-3SG-LOC a lawyer-ACC host-PST
'Ayça hosted **a lawyer** at her place yesterday.'

b. Kemal tavan ara-sın-da bir kedi(**-yi**) yakala-dı.
PN attic gap-CMPM-LOC a cat-ACC catch-PST
'Kemal caught **a cat** in the attic.'

c. Cengiz yatak oda-sın-a bir sandalye(**-yi**) getir-di.
PN bed room-CMPM-DAT a chair-ACC
'Cengiz brought **a chair** to the bedroom.'

Participants were presented with either a case marked or unmarked version of the direct objects belonging to the different animacy levels. They were instructed to rate the sentence in question depending on its naturalness on a Likert scale from 1 (unacceptable) to 7 (acceptable). The linear mixed effects model in R (lme package) revealed a statistically significant main effect of animacy; the results are summarized in Figure 4. Human direct objects were rated best with accusative marking, while inanimate direct objects were rated best if unmarked. Animal-denoting direct objects showed an intermediate behavior: they were rated equally well with both overt and dropped accusatives.

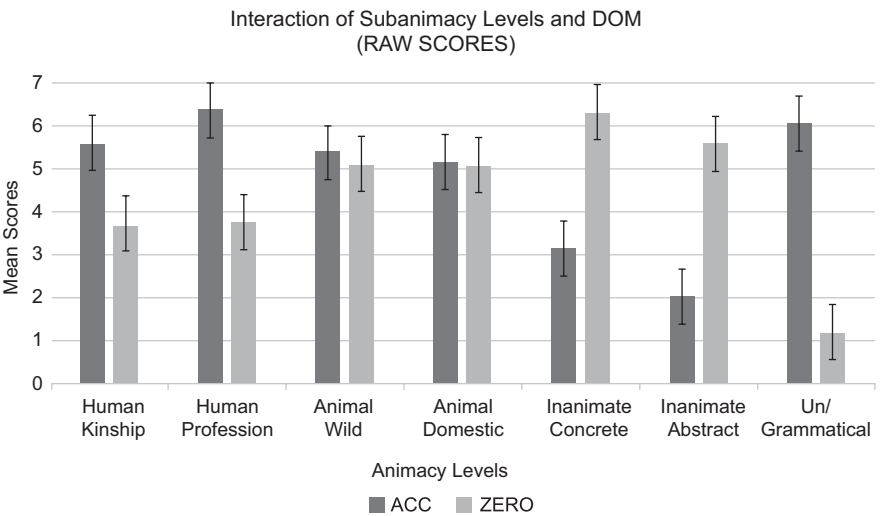


Figure 4: The acceptability of sentences with and without DOM on direct objects that denote entities with varying animacy levels based on raw scores. Error bars represent +/– 2 standard errors (SE) (Krause and von Heusinger 2019: 190).

In conclusion, animacy is not a categorical property of noun phrases in determining DOM, but it is still a stable predictor for the distribution of differential accusative marking of indefinites. With specificity being a categorical indicator of Turkish DOM, it can be suspected that animate entities are more likely to be construed as specific than are inanimate entities. This could be strengthened by the fact that they always denote individuals, while inanimate entities can also denote abstract entities like 'luck', 'life', 'thought', etc., which in corpora are most often used without overt DOM. We will keep the preference of animate direct objects for overt case marking in mind in the following sections, in which we investigate event structural aspects of DOM.

4.3 Verbal parameters

The previous section was dedicated to the nominal semantic distribution of DOM in Turkish. It showed that in transparent contexts without intensional or scopal operators, accusative marking is not a reliable indicator of specificity, which raises the question of additional factors which let the DOM marker arise. In this section, we examine DOM patterns of indefinite direct objects in relation to the verbal semantic properties of affectedness (4.3.1), telicity (4.3.2), and the notion of PATH (4.3.3). These notions, together with the linguistic diagnostics to test for them, were introduced in Section 2.1. The investigation in this chapter shows that on the event semantic level, affectedness is the crucial notion that induces accusative marking on the direct object. Direct objects which are affected show a strong preference for accusative case, both in telic (119)a and atelic events (119)b. In contrast, PATH arguments reject accusative marking (120).

(119) a. Deniz bir resim*(**-i**) mahv-et-ti. UNDERGOER
PN a picture-ACC ruin-make-PST
'Deniz ruined a picture.'

b. Deniz bir arac*(**-ı**) it-ti. UNDERGOER
PN a vehicle-ACC push-PST
'Deniz pushed a vehicle.'

(120) a. Deniz bir kazağ(*-**ı**) ör-dü. PATH
PN a sweater-ACC knit-PST
'Deniz knit a sweater.'

Direct objects of verbs that are ambiguous between the two participant roles are optionally accusative marked, whereby DOM can disambiguate between affected and PATH interpretations (121).

(121) a. Deniz bir ev-**i** boya-dı. UNDERGOER
PN a house-ACC paint/draw-PST
'Deniz painted a house.'

b. Deniz bir ev boya-dı. PATH
PN a house paint/draw-PST
'Deniz drew a house.'

The direct object of the verb *boyamak* 'paint/draw' in (121) is ambiguous between its interpretation as affected object (paint) or PATH object (draw). In its interpretation as a PATH argument, the event refers to the creation of a picture of a house in a painting event, with the house functioning as a PATH and as a measure for the progress and completion of the painting event. This reading is signaled by the unmarked version of the direct object. In its interpretation as an affected argument (UNDERGOER), the event denotes the activity of painting (the walls of) a pre-existing house, with the direct object functioning not only as a PATH argument but also as an UNDERGOER of a change of color. This reading is signaled by the accusative marked version of the direct object. Accordingly, a question like *Evin boyası/rengi değiştimi?* 'Did the paint/color of the house change?' inquiring for the entailment of change is only answered positively in the a) version of (121).

4.3.1 Affected objects

This section is dedicated to the relationship between affectedness and Turkish DOM. It examines accusative marking patterns with verb classes that encode different types of changes for their direct objects. These include typical transitive change of state verbs (*break*, *tear apart*, etc.) and several subclasses of them, like destroy verbs (*demolish*, *ruin*), verbs of killing (*murder*, *poison*), and verbs of change of existence (*revive*, *eradicate*). Further verb classes included are object experiencer psych verbs (*surprise*, *impress*), change of location verbs (*push*, *drag*), change of possession verbs (*buy*), and ditransitive verbs of sending and carrying (*send*, *give*). All of these verb classes have been considered to express some sort of affectedness of the direct object. The distribution shows that transitive verbs with affected direct objects exhibit a strong preference for accusative marking, and hence not the same optionality of accusative marking that was observable with non-affected arguments (of non-dynamic verbs).

On a methodological note, the grammaticality judgements for the examples are based on speaker intuitions, which were checked informally against the Turkish web corpus, *Turkish Web 2012* (trTenTen12, 3,388,418,900 tokens), provided by the online corpus tool *Sketch Engine* (Kilgarriff et al. 2014). Since DOM is a multi-layered phenomenon and findings in natural language corpora assemble many factors that are hard to disentangle, I decided to present simple, constructed examples which are comparable to each other. Crucially, most of the claims brought forward in this chapter will be tested and confirmed in the following empirical part of the book (Chapter 5).

The affectedness diagnostic which was applied to the Turkish data is a particular version of the entailment test (see Section 2.1.1). Unlike in English, the common *What happened to X is Y* paraphrase was not relied on as a diagnostic in Turkish since its use sounds less natural to me. To my knowledge, there is no corresponding paraphrase used in the existing literature on Turkish either. However, the entailment diagnostic which probes for different dimensions of change works very well. This is illustrated by examples (122)–(123). For (122)a, with an affected direct object, the continuation (c) is a felicitous response, while (d) is not. For example (122)a, with a non-affected direct object, the continuation (c) constitutes an infelicitous response, while (d) illustrates a felicitous one. All predicates investigated in this chapter pass the entailment test.

(122) a. Deniz bir masa*(**-yı**) yak-tı.
PN a table-ACC burn-PST
'Deniz burned a table.'
b. Masa-nın durum-u değiş-ti mi?
table-GEN state-3SG change-PST Q
'Did the state of the table change?'
c. Evet d. #Hayır
'Yes' 'No'

(123) a. Deniz bir masa*(**-yı**) gör-dü.
PN a table-ACC see-PST
'Deniz saw a table.'
b. Masa-nın durum-u değiş-ti mi?
table-GEN state-3SG change-PST Q
'Did the state of the table change?'
c. #Evet d. Hayır
'Yes' 'No'

To start with, typical transitive change of state verbs include *kırmak* 'break', *yakmak* 'burn', *parçalamak* 'tear apart', *düzeltmek* 'fix', *değiştirmek* 'change', and *bozmak* 'break/disrupt'. They describe changes that are brought about by an external agent or cause and affect the "material integrity" (Hale and Keyser 1987; see also Levin 1993: 242) of an entity. Similar to destruction verbs, this verb class shows a strong preference for accusative case on the direct object. In (124), the direct object entity undergoes an irreversible change of physical state. In (125), the speaker undergoes a mental change of state.

(124) a. Deniz bir masa-**yı** yak-tı.
PN a table-ACC burn-PST
'Deniz burned a table.'
b. *Deniz bir masa yak-tı.
PN a table burn-PST
'Deniz burned a table.'

(125) a. Deniz bir konuşmacı-**yı** boz-du.
PN a speaker-ACC break-PST
'Deniz rattled a speaker.'
b. *Deniz bir konuşmacı boz-du.
PN a speaker break-PST
'Deniz rattled a speaker.'

A subclass of change of state verbs to be investigated is that of destroy verbs, like *yıkmak* 'demolish/topple' or *mahvetmek* 'ruin', which describe the complete destruction of an entity. Their meaning includes some "facet of the resulting state of destruction" (Levin 1993: 240; Jackendoff 1990). In (126)–(127), the entities expressed by the direct object undergo a destruction of physical shape (126) or psychological state of mind (127). In either case, there is a strong preference for accusative marking of the direct object.

(126) a. Deniz bir bina-**yı** yık-tı.
PN a building-ACC destroy-PST
'Deniz destroyed a building.'
b. *Deniz bir bina yık-tı.
PN a building destroy-PST
'Deniz destroyed a building.'

(127) a. Deniz bir kız-**ı** mahv-et-ti.
PN a girl-ACC ruin-make-PST
'Deniz ruined a girl.'
b. *Deniz bir kız mahv-et-ti.
PN a girl ruin-make-PST
'Deniz destroyed a girl.'

Verbs of killing, like murder verbs (*katletmek* 'slay/murder' or *öldürmek* 'kill') or poison verbs (*zehirlemek* 'poison'), describe either actions of killing or those that intend to kill, and thereby refer to a particular kind of change of state of a living entity. Murder verbs entail that the action results in death, while poison verbs lexicalize a means that can lead to death (Levin 1993: 232). As (128)–(130) illustrate, it is infelicitous to drop the accusative case on the direct objects of 'slay', 'kill', and 'poison'.

(128) a. Çeteci bir çocuğ-**u** katlet-ti.
Gangster a child-ACC murder-PST
'The gangster murdered a child.'
b. *Çeteci bir çocuk katlet-ti.
Gangster a child-ACC murder-PST
'The gangster murdered a child.'

(129) a. Deniz bir saldırgan-**ı** öl-dür-dü.
PN an attacker-ACC die-caus-PST
'Deniz killed an attacker.'
b. *Deniz bir saldırgan öl-dür-dü.
PN an attacker die-caus-PST
'Deniz killed an attacker.'

(130) a. Padişah bir paşa-**yı** zehirle-di.
Sultan an admiral-ACC poison-PST
'The sultan poisoned an admiral.'
b. *Padişah bir paşa zehirle-di.
Sultan an admiral poison-PST
'The sultan poisoned an admiral.'

A group of verbs that encode internal mental changes of state for the direct object are object experiencer psych verbs. In non-stative, eventive interpretations of psychological predicates with experiencer objects, the object undergoes a change of state; it comes "to experience an emotion or a new mental state" (Dowty 1991: 580;

see also Arad 1998; Rothmayr 2009; Landau 2010; Alexiadou 2016; Temme 2018). Naturally, only animate referents can be interpreted as experiencer objects. An agent causes the human direct object referent to be impressed in (131) and surprised in (132). As expected, with these verbs it is infelicitous to realize the direct object without accusative case.

(131) a. Deniz bir filozof-**u** etkile-di.
PN a philosopher-ACC impress-PST
'Deniz impressed a philosopher.'
b. *Deniz bir filozof etkile-di.
PN a philosopher impress-PST
'Deniz impressed a philosopher.'

(132) a. Deniz bir izleyici-**yi** şaşır-t-tı.
PN a viewer-ACC surprise-CAUS-PST
'Deniz surprised a viewer.'
b. *Deniz bir izleyici şaşır-t-tı.
PN a viewer surprise-CAUS-PST
'Deniz surprised a viewer.'

Verbs that cause a change of location, like *itmek* 'push', *sürüklemek* 'drag', or *sürmek* 'drive', describe the causation of accompanied motion for an entity (Levin 1993: 136). With respect to accusative case marking, they behave similarly to change of state verbs. The direct objects in (133) and (134) undergo a change of position through the event and both exhibit a strong preference for accusative marking.

(133) a. Deniz bir asker-**i** sürükle-di.
PN a soldier-ACC drag-PST
'Deniz dragged a soldier.'
b. *Deniz bir asker sürükle-di.
PN a soldier drag-PST
'Deniz dragged a soldier.'

(134) a. Deniz bir arac-**ı** it-ti.
PN a vehicle-ACC push-PST
'Deniz pushed a vehicle.'
b. *Deniz bir arac it-ti.
PN a vehicle push-PST
'Deniz pushed a vehicle.'

Verbs that refer to the causation of a change of existence denote either the causing of an entity to go out of existence, as in *yok etmek* 'eradicate/wipe off' (135), or conversely the causing of an entity to come into existence again, as in *diriltmek* 'revive' (136). Both are infelicitous without accusative marking on the direct object.

(135) a. Polis bir çete-**yi** yok et-ti.
police a gang-ACC eradicate-PST
'The police eradicated a gang.'
b. *Polis bir çete yok et-ti.
police a gang eradicate-PST
'The police eradicated a gang.'

(136) a. Tanrı bir belde-**yi** dirilt-ti.
deity a town-ACC revive-PST
'The deity revived a town.'
b. *Tanrı bir belde dirilt-ti.
deity a town revive-PST
'The deity revived a town.'

The verb of removal, *silmek*, is ambiguous between a 'wipe' interpretation, referring to a potential change of state, and a 'delete/erase/wipe out' interpretation, describing the causation of a change of existence. The readings encode different degrees of affectedness and distinct case marking patterns. A 'wipe' interpretation does not entail that the direct object undergoes a change of state. It fails the entailment test (*Deniz wiped a table but nothing changed about it*) and, as (137) illustrates, accusative case is optional.

(137) a. Deniz bir ayna-**yı** sil-di.
PN a mirror-ACC wipe-PST
'Deniz wiped a mirror.'
b. Deniz bir ayna sil-di.
PN a mirror wipe-PST
'Deniz wiped a mirror.'

The second meaning refers to causing an entity to go out of existence. In this interpretation, there is a strong bias for accusative case (138).

(138) a. Sömürgeci-ler bir kültür-**ü** sil-di.
colonist-PL a culture-ACC wipe-PST
'The colonists wiped out a culture.'

b. *Sömürgeci-ler bir kültür sil-di.
colonist-PL a culture wipe-PST
'The colonists wiped out a culture.'

In the above examples, the affected argument undergoes a physical or mental change of state, a change of location, or a change of existence. All these changes have been modeled as types of affectedness. With regard to change of state and change of location, there is a discussion as to whether the two should be treated in a parallel or distinct manner: in the literature, they have been conceptualized either via distinct thematic roles, the *theme* role for change of location vs. the *patient* role for change of state (Jackendoff 1990: 94), or under one generalized thematic role of the UNDERGOER (Ramchand 2008; Van Valin and La Polla 1997). Similarly, they have been ascribed the distinct lexical semantic primitives GO vs. BECOME, or the same generalized lexical semantic primitive BECOME (Jackendoff 1990: 94; Rappaport Hovav and Levin 1998: 108–109; Beavers 2011a: 336). In her work on aspect and argument realization, Tenny (1994: 75–78) has shown that "moved objects" of verbs like *push* or *roll*, which undergo a change of location, are realized as direct arguments in the same way objects of change of state verbs are. Moreover, scalar analyses of change unite change of location, change of state, and change of existence under the same semantic representation. In Beavers' (2011a, 2013) model, affectedness is encoded in dynamic predicates as a relationship between "an event, a theme, and a scale, and [predicates] differ only in what the scale is" (Beavers 2013: 685). In change of state predicates, the theme argument undergoes change along a property scale; in change of location predicates, a directed PATH functions as the scale; and in change of existence predicates, the theme argument's own physical extent functions as the scale. However, he sets aside the question of whether affectedness includes other types of changes, like change of possession or change of mental state (Beavers 2011a: 339). With respect to this open question, Turkish DOM reveals that UNDERGOERS of a mental change of state, as in (131)–(132), behave similary to UNDERGOERS of a physical change of state. The situation is different with verbs encoding a change of possession. Verbs of obtaining, like *almak* 'take/buy' (*x buy y*) or *kiralamak* 'rent' (*x rent y*), encode a coming-to-possess relation for x, and therefore a change of possession for the subject. As (139) illustrates for Turkish, they are neutral with respect to accusative marking on the direct object. DOM is optional and signals only nominal semantic properties (i.e., specific reference).

(139) a. Deniz bir kitab(**-ı**) al-dı.
PN a book-ACC buy-PST
'Deniz bought a book.'

b. Deniz bir manken(-**i**) kirala-dı.
PN a model-ACC rent-PST
'Deniz rented a model.'

A more complex pattern also holds with some verbs of sending and carrying, like *göndermek* 'send', *getirmek* 'bring', and *götürmek* 'take/carry away', which figure in double object constructions. They encode the causation of a change of location for the direct object entity, where the final location or goal of the action is expressed by the benefactive dative object. However, they do also encode a change of possession for the subject, which comes to possess the entity in the direct object position. Thus, with both caused motion and change of possession, they encode changes along two dimensions at the same time (Beavers 2011b: 4). With respect to DOM, accusative marking on the direct object is optional and accompanied by word order variation. The unmarked position for direct objects without overt accusative is the one left-adjacent to the verb (140)a. For accusative marked direct objects it is the position to the left of the dative object (140)b. A detailed investigation of affectedness in ditransitive constructions awaits future research (Kittilä 2006; Malchukov et al. 2010).

(140) a. Deniz müdür-e bir rapor gönder-di.
PN principal-DAT a report send-PST
'Deniz sent a report to the principal.'
b. Deniz bir rapor-**u** müdür-e gönder-di.
PN a report-ACC principal-DAT send-PST
'Deniz sent a report to the principal.'

To summarize, in this section we have discussed direct objects that are UNDERGOERS of a physical or mental change of state, a change of location, or a change of existence. We have observed that all of them show a strong preference for accusative marking. This makes evident that there is a connection between the affectedness of the object and DOM in Turkish.

4.3.2 Telicity

As affectedness has been related to lexical aspect, a question that arises at this point concerns the role of telicity and whether it is an independent predictor of DOM in Turkish. The observations in this section show that telic events do not necessarily favor accusative marking. Rather, they suggest that an influence of telicity on DOM stems from an interaction with affectedness.

Many of the predicates that were discussed in the previous section on affectedness are in fact telic. Examples are the predicates *burn* or *destroy*, which felicitously combine with time frame adverbials like *in x time* (141). As mentioned, they show a strong preference for accusative marking.

(141) a. Deniz bir masa*(-**yı**) *yarım saat içinde* yak-tı.
PN principal-DAT half hour in burn-PST
'Deniz burned a table in half an hour.'
b. Deniz bir bina*(-**yı**) *yarım saat içinde* yık-tı.
PN a building-ACC half hour in destroy-PST
'Deniz destroyed a building in half an hour.'

While such examples may hint towards an influence of telicity on DOM, this is relativized by the next pair of data, in (142). The motion predicates *drag* and *push* describe atelic events and are infelicitous with time frame adverbials like *in x time*. The lack of telicity does not reflect in a neutral accusative marking pattern.

(142) a. Deniz bir asker*(-**i**) *#yarım saat içinde* sürükle-di.
PN a soldier-ACC half hour in drag-PST
'Deniz dragged a soldier for half an hour.'
b. Deniz bir arac*(-**ı**) *#yarım saat içinde* it-ti.
PN a vehicle-ACC half hour in push-PST
'Deniz pushed a vehicle for half an hour.'

Further crucial data that shed light on the role of telicity in DOM come from telic predicates where the direct object is not affected. Such a relation holds for achievement verbs like *find* or *notice* which are punctually telic. They encode a single transition on a non-gradable, two-point scale from one state to another (Beavers 2013: 691). Due to their punctual nature, they are infelicitous with time span adverbials (*for x time*) that measure the duration of the process. They do combine with time frame adverbials like *in x time*, but the adverbial signals an *after* reading and fails to indicate a *during* reading.

(143) a. *Deniz found a map *for five minutes*.
b. Deniz found a map *in five minutes*.

With verbs like *find* or *notice*, telicity does not arise from the transition of the object entity to a result state. Crucially, these verbs do not entail any sort of directed motion or change for the object entity, and do not allow a resultative predication for it. The entailment test of change fails and the *What happened to X is Y* para-

phrase sounds odd (144)a–b. In *Deniz found a map*, it is not the object entity that is affected. To *find* something instead names the endpoint of a process of searching that the subject entity undergoes.

(144) a. Deniz found a map/noticed a carving, but nothing changed about it.
b. #What happened to the map/carving was, it was found/noticed.

Thus, if the telicity of an event were an independent factor enhancing DOM, we would expect a (strong) preference for accusative marking with this group of verbs. Yet this prediction is not borne out. With respect to DOM, these predicates exhibit optional accusative marking (145).

(145) a. Deniz bir harita(**-yı**) bul-du.
PN a map-ACC find-PST
'Deniz found a map.'

These observations suggest that the crucial property determining DOM in Turkish at the level of event structure is not telicity but affectedness. This does not mean that telicity is completely redundant for the prediction of DOM. Rather, it seems that telicity is only involved in predicting DOM if it entails the affectedness of the direct object. In the many telic predicates discussed in 4.3.1, the telicity of the predicate arises from the change to a specific result state that the direct object undergoes. In such predicates with affected direct objects, telicity may even strengthen the preference for accusative marking that already holds – a prediction that is tested and confirmed in the experimental part of this chapter. For now, we note that the telicity of an event seems not to be an independent factor enhancing accusative marking on the direct object.

4.3.3 PATH objects

This section investigates DOM with direct objects that function as PATHS to the event. It discusses different kinds of PATH objects, their semantic properties, and the DOM patterns they exhibit. The distribution shows that being a PATH argument does not correlate with accusative case on the direct object. PATH objects, by default, stay unmarked for morphological accusative case. However, DOM can be licensed on PATH objects for reasons of referentiality.

As introduced in Section 2.1.4, the homomorphic relation between the direct object functioning as PATH and the temporal structure of the event can be probed for by the possibility of equating half of the event (*V X halfway*) to half of the argu-

ment in direct object position (*V half of X*) (Tenny 1992: 19; Beavers 2011a: 347). This is applicable to the Turkish data, as illustrated in (146). Note that the accusative case suffix is added in (146)b for syntactic reasons, since the direct object is not preverbal anymore.

(146) a. Deniz yarım bir kitap yaz-dı.
PN half a book write-PST
'Deniz wrote half of a book.'
b. Deniz bir kitab-**ı** yarı-ya kadar yaz-dı.
PN a book-ACC half-DAT until write-PST
'Deniz wrote a book halfway.'

We start with effected objects (i.e., PATH objects of creation verbs like *knit*, *write*, and *make*). Such objects come into existence via the event and their part-whole structure functions as a scale for its progress and completion. In *Deniz knit a scarf*, the knitting event is completed once the scarf is completed (i.e., there is a homomorphic relationship between parts of the event and parts of the object) (Krifka 1992). Several authors have shown that effected objects deviate in various respects from affected objects and do not pass typical affectedness diagnostics (Quirk and Greenbaum 1973: 174; Hopper 1985: 72; Beavers 2011a: 340). With respect to DOM, objects of creation verbs strongly reject accusative case marking (147)–(149), as is also noted by Kelepir (2001: 108–113).

(147) a. *Deniz bir şal-**ı** ör-dü.
PN a scarf-ACC knit-PST
'Deniz knit a scarf.'
b. Deniz bir şal ör-dü.
PN a scarf knit-PST
'Deniz knit a scarf.'

(148) a. *Deniz bir kitab-**ı** yaz-dı.
PN a book-ACC write-PST
'Deniz wrote a book.'
b. Deniz bir kitap yaz-dı.
PN a book write-PST
'Deniz wrote a book.'

(149) a. *Deniz bir pipo-**yu** tasarla-dı.
PN a pipe-ACC design-PST
'Deniz designed a pipe.'

b. Deniz bir pipo tasarla-dı.
PN a pipe design-PST
'Deniz designed a pipe.'

PATH objects of creation verbs describe the activity of the agent and can perhaps be characterized as "agent-oriented". Importantly, they do not possess an existence independent of the event, which is why they are sometimes referred to as "dependent objects" (Bossong 1991). They do not denote referentially individuated entities (Ramchand 2008: 46). Rather, creation verbs denote events that lead to the creation of a new entity and thereby introduce new referents into the domain of discourse (Eckardt 2003: 268; Coppock and Beaver 2015: 414). The only pragmatic context in which accusative marking on PATH objects of creation verbs becomes felicitous is when the target of reference is a type interpretation of the effected object. In (147) a, for example, accusative marking on the direct object is felicitous if reference is made to a scarf type that was knitted, not a particular scarf token. Under a type reference, a sentence like *Deniz knitted a scarf the whole summer* can accumulate iterative events of knitting the same type of scarf and be continued with *By September, she had one for each of her grandchildren*. Such an ambiguity in interpretation for effected objects is noted by Krifka (1992: 46). The same distinction seems to be made by Eckardt (2003: 270) as *reference to plans* compared to *reference to objects*. She argues that objects of creation verbs refer to the instance of the created object, but in selected contexts, they can refer to "previously existing intended objects or plans" (Eckardt 2003: 271). Importantly, this ambiguity is not generally available, but applies in very restricted contexts. Some creation activities, like *baking a cake*, allow for specific reference to plans, even though this may not be the most easily accessible reading of (150). In (150), the accusative marked version of the direct object refers to the plan of a cake described in the recipe and not to the actual created object. But with most creation verbs, the accessibility of such a reading is pragmatically ruled out or very hard to get, as (151) illustrates, with the verb *create* 'yaratmak'.

(150) Deniz tüm gün laktozsuz bir pasta tarifi aradı.
'Deniz searched for a lactose-free cake recipe the whole day.'
Sonunda süt-süz bir pasta(-**yı**) yap-tı.
finally milk-without a cake-ACC make-PST
'Finally, he/she made a milk-free cake.'

(151) a. Deniz bir şarkı(*-**yı**) yarat-tı.
PN a song-ACC create-PST
'Deniz composed/created a song.'

To summarize, creation verbs illustrate that PATH objects remain unmarked for case, except if they allow for specific reference to pre-existing plans for the created object. In that case, accusative marked PATH objects are not case marked for the event semantic property of being a PATH object, but for the nominal semantic property of being specific.

A further illustration of the link between accusative marking and possible specific readings of PATH objects comes from the comparison of PATH objects of change of state verbs with PATH objects of change of location verbs, which is discussed by Kural (1997). Consider the contrast in optional accusative case marking available for these two groups, as shown below:

(152) change of state verbs

a. Süt 45 derece(*-**yi**) ısın-dı. (Kural 1997: 54)
milk 45 degrees-ACC warm-PST
'The milk warmed 45 degrees.'

b. Ayşe üç santim(*-**i**) uza-dı.
PN three cm-ACC get.taller-PST
'Ayşe grew three centimeters taller.'

c. Ahmet 20 kilo(*-**yu**) şişmanla-dı.
PN 20 kilo-ACC gain.weight-PST
'Ahmet gained 20 kilos (of weight).'

(153) change of location verbs

a. Ahmet 10 kilometre(-**yi**) yürü-dü. (Kural 1997: 53)
PN 10 kilometers-ACC walk-PST
'Ahmet walked 10 kilometers.'

b. Ayşe 500 metre(-**yi**) yüz-dü.
PN 500 meter-ACC swim-PST
'Ayşe swam 500 meters.'

c. Uçak 700 mil(-**i**) uç-tu.
plane 700 mile-ACC fly-PST
'The plane flew 700 miles.'

In terms of event semantics, the direct objects in (152)–(153) are all PATHS in the sense that they provide a measure for the change of state or change of location in the event, and are not UNDERGOERS of change themselves. Interestingly, PATH objects measuring a change of state reject accusative case (152), whereas PATH objects measuring a change of location show optionality (153). What is the difference between the two? The crucial distinction responsible for the diverging distribution of DOM goes back to different predicational possibilities: PATH objects measuring a change of state are

restricted to being interpretated as "pure" PATHS. However, PATH objects measuring a change of location exhibit a specific interpretation in addition to the PATH property. In this interpretation, they refer to a particular spatial entity in the world, which happens to be the PATH that is traversed. In other words, PATH objects of change of location verbs do allow for reference to spatial PATHS that exist independently of the event. For PATH objects of change of state verbs, the same does not hold. With them, the PATH traversed is more abstract and lacks an existence independent of the event. In *the milk warmed 45 degrees*, the PATH object and measure phrase specify the change of state expressed by the verb. The PATH object is tightly connected to the verb's meaning and describes a certain result state that is a subset of the possible result states the activity denoted by the verb can bring about (Kuno and Takami 2004: 121; de Swart 2007: 125). Semantically and syntactically, it behaves like an incorporated object. Unlike PATHS expressing a change of location, it does not allow for specific reference. Kural (1996: 179–180) notes that PATH objects of change of location verbs can be referred to deictically and can be subjects of passives (154), while these two properties are ruled out for PATH objects of change of state verbs (155).

(154) a. Bu 500 metre-**yi** yüz-dü. change of location
this 500 meter-ACC swim-PST
'(He/She) swam these 500 meters.'
b. 500 metre yüz-ül-dü.
500 meter swim-PASS-PST
'The 500 meters were swum.'

(155) a. *Bu üç santim-**i** uza-dı. change of state
this three cm-ACC get.taller-PST
intended: '(He/She) grew these three centimeters taller.'
b. *Üç santim uza-n-dı.
three cm get.taller-PASS-PST
intended: 'The three centimeters were grown taller.'

Moreover, PATH objects of change of location verbs can be promoted to the topic position, which has been associated with specificity cross-linguistically (Kuno 1972; Prince 1981; Reinhart 1981; Portner and Yabushita 2001) and also for Turkish (von Heusinger and Kornfilt 2005: 12). PATH objects of change of state verbs stay left-adjacent to the verb and cannot be scrambled away from this position.

(156) 500 metre-**yi** Deniz yüz-dü.
500 meter-ACC PN swim-PST
'500 meters, Deniz swam.'

(157) *Üç santim-**i** Deniz uza-dı.
three cm-ACC PN get.taller-PST
intended: 'The three centimeters, Deniz grew taller.'

The generalization that emerges from the comparison of these two groups of verbs and the case marking pattern of their objects resembles the one that was noted for creation verbs: By default, PATH objects reject accusative marking. The role-semantic property of providing a measure to the change undergone in the event does not evoke case marking. Accusative marked PATH objects are not case marked for being PATH objects but because they refer to specific PATHS.

4.3.4 Ambiguous objects

In the following, I will argue that affected direct objects are accusative marked irrespective of other properties they carry. In other words, the property of being a PATH object in addition to being an UNDERGOER does not change the preference for accusative marking due to affectedness. The situation is different with verbs that allow an interpretation of the direct object as either affected *or* PATH. This becomes possible if there is another argument besides the direct object that is affected by the action (i.e., the subject/agent). In this case, the direct object can be interpreted as a PATH to the change the agent/subject argument undergoes. Note that all the direct objects that will be discussed below allow for specific reference and can therefore carry accusative marking for nominal semantic reasons. However, their diverging accusative marking preferences show that a full distribution of DOM cannot be understood without taking into account the event semantic characteristics they exhibit.

The first type of direct objects which are affected *and* at the same time function as PATHS to the event's progress have in fact been mentioned in the previous section on affected direct objects, but without reference to their properties as PATHS. They are the incremental theme verbs *yıkmak* 'demolish/topple' and *yakmak* 'burn', which are both telic change of state verbs describing a destruction of physical shape for their objects (158)–(159). As mentioned above, *yıkmak* 'demolish/topple' lexicalizes some "facet of the resulting state of destruction" (Levin 1993: 240; Jackendoff 1990) for the object. Importantly, these verbs do pass the entailment test of change for their direct objects and they do not allow object deletion or cognate object constructions. Besides being PATHS, their objects are always UNDERGOERS and hence prefer accusative marking. The property of being a PATH object in addition to being an UNDERGOER does not change the accusative marking preference due to affectedness.

(158) a. Deniz bir bina-**yı** yık-tı.
PN a building-ACC destroy-PST
'Deniz destroyed a building.'
b. *Deniz bir bina yık-tı.
PN a building destroy-PST
'Deniz destroyed a building.'

(159) a. Deniz bir masa-**yı** yak-tı.
PN a table-ACC burn-PST
'Deniz burned a table.'
b. *Deniz bir masa yak-tı.
PN a table burn-PST
'Deniz burned a table.'

The situation changes with objects of consumption verbs like *yemek* 'eat' and *içmek* 'drink', which refer to the "ingestion of food or drink" (Levin 1993: 213) and are also classical incremental themes. At first sight, they seem quite similar to change of state verbs like *yıkmak* 'demolish/topple' and *yakmak* 'burn'. Their direct objects are PATHS to the event – the physical extent of the theme argument provides a scale structure which can be homomorphically mapped onto the event's runtime – and at the same time UNDERGOERS. But as examples (160) and (161) illustrate, these verbs do not exhibit a bias toward accusative marking. Instead, accusative marking on the direct object is optional.

(160) a. Deniz bir elma-**yı** ye-di.
PN an apple-ACC eat-PST
'Deniz ate an apple.'
b. Deniz bir elma ye-di.
PN an apple eat-PST
'Deniz ate an apple.'

(161) a. Deniz bir bira-**yı** iç-ti.
PN a beer-ACC drink-PST
'Deniz drank a beer.'
b. Deniz bir bira iç-ti.
PN a beer drink-PST
'Deniz drank a beer.'

How can this diverging pattern be accounted for? Verbs of consumption like *eat* and *drink* differ from canonical change of state verbs like *destroy*, *demolish*, *burn*, etc.,

in important respects. First, they do not lexicalize a result component which refers to the change entailed in the direct object. Hay et al. (1999: 139) show that telicity is not entailed in the lexical semantics of these verbs but comes about through implicature (e.g., *Deniz ate an apple but, as usual, left a few bites*). Recall that it was argued in the previous section that the telicity of a predicate can influence the case marking pattern of the direct object if it *entails the affectedness* of the theme argument. This is the case with *destroy* verbs but not with consumption verbs. Secondly, consumption verbs not only take affected patients but also affected agents. Many linguists have argued that, with ingestive verbs, the primarily and "saliently affected" argument is the agent argument (Haspelmath 1994: 161; see also Wierzbicka 1982; and for a detailed discussion Næss 2007: Chapter 4). For Næss, these verbs take affected agents and thereby deviate from the transitive prototype in which agents are defined as volitional instigators in maximal semantic distinction to patients as affected entities (2007: 44). Cross-linguistically, this is reflected in the observation that consumption verbs often figure formally in intransitive constructions. In English or German, for instance, the PATH object of verbs of consumption need not be overtly expressed (*Deniz is eating*) (Levin and Rappaport Hovav 2005: 117). In Turkish, an object needs to be expressed syntactically but it can be realized as a dummy or cognate object (162). Moreover, the grammaticalization of *eat* as a light verb in the noun-verb construction in (163), which denotes that the agent is beaten up, further illustrates the role of the inherent semantics of affectedness denoted for the agent argument (Næss 2007: 75).

(162) Deniz (bir) yemek ye-di.
PN a meal eat-PST
'Deniz ate (a meal).'

(163) Næss (2007: 75)
Yalnızca 20 sopa ye-di.
only 20 stick eat-PST
'(S)he had twenty strokes of the cane.'

Some authors argue that direct objects of consumption verbs are more similar to PATHS than to UNDERGOERS. For Ramchand (2008: 30), the direct object of consumption verbs "does not itself travel some abstract 'PATH of change'; it actually defines the PATH of change". This would explain why it can remain unmarked. The optionality of accusative marking could be attributed to the availability of specific readings signaled by accusative marking. In this regard, such verbs are similar to verbs like *öğrenmek* 'learn', which denotes an experiencer subject that undergoes a

cognitive change of state through the process of learning. Objects of *learn* are cognitively "consumed" and semantically resemble objects of ingestive verbs that are "physically" consumed, which is why several authors group these verbs together (Haspelmath 1994: 160–161; Ramchand 2008: 160–161). Both groups of verbs show optional accusative marking on the direct object (164):

(164) a. Deniz bir dil öğren-di.
PN a language learn-PST
'Deniz learned a language.'
b. Deniz bir dil-**i** öğren-di.
PN a language-ACC learn-PST
'Deniz learned a language.'

A systematic polysemy between (i) PATH readings of an unmarked direct object on the one hand, (ii) affected, and (iii) specific readings of an accusative marked direct object on the other hand can clearly be demonstrated by the verb *boyamak* 'paint'. In (165)a and (166)a, the unmarked direct object is a PATH argument (i.e., signals an effected interpretation). In this interpretation, it lacks independent existence and refers to the picture of a woman or the picture of a wall respectively, that is created incrementally via the painting event. In (165)b, the accusative marked direct object signals a specific interpretation. The direct object refers to a particular woman who is portrayed in the painting event. It could also denote an affected reading, where the direct object undergoes a change of color (i.e., paint is put on the woman), but pragmatically, the specific reading is more easily accessible. In (166)b, accusative marking signals an affected interpretation of the direct object (i.e., a pre-existing wall that undergoes a change of color due to the event). Here, an effected interpretation (i.e., a wall being created by the painting event) is ruled out. In principle, (166)b could signal specific reference to a certain wall serving as a sample for the painting event, but the affected reading is pragmatically the preferred one.

(165) a. Deniz bir kadın boya-dı. effected
PN a woman paint-PST
'Deniz painted a woman (from scratch).'
b. Deniz bir kadın-**ı** boya-dı. specific
PN a woman-ACC paint-PST
'Deniz painted a woman (from scratch).'

(166) a. Deniz bir duvar boya-dı. effected
PN a wall paint-PST
'Deniz painted a wall.'
b. Deniz bir duvar-**ı** boya-dı. affected
PN a wall-ACC paint-PST
'Deniz painted a wall (from scratch).'

To sum up, this section explored the distribution of DOM with direct objects that function as PATHS to the event. In doing so, different types of PATH arguments were investigated: objects of creation verbs and measure phrases that predominantly function as "pure" PATH arguments, objects of motion verbs that can denote particular spatial entities and signal specific reference, and objects of change of state or ingestive verbs that are PATH arguments and/or affected arguments at the same time. The distribution shows that PATH objects stay, by default, unmarked for morphological accusative case. However, accusative marking on PATH objects can be made possible by nominal semantic properties related to referentiality.

4.3.5 Affectedness and referentiality

After having discussed the nominal parameters that condition DOM, particularly specificity, as well as the verbal semantic parameters, particularly affectedness, a question that naturally arises concerns the relationship between affectedness and specificity and whether accusative marked direct objects carry specific reference.

In fact, some authors have suggested that affected direct objects must be referential. Van Valin and La Polla (1997:149), for instance, note that "undergoer arguments refer to the participants which are viewed as primarily affected in the state of affairs; accordingly, undergoers must be referential". In a similar fashion, for Næss (2006: 316), "it seems difficult to predicate affectedness of a nonreferential object, since there is no concrete, specific entity to which affectedness might be ascribed". However, the term referentiality has different meanings for different authors. As we have seen in Section 4.2.2, the notion of specificity combines semantic and pragmatic interpretations associated with indefinites. Since there is no single type of specificity, it is not feasible to articulate a one-to-one correlation between affected direct objects and (all types of) specificity. Rather, it is likely that objects corresponding to different uses of the term specificity are represented in different parts of the hierarchical structure.

What is a characteristic of affected direct objects, and perhaps aligns with the intuitions of the above-mentioned authors with regard to referentiality, in my opinion, can best be subsumed under the more neutral terminology of independent existence. Independent existence prior to the event has been noted as a pre-requisite of affectedness: "prior existence must therefore also be a factor relevant for affectedness – perhaps something cannot be 'affected' if it did not exist prior to the event" (Beavers 2011a: 341). This means that verbs which encode some degree of affectedness for the direct object do exhibit an existential entailment on the direct object participant. Note that existential entailment does not necessarily translate to specificity. This kind of entailment is to be distinguished from an existential presupposition which is associated with referentially specific indefinites. Indefinites which are referentially specific, as illustrated in (167) with the paraphrase "a certain", keep their existential presupposition under negation. The existential entailment associated with affected direct objects does not survive under negation, as is shown in (168).

(167) a. Deniz searched for a certain vase. → There exists a vase.
b. Deniz did not search for a certain vase. → There exists a vase.

(168) a. Deniz broke a vase. → There exists a vase.
b. Deniz did not break a vase. ↛ There exists a vase.

What I would like to argue for case marked affected indefinite direct objects in Turkish resembles the observations made with regard to non-affected ones. While there may be a strong association of accusative marked indefinites with specific readings, non-specific readings are not completely ruled out. Let us illustrate this via the epistemic kind of specificity which is related to the *referential intentions* of the speaker and refers to the knowledge a speaker has about an entity or individual (Karttunen 1968: 20). In (169), the affected direct object is case marked. The sentence is compatible with both a continuation, indicating a specific interpretation, as in (i), and with a non-specific interpretation, as in (ii).

(169) Deniz bir masum-**u** öl-dür-dü
PN an innocent-ACC die-CAUS-PST
'Deniz killed an innocent (person).'
(i) Namely Ozan, the teenage son of Mine.
(ii) I have no idea who that person is.

Recall that for this type of pragmatic specificity based on referential intentions, a study of von Heusinger and Bamyacı (2017a) (which did not consider affectedness)

has not been able to find any specificity contrasts evoked by Turkish DOM. Further details were explicated in Section 4.2.2.

Another, semantic type of specificity which has been argued to evoke specificity contrasts in Turkish DOM is scopal specificity. It refers to the interpretation of indefinites outside the scope of certain operators, such as extensional quantifiers. The example sentence in (170) illustrates an accusative marked affected direct object. The scopal specific, wide scope, or independent reading of the indefinite refers to one innocent person who has been killed by the collective action of the convicts (i). In the scopal non-specific, narrow scope, or dependent reading, the value of the innocent persons varies with the value of the convicts (ii). While the accusative marked indefinite may preferably be interpreted outside of the scope of the universal quantifier (i.e., may take a wide scope reading), a narrow scope reading is not ruled out.

(170) Bütün bu mahkum-lar bir masum-**u** öl-dür-dü
All these convicts-PL an innocent-ACC die-CAUS-PST
'All these convicts killed an innocent (person).'
(i) All of them together killed Ozan, the teenage son of Mine.
(ii) The first convict killed Ozan, the other killed their relative Ayda, and the third killed Hasan.

As the above-mentioned examples illustrate, there is no one-to-one correlation between affectedness and specificity in general, nor between marked affected direct objects and specific interpretations of the indefinite in Turkish in particular. Although both affectedness and specificity have been argued to contribute to the individuation of objects, they are, in principle, two independent notions. We can suspect that accusative marked affected direct objects are likely to exhibit a strong preference for specific readings in Turkish, without entirely excluding non-specific readings. However, the fact that affected direct objects are case marked even if they are non-specific demonstrates that, in this case, affectedness is more important than specificity. This being said, there are no empirical studies on specificity effects induced by DOM marked direct objects in the context of affectedness.

4.4 Structural representation of verbal parameters

In the previous sections, I have provided a comprehensive overview of affectedness and its impact on the morphological realization of the direct object by investigating DOM with indefinites in Turkish. We have seen that in predicates where change

plays no role (non-dynamic ones), the direct object is optionally accusative marked. In predicates where change plays a role (dynamic ones), the direct object gets accusative marked when it is affected, and remains unmarked or optionally marked for reasons independent of event structure when it is non-affected. The fact that affectedness as a verbal semantic property is related to overt case morphology on the direct object raises the question of how this can be accounted for syntactically. In this section, I will adopt Ramchand's (2008) representation of event structure and direct object positions, and relate affectedness to (overt) accusative case assignment. The motivation for choosing the system brought forward by Ramchand is that it extends the semantic analysis to a syntactic one with clear predictions about structure associated with different types of change predicates. Furthermore, the frameworks of Beavers (2011a) and Ramchand (2008) exhibit different treatments of certain kinds of changes. While Beavers unifies motion, change of state, and creation/consumption predicates under a single approach with the only difference lying in the type of scale selected (2011: 367), the decompositional approach of Ramchand (2008) makes different structural claims about them. This will prove to be a relevant distinction in the language of investigation.

Recall that for Ramchand (2008) (Section 2.3.2), event structure is systematically constructed on a lexical syntactic level which maximally decomposes into three subevents, each contributing its own syntactic projection: *initP* denotes a stative initiating (causational) subevent which takes as its subject the INITIATOR of the event; *procP* represents a dynamic process expressing change through time and takes the entity undergoing a change in some property as its subject (UNDERGOER); *resP* denotes a stative projection expressing the result or telos of the event and takes as its subject the entity that comes to hold the result state (RESULTEE). In this constructional system, syntactic structure carries meaning, and the semantics of event structure and event participants are derived from the interpretation of the syntactic structure that a verb participates in. Lexical items are not entirely devoid of syntactically relevant information, but do carry some selectional information. Different verbal roots come with different category features which match the subevental heads and multi-attach to the syntactic structure, meaning that they lexicalize different spans in the verbal extended projection, not via movement but by Merge and Remerge (Ramchand 2008: 58). A single verb can identify more than one subevental head and a single argument can occupy more than one position, resulting in complex thematic roles. For our purposes, it is crucial to note that the specifier and complement positions in the first phase syntax express a predicational asymmetry. Arguments occupying a specifier position are predicational, i.e., they are THEMES of a subevent, whereas those occupying a complement position are modificational, i.e., they are RHEMES of a subevent. Predicational positions require arguments which are referentially individuated and predicated over within an

event topology and which are reserved for NP/DPs. In contrast, for modificational positions, this restriction does not hold. Modificational positions serve as part of the description of the property predicated over the THEME, and can be occupied by any XP (NP/DP, PP, AP, etc.). In the remainder of this section, I will first illustrate that distinguishing the positions of direct objects in terms of affectedness can adequately predict the case marking patterns discussed in the previous sections. In doing so, I will establish a structural correlate of the observations. We will see that the distinction between predicational direct objects occupying specifier positions and modificational ones occupying complement positions will play a crucial role: While direct objects in specifier position, i.e., in the role of UNDERGOER and possibly also in the role of RESULTEE, strongly favor accusative marking, direct objects in complement position, i.e., in the role of PATH or GROUND OF RESULT, remain either unmarked or optionally marked for accusative. Having established this relation, I will turn to the specifics of case assignment in languages with DOM, and propose that affected direct objects in our language of investigation move out of the VP (*procP*) to the edge of the event domain, where they are case marked by agreement. Thus, event structural properties will be related to overt case marking, which is associated with higher domains of the clause. Crucially, I will argue that hierarchical relations in the event domain "feed" the dependencies in the upper domains (Ramchand 2019).

4.4.1 Direct object positions in the first phase syntax

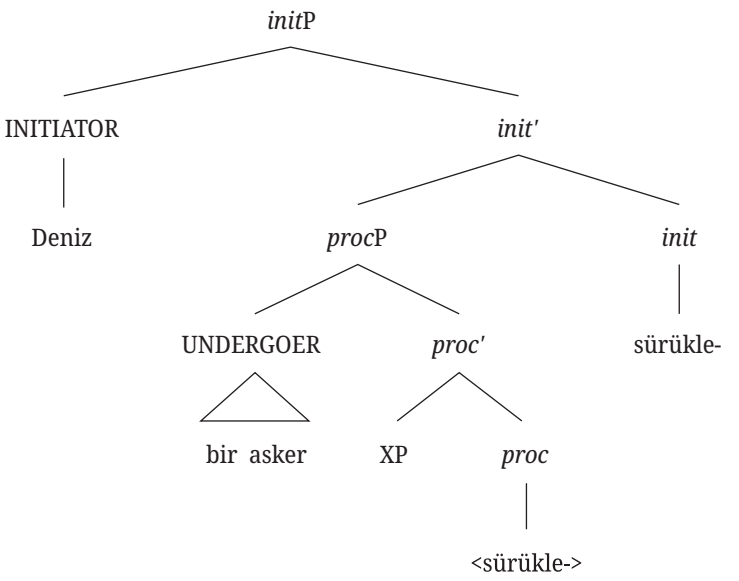
For Ramchand (2008), affected direct objects differ from non-affected ones in that they are first-merged hierarchically higher than complements, and occupy a specifier position, namely the UNDERGOER position, and possibly also the RESULTEE position. This idea has its antecedents in the work of Hale and Keyser (1993) and is actually quite common in the syntactic literature on event structure (Ritter and Rosen 1998; Torrego 1999; Borer 2005; Travis 2010; Lohndal 2014). For the verb types investigated in Section 4.3.1, all verbs which identify a changing property for the direct object structurally predicate it in the UNDERGOER position. Let us start by illustrating this for inanimate and animate objects of the change of location verbs *itmek* 'push' and *sürüklemek* 'drag', for which it was observed that they induce a strong preference for accusative marking (see (171)–(172)).

(171) Deniz bir asker*(-**i**) sürükle-di.
PN a soldier-ACC drag-PST
'Deniz dragged a soldier.'

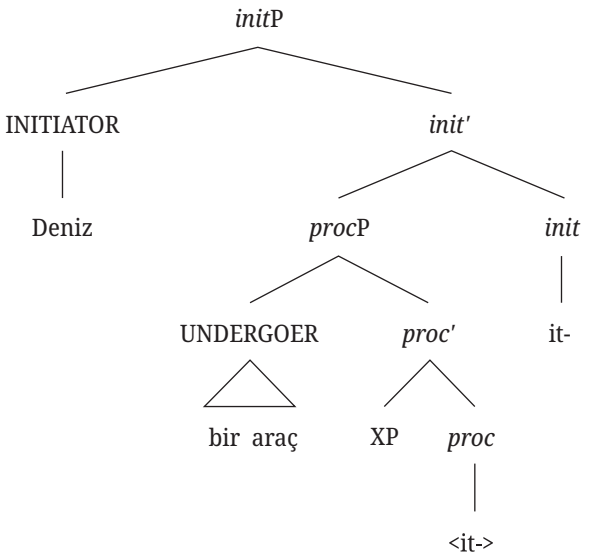
(172) Deniz bir arac*(**-ı**) it-ti.
PN a vehicle-ACC push-PST
'Deniz pushed a vehicle.'

The verbs *itmek* 'push' and *sürüklemek* 'drag' are both identified as [*init*, *proc*], because they specify a process of change, in this case a translational motion, and an initiating condition to set off the motion. The entity in motion which occupies the UNDERGOER position is the direct object referent. These verbs do not identify a [*res*] component, since their semantics do not specify an endpoint. They are both atelic, which can be probed for by *in/for x time* adverbials, e.g., *Deniz dragged a soldier for/??in 5 minutes*. Adapting the head-final word order in Turkish, their structure is shown in (173) and (174). Note that this structure does not capture overt case marking, but only the event-building domain of the clause, which is, for now, our primary domain of interest. The full phrase structure, including case- and agreement-related processes, as well as information such as tense, aspect, information structure, etc., is represented on higher projections. We will turn to case marking in the next section.

(173)



(174)

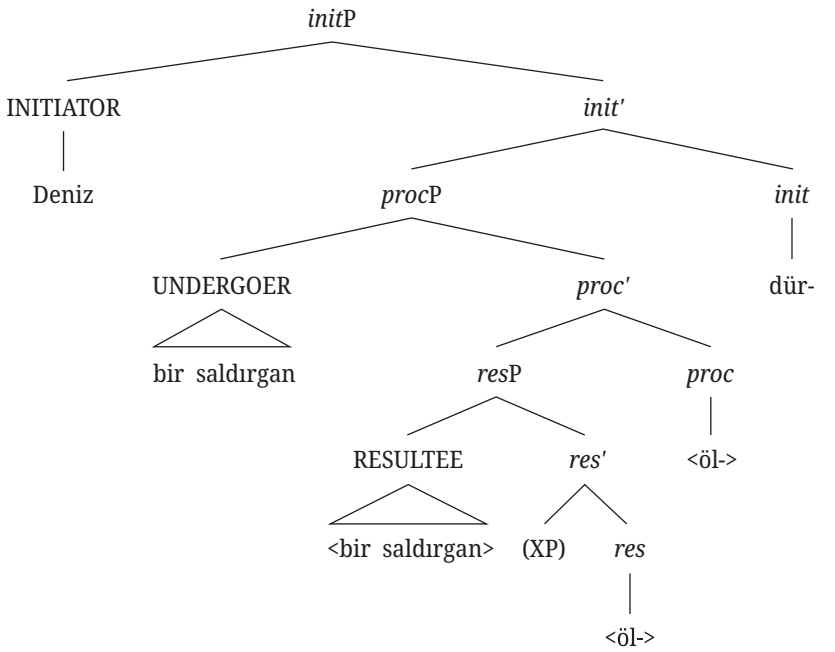


Other transitive verbs that were investigated include *yakmak* 'burn', *kırmak* 'break', *yıkmak* 'demolish', *öldürmek* 'kill', and *mahvetmek* 'ruin'. Here, the verb meaning identifies a result state for the affected direct object and is specified as [*init*, *proc*, *res*], meaning that the direct object is not only UNDERGOER but also RESULTEE. This is exemplified for the animate direct object of *öldürmek* 'kill' and the inanimate direct object of *mahvetmek* 'ruin' in (175)–(176). Both predicates imply a strong preference for accusative marking and their structure is provided in (177)–(178). Note that the causation component in Turkish can be identified in various ways. In the above-mentioned examples with 'push' and 'drag', causation was expressed synthetically. Here, the verb *öl-dür-mek* 'kill' carries the causative suffix *-Dir*, which attaches to the intransitive root *öl-* 'die'. The infinitive verb *mahv-et-mek* is composed of the nominal verb stem *mahv-* 'destruction/downfall', which expresses the result component, and the light verb *et-* 'do', which I associate with [*init*, *proc*]. *Mahv-et-mek* has an intransitive variant *mahv-ol-mak* which is composed of the same nominal verb stem and the light verb *ol-* 'become', which is only associated with [*proc*].

(175) Deniz bir saldırgan*(**-ı**) öl-dür-dü.
PN an attacker-ACC die-caus-PST
'Deniz killed an attacker.'

(176) Deniz bir tablo*(**-yu**) mahv-et-ti.
PN a painting-ACC ruin-make-PST
'Deniz ruined a painting.'

(177)


initP
INITIATOR
init'
Deniz
procP
init
UNDERGOER
proc'
dür-
bir saldırgan
resP
proc
RESULTEE
res'
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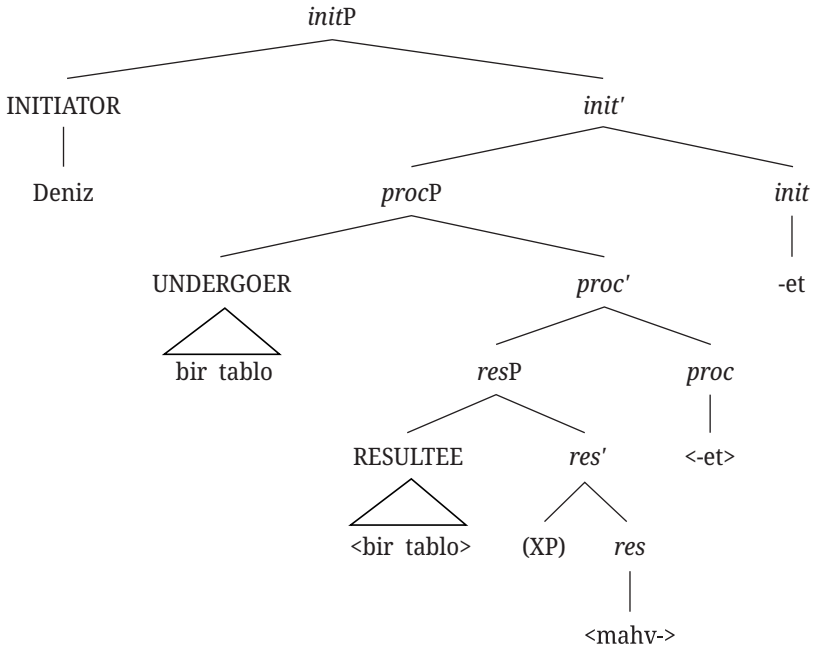
(XP)
res
<öl->

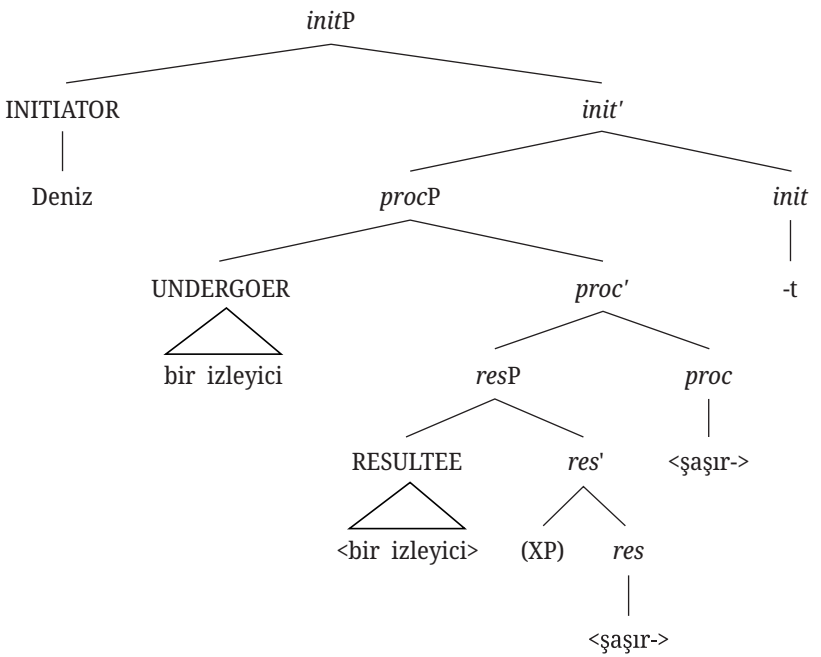
(178)


initP
INITIATOR
init'
Deniz
procP
init
UNDERGOER
proc'
-et
bir tablo
resP
proc
RESULTEE
res'
<-et>
<bir tablo>
(XP)
res
<mahv->

[*init*, *proc*, *res*] verbs are not limited to verbs describing observable, physical changes. As Ramchand (2008: 53–55) notes, all heads [*init*, *proc*, *res*] are abstract structuring principles that have their analogues in the psychological domain. In Section 4.3.1, we have seen that verbs expressing a change of mental state pattern together with verbs denoting a change of physical state, both sharing a strong preference for accusative marking. The direct object of an object experiencer psych verb like *şaşırtmak* 'surprise', for instance, is not physically but experientially affected. The thematic structure of (179) is given in (180).

(179) Deniz bir izleyici*(**-yi**) şaşır-t-tı.
PN a viewer-ACC surprise-CAUS-PST
'Deniz surprised a viewer.'

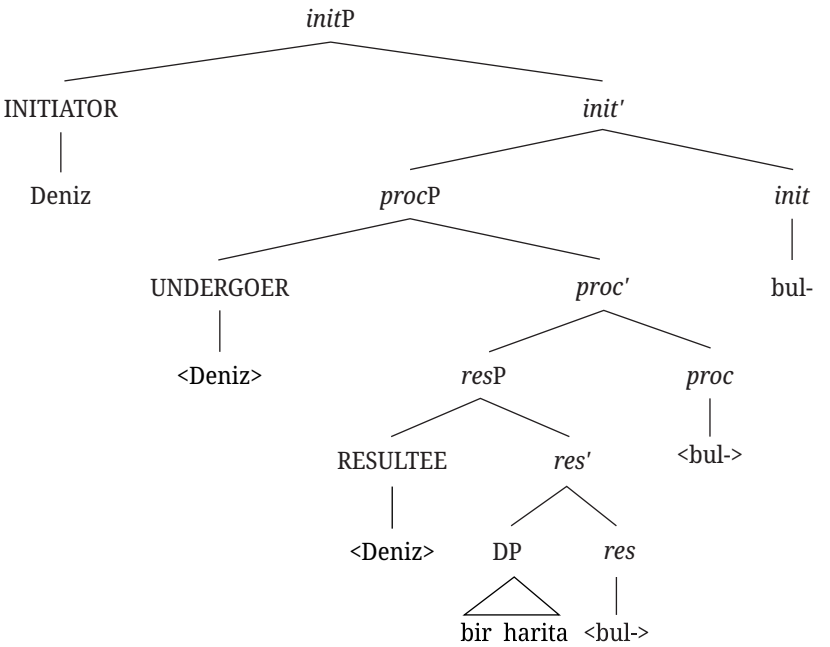
(180)



Having established the structural correlate of affected direct objects in first phase syntax, let us now turn to non-affected direct objects. Non-affected direct objects occupy the complement positions of a variety of different predicates. Amongst them are [*init*, *proc*, *res*], as well as [*init*, *proc*] verbs where the direct object is not UNDERGOER, but PATH or GROUND OF RESULT. Take, as an example, the telic verb *bulmak* 'find' in (181), where telicity does not arise from the transition of the object entity to a result state. The verb *find* does not entail any sort of directed motion or change for the direct object, but rather names the endpoint of a process of searching that the entity in subject position undergoes. With these verbs, accusative marking is optional (181). The direct object is a rhematic noun phrase denoting the ground of result, with the structure in (182).

(181) Deniz bir harita(-**yı**) bul-du.
PN a map-ACC find-PST
'Deniz found a map.'

(182)

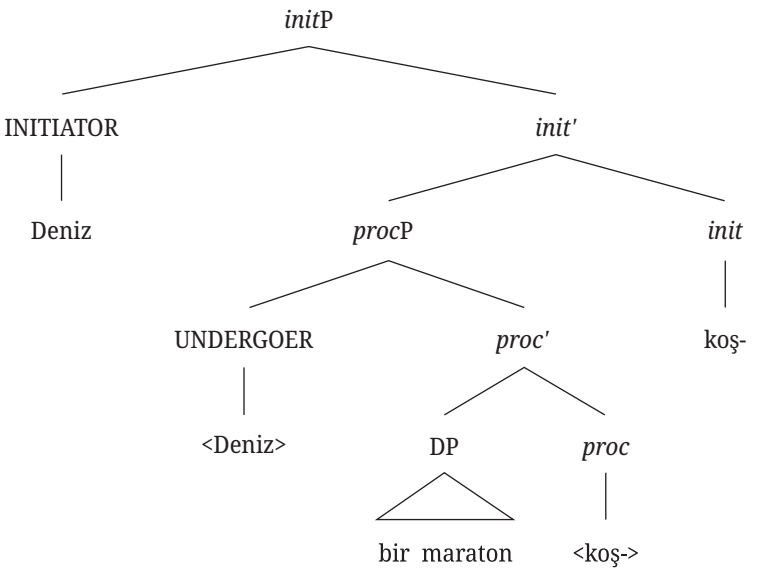


Further examples where the direct object fills a modificational position come from incremental theme verbs. The most obvious case is that of motion predicates, as in (183). With them, it is the subject that undergoes change and the direct object that

provides a PATH for this change (184). Again, accusative marking is optional, with a slight preference for the unmarked version.

(183) Deniz bir maraton(-**u**) koş-tu.
PN a marathon-ACC run-PST
'Deniz ran a marathon.'

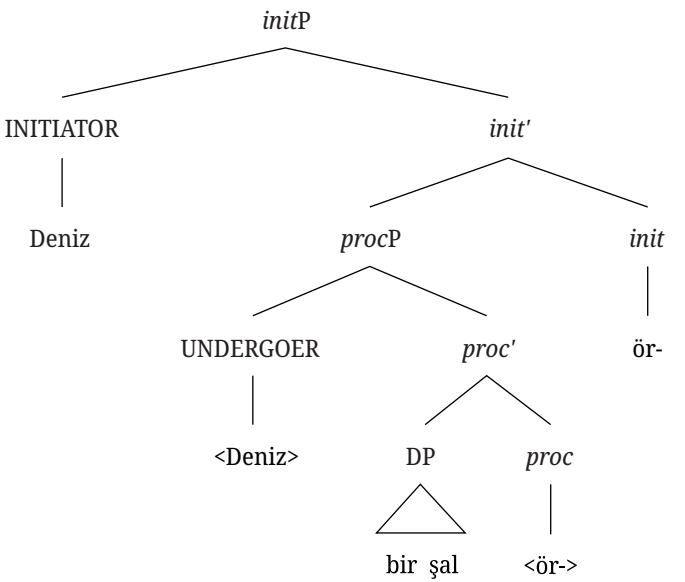
(184)



With creation predicates, as in (185), the object gets created through the event and is also a PATH object. It cannot be an UNDERGOER of change, since it does not exist prior to the event. With these verbs, accusative marking is strongly dispreferred and only possible under special circumstances; see Section 4.3.3. The structure is given in (186).

(185) *Deniz bir şal(*-**ı**) ör-dü.
PN a scarf-ACC knit-PST
'Deniz knit a scarf.'

(186)

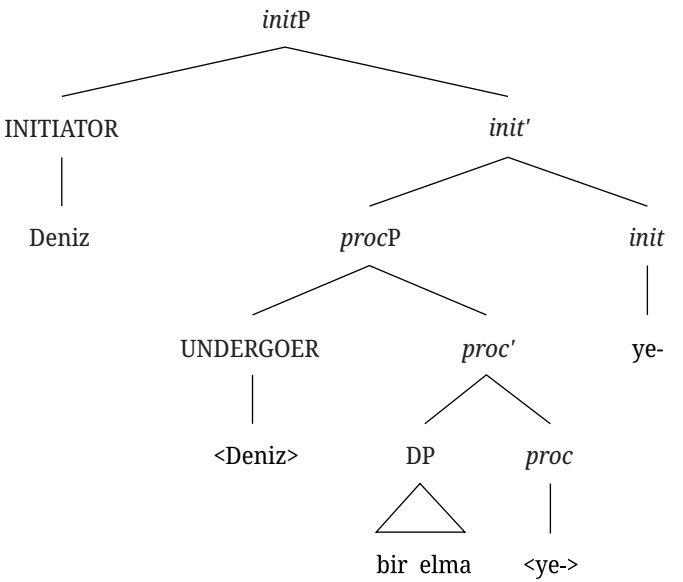


Furthermore, for Ramchand (2008), objects of consumption predicates like *eat* are also PATHS; see (187)–(188). They are similar to objects of motion or creation verbs in that their part-whole structure contributes a measuring scale homomorphic to the event. With this group of verbs, the UNDERGOER is the subject of the clause. This view may at first seem counterintuitive but is related to the ideas of Wierzbicka (1982), Haspelmath (1994: 161), and Næss (2007: Chapter 4), who argue that with ingestive verbs the primarily and "saliently affected" argument is the agent argument. While, in a real-world event, an apple changes through the action of being consumed, on a linguistic level, things are more complex. For Ramchand, this type of object is structurally more similar to a PATH than to an UNDERGOER (see Section 4.3.4). This is also supported by the cross-linguistic syntactic behavior of ingestive verbs, which is different from that of those that take their direct object in UNDERGOER position (Levin and Rappaport Hovav 2005: 117). Note that verbs where the direct object is in a predicational position, i.e., the UNDERGOER position, are cross-linguistically typical transitive verbs. They do not allow object drop and do not characteristically take cognate objects. In comparison, motion and creation verbs, as well as consumption verbs, are cross-linguistically more labile and are also called ambitransitives or pseudo-transitives. In English, for instance, these verbs do allow object drop, and in Turkish they can realize cognate objects. With respect to accusative marking, this group of

verbs exhibits an optional case marking pattern, as is also the case with motion verbs.

(187) Deniz bir elma(-**yı**) ye-di.
PN an apple-ACC eat-PST
'Deniz ate an apple.'

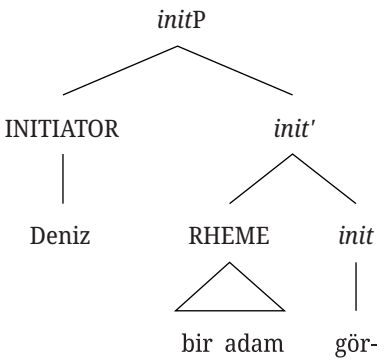
(188)



Finally, another important group of verbs with rhematic direct objects is that of non-dynamic transitive predicates which do not express a change or transmission of a force and have a simpler structure when compared to dynamic ones. Their first phase syntax is composed of a single *init* projection, which is not interpreted as causational since it does not cause a further subevent. It takes the subject of the clause, which is the THEME of the predication, in specifier position. The direct object of the clause is a non-aspectual internal argument in complement position. Let us exemplify this for the verb *görmek* 'see' in (189). The lexical syntactic structure of the verb *görmek* 'see' is given in (190), with the agent as the INITIATOR of the event of *seeing* and the object further specifying the activity of the agent. Here, accusative marking is optional. Note that this configuration of the direct object is in fact the one standardly assumed in the literature, although this does not decompose the verb into different flavors.

(189) Deniz bir adam(**-ı**) gör-dü.
PN a man-ACC see-PST
'Deniz saw a (certain) man.'

(190)



In summing up the observations, we see that the event structural configurations of the direct objects above reflect whether the direct object is realized with or without accusative marking. While direct objects in predicational position are accusative marked, those in modificational position remain unmarked or optionally marked. Affectedness plays a special role, since affected direct objects occupy a higher position and by means of case marking are evidently set apart from non-affected objects in lower positions. For non-affected objects, in the previous sections I have discussed at length the factors independent of event semantics that play a role, most importantly specificity. While case marking is clearly not only driven by event structural factors, it is striking to observe that event structural distinctions clearly do influence direct object realization. In the next section, I will relate the observations at hand to case assignment.

4.4.2 Affectedness and case assignment

Adopting Ramchand's (2008) framework, we have associated affectedness with a structural position in the lexical syntactic domain, also called the event domain of the clause. In relating affectedness to case marking, it is important to note that affectedness is a property associated with the event domain of the clause, with case- and agreement-related processes being at least partially associated with higher domains of the clause. Therefore, in order to sketch how affected

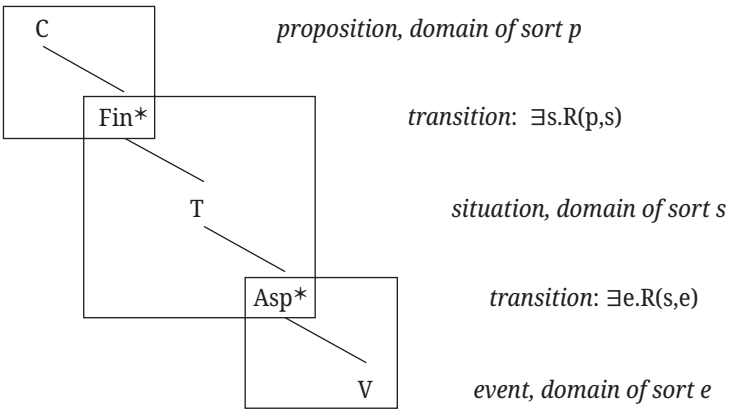
direct objects are morphologically accusative marked, I will first need to say a few words about syntactic architecture and case assignment in general, and then in languages with Differential Object Marking in particular. Crucially, I will not argue that the position of affected direct objects, which is the UNDERGOER position, triggers overt accusative marking in the event domain. Rather, I will claim that affected direct objects in our language of investigation move outside of the VP (*procP*), and that this movement results in accusative marking. Thus, syntactic dependencies and structural configuration in the event domain "feed" dependencies in higher domains.

In work on verbal extended projection since G&B theory (Chomsky 1981), it has been recognized that there are at least three domains of information in the clausal architecture: (i) a *thematic* or *event* domain, which introduces the thematic roles of arguments like agent and theme; (ii) an A(argument) domain, which introduces case- and agreement-related processes and, depending on the theory, licenses grammatical relations like subject and object; and (iii) an A'-domain, which licenses discourse relations like topic and focus (Wiltschko 2014: 63–64). I will roughly follow Ramchand and Svenonius (2014), who argue that clausal architecture can be minimally divided into the three broad domains V, T, and C, which stand in a semantically determined hierarchical relationship to each other. The v/V domain of a clause denotes an event description (e) and introduces thematic relations among arguments, as has been explicated. Events can be quantified and are atemporal. The T domain of a clause denotes a situation description (s). Situations are elaborations of events; they presuppose the existence of an event that is either existentially closed or bound by some operator. They are "anchorable" entities that include times, worlds, and grammatical functions. The transfer point between an event and a situation is the head Asp*,[3] which relates an existentially closed event to a situation with an aspect parameter and then combines with the temporal T head for a tense parameter. The C domain of a clause denotes a proposition (p). Propositions are elaborations of situations; they presuppose an existentially closed situation and combine it with speaker-oriented parameters that anchor it in the utterance context. The transfer point between a situation and a proposition is the head Fin*, which anchors the situation to a discourse context. Since the three domains stand in a containment relation, C dominates T,

3 As the authors indicate, the asterisk is meant to distinguish this particular aspectual head from other kinds of inflections or auxiliaries that have been called aspectual in the literature. Asp*, as used by them, is a functional head which combines with an event description without a temporal parameter and delivers a situational description with temporal parameters (Ramchand and Svenonius 2014: 18).

which dominates V. The functional hierarchy is shown in (191) (Ramchand and Svenonius 2014: 21).

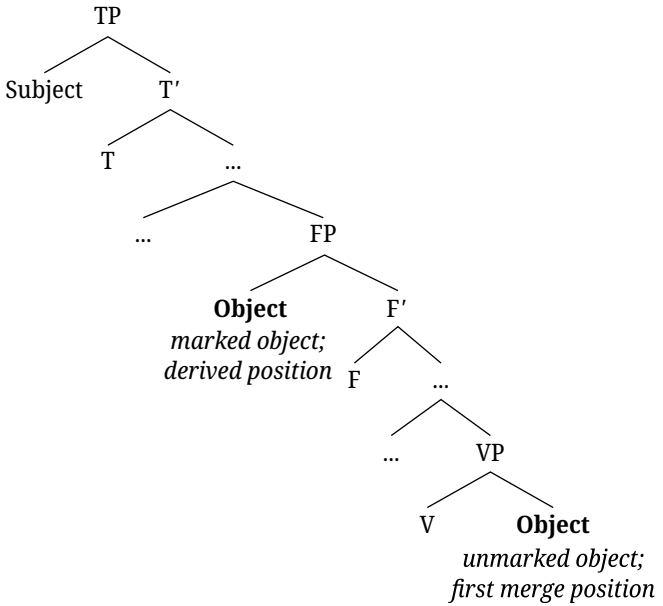
(191)



With this organization of clausal structure in mind, let us now turn to case assignment. Building on the work of Chomsky (2000, 2001), the standard view in the Minimalist Program is that structural case is assigned to nominal phrases via an agreement relationship with a nearby functional head.[4] For monotransitive sentences, it is assumed that T assigns nominative case, and that *v* assigns accusative case. For subject case, this means that the DP in the specifier position of the functional projection TP gets its case licensed via Agree with the functional head T. With respect to object case marking in languages with DOM, syntactic approaches build on object movement. It is assumed that marked direct objects have a position external to the VP, while unmarked direct objects remain VP-internal (de Hoop 1992; Torrego 1999; Baker and Vinokurova 2010; López 2012 inter alia). This is illustrated by Bárány and Kalin (2020: 11) in (192).

4 Most authors follow a standard case assignment via agreement approach, but the Turkish data would equally well be compatible with a dependent case approach (see Kornfilt 2020).

(192)



Movement itself is achieved through certain features which are licensed outside the VP and is often correlated with a larger structure of the noun phrase which makes it visible to processes related to case and agreement; the moved object checks its case with a higher functional head that assigns case via agreement (Bárány and Kalin 2020: 12). Amongst the properties that are licensed outside of the VP (i.e., that correlate with a movement of the direct object), in the tradition of Diesing (1992) and related work, specificity is a crucial one. Investigating the syntactic position and semantic interpretation of noun phrases, Diesing (1992: 19) claims, in her mapping hypothesis, that "material from VP is mapped into the nuclear scope", while "material from TP is mapped into a restrictive clause". Accordingly, specific NPs undergo object shift outside of the VP to escape existential closure, a tendency which has been proven to be cross-linguistically quite robust. This kind of syntactic movement can be probed for by manner adverbials that mark the edge of the VP. Consider the following example from German, which illustrates the different readings of indefinites depending on position. The direct object following the manner adverbial *schnell* 'quickly' is VP-internal and receives a non-specific reading, while the one preceding the adverbial is VP-external and receives a specific (or generic) reading.

(193) a. . . . dass Kim **schnell** ein Buch liest.
that PN quickly a book.ACC reads
'. . .that Kim quickly reads a book.'
b. . . . dass Kim ein Buch **schnell** liest.
that PN a book.ACC quickly reads
'. . .that Kim reads a book quickly.'

For Differential Object Marking in Turkish, which has most prominently been associated with specificity, Diesing (1992: 136–140) herself, as well as many following her proposal (Kennelly 1994; Zidani-Eroğlu 1997; Kelepir 2001: 104; Kornfilt 2003), have argued that specific indefinites in Turkish escape existential closure and move to a position outside of the VP where they are case-checked. This position is assumed to be the Spec, AgrOP (Diesing 1992; Kennelly 1994; Kornfilt 2003), or a vP-adjoined position for direct objects (Kelepir 2001; Kornfilt 2020). Non-specific indefinites, by contrast, remain inside of the VP, where they are unmarked for case. It is an issue of much debate whether they (pseudo-)incorporate into the verb (Kornfilt 2003; Aydemir 2004; Kamali 2015; Seidel 2019a,b), and there are different views on their case requirements. Some authors argue that they do not need case (Öztürk 2005; Keskin 2009), while others assume that they get weak case, which is morphologically unmarked (de Hoop 1992; Kornfilt 2003, 2020). The examples in (194) illustrate the relationship between accusative marking and syntactic movement for indefinites in Turkish (Kelepir 2001: 104). Unmarked indefinites are realized left-adjacent to the verb and naturally to the right of manner adverbials, as (194)a shows. In this position, marked indefinites are rather odd (194)b; they are most naturally realized to the left of manner adverbials (194)c.

(194) a. Deniz **aceleyle** bir elbise al-dı, çık-tı.
PN in a hurry a dress take-PST leave-PST
'Deniz quickly took a dress and left.'
b. Deniz **aceleyle** ?bir elbise-**yi** al-dı, çık-tı.
PN in a hurry a dress take-PST leave-PST
'Deniz quickly took a certain dress and left.'
c. Deniz bir elbise*(-**yi**) **aceleyle** al-dı, çık-tı.
PN a dress-ACC in a hurry take-PST leave-PST
'Deniz quickly took a certain dress and left.'

In relating affectedness to case marking, I will also rely on movement as the core ingredient in syntactic approaches to DOM, and argue that affected objects in Turkish move out of the VP, which is *procP* for Ramchand (2008). The observations made with respect to case marking and position also hold for accusative marked

affected direct objects, which are most naturally realized to the left of manner adverbials; see (195)–(196). As the a) examples in (195)–(196) show, affected direct objects cannot stay inside of the VP and remain unmarked. Thus, they do not have the same optionality of accusative marking in relation to specificity that is available with non-affected ones.

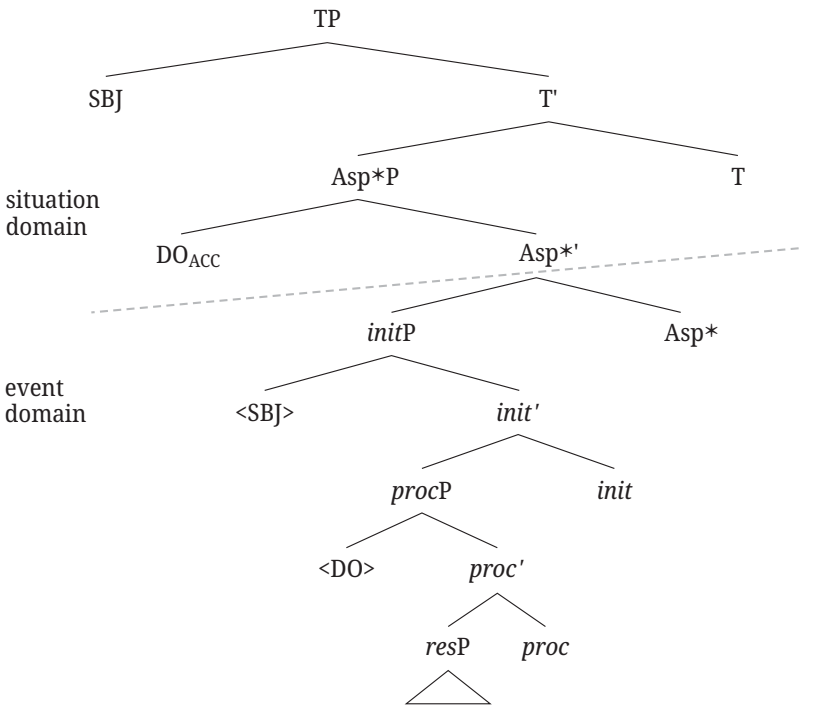
(195) a. *Deniz **feci** bir saldırgan yarala-dı.
PN terribly an attacker injure-PST
'Deniz terribly injured an attacker.'
b. ??Deniz **feci** bir saldırgan-**ı** yarala-dı.
PN terribly an attacker-ACC injure-PST
'Deniz terribly injured an attacker.'
c. Deniz bir saldırgan-**ı** **feci** yarala-dı.
PN an attacker-ACC terribly injure-PST
'Deniz terribly injured an attacker.'

(196) a. *Av köpeği **iyice** bir dana parcala-dı.
hunting dog well a cow tear apart-PST
'The hunting dog tore a cow apart well.'
b. ??Av köpeği **iyice** bir dana-**yı** parcala-dı.
hunting dog well a cow-ACC tear apart-PST
'The hunting dog tore a cow apart well.'
c. Av köpeği bir dana-**yı** **iyice** parcala-dı.
hunting dog a cow-ACC well tear apart-PST
'The hunting dog tore a cow apart well.'

Recall that for Ramchand (2008), there is a predicational asymmetry between specifier and complement positions. Entities in specifier position are THEMES of a subevent, while those in complement position are RHEMES. Thematic positions require arguments which are referentially individuated and predicated over within an event topology (DPs), while for rhematic positions the same restriction does not hold (XPs: DP, PP, AP). Rhematic positions serve as modifiers that are part of the description of the property predicated over the THEME. Taking this framework as a base, I would like to entertain the view that a direct object in UNDERGOER position, which is the designated position in the event domain expressing affectedness, is required to move out of the VP, and gets accusative marked by a higher functional head with accusative case values. Note that an important property that sets affected arguments apart from many sorts of non-affected ones is that they exhibit an independent existence prior to the event (see the discussion in 2.3.1). In particular, I think that affected direct objects escape existential closure by moving to Spec,

Asp*P, which is located at the right edge of the situation domain. In this way, they are just above the Asp* head which binds the event variable and embeds the event into a situation. I will assume that the Asp* head also bears an accusative case feature value, such that the direct object that moves out of the event domain of the clause gets its accusative case checked in Spec, Asp*P, as shown in (197). This position is located to the right of sentence adverbials, and to the left of VP adverbials. As for subject case, since Turkish exhibits subject agreement morphology on the verb which matches the phi features of the subject (person, number), I will take for granted the standard assumption that nominative case is assigned via agreement with the subject in Spec, TP.

(197)



In comparing affected and non-affected direct objects in the event domain and their movement behavior, the generalization then is that direct objects in modificational, rhematic positions (PATH, GROUND OF RESULT, RHEME) can move out if they carry certain properties like specificity, which are licensed VP-externally, whereas, crucially, direct objects in predicational, thematic positions *have to* move out. Predicational positions require referentially individuated arguments that are instantiated above the existential closure of the event. Since being an UNDERGOER is a prerequi-

site for direct objects that are RESULTEES, I will assume that the crucial predicational position which triggers movement out of the VP (*procP*) is the UNDERGOER position. In this way, we can state that predicational asymmetries in the event domain "feed" processes in the situation domain. With respect to unmarked, non-affected indefinites that stay inside of the VP (*procP*), there is an intensive debate in Turkish as to whether they are (pseudo-)incorporated into the verb, with even the same authors arguing both for and against (pseudo-)incorporation. Since it exceeds the scope and the aim of this investigation, I will not delve into this debate, but simply note that such direct objects are in a rhematic position with no individuation requirements. By staying in this position inside of the event domain, which is the "conceptual" part of the clause, they are more tightly connected to the verb than affected or specific objects which move out of the verb phrase. Regarding their case requirements, I have no opinion on whether they are (pseudo-)incorporated and do not need case, whether they get case by strict adjacency to V, or whether they bear weak case. None of the options are crucial for the debate at hand.

In the scenario sketched here, what affected direct objects and specific ones have in common is that they get their morphological case assigned outside of the event domain because both need to escape existential closure. In terms of linearization, marked direct objects are below the subject, which is adequately reflected by the Spec, Asp*P position below Spec, TP. Moreover, some authors have suggested that affected direct objects must be referential, whereby the term referentiality, of course, can have different meanings for different authors. Therefore, I prefer to use more neutral terminology to state that affected objects must have existence prior to the event. Since the term "specificity" has semantic and pragmatic uses, objects corresponding to different uses of the term are likely to be represented in different parts of the structure. Therefore, I will neither associate one particular head with a specificity feature nor claim that affected direct objects enforce specific reference. However, given the fact that affected objects move to the situation domain, they provide the ideal conditions for specific readings, by means of existential entailment, scope, or referential intentions. In my intuition, they do exhibit a strong preference for specific readings in Turkish, without entirely excluding non-specific readings. The relationship between specificity and DOM (with non-affected direct objects) was discussed at length in Section 4.2.2. Further details regarding affectedness and referentiality were explicated in Section 4.3.5.

As a concluding remark, note that the influence of verbal semantic properties like affectedness on optional accusative marking patterns may only be visible in languages that are sensitive to DOM with indefinites. Unlike definites, indefinites possess a polyvalent behavior, namely readings which are associated with either the verbal domain in the hierarchy or higher domains like the situation or proposition domain. Since the accusative marking of affected indefinite direct

objects is due to movement outside of the VP, direct objects which are always raised outside of the verbal domain for reasons like definiteness do not show such marking contrasts.

4.4.3 Discussion and outlook

In this section, I have provided a structural representation of different verb classes and their direct objects in the first phase syntax of Ramchand's (2008); I have related affectedness to overt accusative case assignment, as instantiated in the Differential Object Marking language Turkish. In particular, I have made a distinction between predicational and modificational positions in the first phase syntax, and argued that affected direct objects, which occupy the predicational UNDERGOER position, move out of the event domain and get accusative marked in the situation domain by a higher functional head with accusative case values. In doing so, I have adopted the standard assumption that VP is a distinct phase from TP. It is not my aim to extend the observations made with regard to affectedness and its implications for the different morphological realization of direct objects to all languages that show this type of marking optionality. However, if the proposal that affectedness drives movement out of the VP is empirically correct, our data can serve as an invitation to further investigate the role of affectedness in direct object realization, as reflected by DOM, as a phenomenon of great typological relevance.

Regarding affectedness and movement out of the VP, it shall also be noted that other authors have made similar claims. Investigating DOM in Spanish, Torrego (1998) argues that affected direct objects in Spanish move out of the VP, where they adjoin to Spec, vP above the external argument. Investigating DOM in German Sign Language (DGS), Bross (2020) argues that affected direct objects move out of the VP in DGS. For Borer (2005), there is an aspectual quantity phrase above the VP, while for Kratzer (2004), there is a higher [+telic] marked aspectual projection outside of *v*, where direct objects get their case assigned. Both accounts make a connection between accusative marking on the direct object and aspectual boundedness or quantization, although they do not investigate languages with differential accusative marking. The present account differs from theirs in that it does not stipulate a one-to-one connection between direct objecthood and telicity or affectedness. The aspectual projection outside of the VP we use refers more to situation aspect (i.e., outer aspect) and marks the transition of an existentially closed event to a situation. Inner aspectual properties like affectedness and telicity are represented by projections inside the VP (*procP*, *resP*), and the relationship between direct objecthood, quantization, boundedness and accusative case is one of many.

Another account which relates object movement and indefinite direct objects bearing DOM is brought forward by López (2012), mainly building on data from Spanish. The author proposes the existence of a functional category which is located between v and V and contains an aspectual feature related to the telicity/boundedness of the predication. He argues that unmarked indefinite objects stay within the VP, while marked indefinite objects undergo short scrambling to a specifier position of a functional projection P (Spec, P). While according to López (2012: 70), Spanish marked indefinite objects do not move to the TP area, the Spec, P position is just above existential closure (at VP) and in this respect is similar to the Spec, Asp* position at the right edge of the situation domain in the clausal architecture brought forward by Ramchand and Svenonius (2014).

For López, the two syntactic positions of indefinite objects are associated with different types of semantic composition. Unmarked indefinite objects are composed via a semantic operation resulting in a narrow scope reading of the object. Marked indefinite objects in Spec, P can take variable scope and are interpreted by means of choice functions. Thus, marked indefinite objects allow for specific readings but they do not have to be interpreted as specific.

Last but not least, in this section, I have only been concerned with the affectedness of the object in a certain type of transitive construction. I have only marginally discussed subjects that can also be characterized as "affected", as with motion predicates or consumption predicates, and I have not discussed the interaction of agentivity and affectedness. This will be systematically addressed in Chapter 6.

5 Testing for the nominal and verbal semantic distribution

This chapter aims to empirically test how affectedness shapes the different morphological realization, i.e., the differential accusative marking distribution, of indefinite direct objects in Turkish. Recall that, in Turkish, only indefinite direct objects in preverbal position exhibit case marking optionality with the accusative suffix *-(y)I*, while definite noun phrases are obligatorily accusative marked. Therefore, the impact of affectedness on DOM can only be tested with indefinites.

This chapter presents the set-up and data from the main study, as well as two associated pretests. The main study was set up as a forced choice task investigating case marking choices with affected and non-affected direct object referents from different animacy levels in the context of telic and atelic predicates. Including telicity alongside affectedness was motivated by the fact that the notions of change and result state are conceptually related and many verbs with affected direct objects are in fact telic (Sections 2.1, 2.2.2, 2.3.2, 4.3.2). Animacy, meanwhile, was included since it has been argued that it may modulate the impact of affectedness (Section 2.3). Before the main study was undertaken, two associated pretests probed for the feature classification of the set of critical items. One of them was implemented as a forced choice task and probed for the affectedness feature of the items via the application of a semantic entailment test. The other was implemented as an acceptability judgement task and probed for the telicity feature of the items via the application of time interval and measure adverbials.

The findings bring forward the first empirical evidence that affectedness is an independent event semantic notion driving accusative marking on the direct object. They do not confirm the same for telicity, but rather suggest that its impact is dependent on affectedness. Furthermore, they also indicate that animacy is a useful predictor of DOM and that its influence is not dependent on affectedness. This confirms the impact of animacy that was demonstrated in previous studies on DOM.

The chapter is organized as follows. First, the set-up of the critical items designed for the main study (5.1) is described. Subsequently, the pretests probing for the affectedness (5.2) and telicity of the items (5.3) are described. Finally, Section 5.4 presents the main forced choice study and its results.

5.1 Designing a set of critical items

To investigate how affectedness shapes the distribution of DOM for indefinite direct objects in Turkish, a forced choice study was planned. In order to find out about

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the idiosyncratic role of affectedness, telicity and animacy were tested as well. Including telicity as a factor was crucial for disentangling the effect of change from boundedness, as the two notions are conceptually partly related to each other, and many of the predicates encoding affectedness for their direct objects are telic. Distinguishing between the two features prevents confusion and enables us to identify possible interdependencies. Including animacy, on the other hand, was motivated by research arguing that the nominal parameter of animacy may modulate the impact of affectedness (Lundquist and Ramchand 2012).

Accordingly, the set of critical items that was designed for the study was organized into eight conditions in a 2 x 2 x 2 factorial design, manipulating (i) the animacy (human, inanimate) of the direct object, (ii) the affectedness (±affected) entailed for the direct object, and (iii) the telicity (±telic) of the predicate. For each of the conditions, eight items were created, which resulted in a total of 64 critical items. Table 8 provides an overview of experimental conditions with example items. Each of the 64 critical items consisted of a critical sentence with an indefinite noun phrase left-adjacent to the verb and preceded by the indefinite article *bir*. As can be seen, the conditions manipulating animacy share the same lexicalization of the predicate and differ only in the animacy of the direct object (see indexes 1 and 2 in Table 8). For the sake of naturalness, the items did not use the same subject and object lexicalizations throughout all conditions. Rather, the personal names in subject position and the nouns in object position were varied, and the personal names were balanced in gender.

Table 8: Overview of experimental conditions with example items.

Condition		**Example**		
α_1:	[+affected]	Ayşe	bir bina(-**yı**)	yık-tı.
	[+telic]	PN	a building-ACC	topple-PST
	[inanimate]	‘Ayşe toppled a building.’		
α_2:	[+affected]	Ayşe	bir lider(-**i**)	yık-tı.
	[+telic]	PN	a leader-ACC	topple-PST
	[human]	‘Ayşe toppled a leader.’		
β_1:	[+affected]	Yusuf	bir arac(-**ı**)	it-ti.
	[–telic]	PN	a vehicle-ACC	push-PST
	[inanimate]	‘Yusuf pushed a vehicle.’		
β_2:	[+affected]	Yusuf	bir adam(-**ı**)	it-ti.
	[–telic]	PN	a man-ACC	push-PST
	[human]	‘Yusuf pushed a man.’		
γ_1:	[–affected]	Selim	bir harita(-**yı**)	bul-du.
	[+telic]	PN	a map-ACC	find-PST
	[inanimate]	‘Selim found a map.’		

Table 8 (Continued)

Condition		Example		
γ_2:	[–affected]	Selim	bir sekreter(-**i**)	bul-du.
	[+telic]	PN	a secretary-ACC	find-PST
	[human]	'Selim found a secretary.'		
δ_1:	[–affected]	Fatih	bir paket(-**i**)	bekle-di.
	[–telic]	PN	a parcel-ACC	wait-PST
	[inanimate]	'Fatih waited for a parcel.'		
δ_2:	[–affected]	Fatih	bir şoför(-**ü**)	bekle-di.
	[–telic]	PN	a driver-ACC	wait-PST
	[human]	'Fatih waited for a driver.'		

The classification of the critical items in terms of affectedness and telicity was carried out on the basis of linguistic tests; affectedness was tested via an entailment test, and telicity via different types of time adverbials. In two associated pretests, metalinguistic evaluations of the relevant affectedness and telicity diagnostics were collected through a pool of participants. This procedure had several motivations: besides checking the general felicitousness of the linguistic tests, the pretests also revealed more about individual items, as well as showing the variation in participants' evaluations and raising the question of whether this pattern would be grammatically reflected in the main study. In what follows, I first lay out the details of the various pretests, and then continue by elaborating the set-up, hypotheses, and results of the main study.

5.2 Pre-study affectedness

5.2.1 Set-up and predictions

The goal of the first pretest was to collect metalinguistic evaluations of the items' affectedness and to find out whether the entailment test applied from the literature evoked the predicted response patterns. To do so, the semantic entailment test suggested by Beavers (2011a) as an empirical diagnostic for affectedness was applied to all critical items. The entailment test for affectedness can be derived directly from the definition of change as a final state ψ which is obtained for an event participant x as a consequence of predicate φ being true (Beavers 2011a: 341). Therefore, if a predicate entails change for an event participant, a falsification of the entailment in an utterance should result in contradiction (φ, *but not* ψ; i.e., *Deniz broke the stick #but it is not broken* or *John broke the stick #but nothing changed about it*). In the pretest, every critical item was followed by a question inquiring whether the verbal action implied a

change in the theme argument. As predicates encode different dimensions of change, like change of state vs. change of location, questions were adjusted to verb type. The examples in (198)–(199) illustrate the application of the entailment test to items from selected affected conditions, and the ones in (200)–(201) to items from selected non-affectedness conditions. Each item used in the pretest consisted of a critical sentence and a corresponding question. All the direct objects in the critical sentences carried accusative marking. This was a methodological decision motivated by the pre-experimental observations in Section 4.3. Depending on the verb classes tested in this experiment, accusative marking was (according to my hypothesis) either strongly preferred or optional, and as such, never "unnatural". In contrast, for some of the verbs, dropping the accusative marker would have resulted in "unnatural" or dispreferred readings.

(198) condition α_1: [+affected] [+telic] [inanimate]
Fatoş bir masa*(-**yı**) yak-tı.
PN a table-ACC burn-PST
'Fatoş burned a table.'
Masa-nın durum-u değiş-ti mi?
table-GEN state-3SG change-PST Q
'Did the state of the table change?'

(199) condition β_2: [+affected] [–telic] [human]
Yusuf bir adam-**ı** it-ti.
PN a man-ACC push-PST
'Yusuf pushed a man.'
Adam-ın konum-u değiş-ti mi?
man-GEN location-3SG change-PST Q
'Did the location of the man change?'

(200) condition γ_2: [–affected] [+telic] [human]
Selim bir sekreter-**i** bul-du.
PN a secretary-ACC find-PST
'Selim found a secretary.'
Sekreter-in durum-u değiş-ti mi?
secretary-GEN state-3SG change-PST Q
'Did the state of the secretary change?'

(201) condition δ_1: [–affected] [–telic] [inanimate]
Mehmet bir pano-**yu** gör-dü.
PN a panel-ACC see-PST
'Mehmet saw a panel.'

Pano-nun durum-u değiş-ti mi?
panel-GEN state-3SG change-PST Q
'Did the state of the panel change?'

The entailment test predicted that items in the [+affected] conditions would trigger *Yes* responses to the question of whether the verbal action implies a change of state or location in the theme argument, while items grouped in the [–affected] conditions would trigger *No* responses. In what follows, I lay out the methodological details of the study and discuss the results.

5.2.2 Method

Participants
27 speakers of Turkish as a first language took part in the study (18 female, 9 male; M_{age} = 28 years; range: 19–42 years). None of them had learned a second language before primary school. Participation was on a voluntary basis and not financially rewarded.

Materials
As exemplified for selected items in (198)–(201), each of the 64 critical items introduced in Table 8 had the entailment test applied to it. Since the critical items used the same verb across the animacy conditions, they were distributed via Latin Square Design on two lists balanced for animacy. In this way, participants were prevented from seeing the same verb twice. Each list consisted of 40 items, comprising 32 critical items (16 human, 16 inanimate), as well as eight control items which were added as fillers. The function of the control fillers was to check participants' attentiveness and make sure they understood the experimental task. Like the critical items, they were composed of two-sentence sequences. The first sentence introduced an indefinite noun phrase that was modified by a property. This was followed by a question about either a matching or mismatching property of the object introduced. Half of the control items required *Yes* responses (matching property) (202), while the other half required *No* responses (mismatching property) (203).

(202) control filler: matching property (*Yes* response required)
Serap ahşap bir dolap kur-du.
PN wooden a wardrobe construct-PST
'Serap constructed a wooden wardrobe.'

Dolap ahşap mı?
wardrobe wooden Q
'Is the wardrobe wooden?'

(203) control filler: mismatching property (*No* response required)
Adem uzun bir mektup yaz-dı.
PN long a letter write-PST
'Adem wrote a long letter.'
Mektup kısa mı?
letter short Q
'Is the letter short?'

The lists were distributed across all participants and critical items and filler items were presented in randomized order.

Procedure and data analysis

The questionnaire was implemented online with the survey software Qualtrics and distributed via a participation link through professional and personal networks. First, participants were informed about their rights and had to answer some personal questions. Subsequently, they were instructed about the task. They were told that they would be presented with several sentences, each describing an event, and asked to evaluate whether the event results in a change in the object. Participants saw the pairs, each consisting of a critical sentence and a corresponding question, one at a time and had to make a forced choice between *Yes* and *No* responses to the question about change in the theme participant. Figure 5 illustrates example item (198) from the non-affected condition in the pretest.

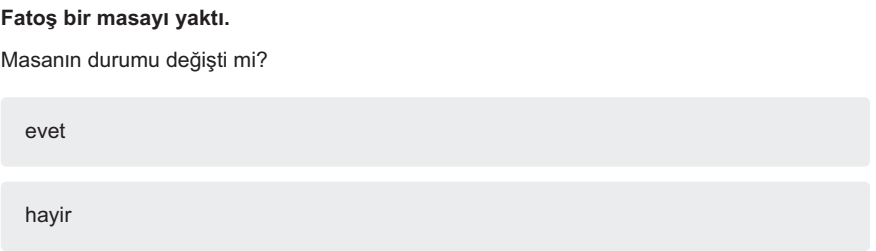

Figure 5: Critical item from the affected condition in the pretest (198).

The statistical analysis was conducted in R, using the lme4 package (Bates et al. 2015) to perform a generalized linear mixed effects (GLMM) analysis of the data.

A single model with affectedness, telicity, and animacy as predictors (fixed effect), including all interactions, and with items as random effects (random intercepts) was performed. The categorical predictors affectedness, telicity, and animacy all had sum contrasts applied to them (–0.5/+0.5). The dependent variable was response type, namely whether participants responded *Yes* or *No*.

Note that this model was applied to check the general felicitousness of the linguistic test applied and to find out whether the evaluation of the items' affectedness interacted with one of the other two parameters. The behavior of individual items with deviating response patterns will be discussed following the statistical analysis.

5.2.3 Results and discussion

First, the control fillers were checked to ensure that participants understood the given task and responded to the questions attentively. Participants who responded to less than 75% (< 6 of 8) of the control fillers correctly were removed. This was the case for one participant. In addition, there was one participant who rated at least 75% of the control fillers correctly, but exclusively selected *No* responses for the critical items in the questionnaire, indicating that either the main task was not understood adequately or that they filled out the questionnaire without due attention. This participant was also removed. The remaining 25 informants that entered the analysis rated over 90% of the control items correctly. Figure 6 illustrates the mean proportions of *Yes* responses to the control fillers inquiring about a matching vs. mismatching property (n = 200 observations).

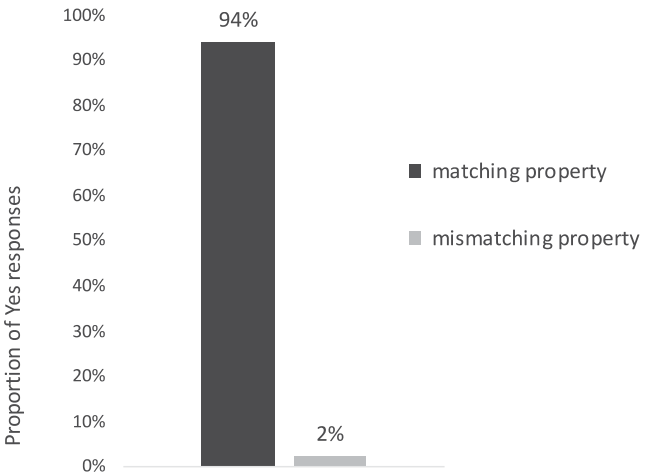

Figure 6: Proportion of Yes responses to control filler items.

With respect to the critical items, the results show clearly diverging response patterns for the ones in the [+affected] conditions, as compared to the items in the [–affected] conditions. Figure 7 and Table 9 illustrate the mean proportions of *Yes* responses to the question of whether the verbal action causes change of location or state in the object for the various conditions (n = 800 observations). As expected, affectedness is the main predictor for the diverging response patterns. While telicity seems not to interact with affectedness in the evaluation of whether an entity is conceived of as changing, there is a slight influence of animacy on the participants' decisions. In the [+affected] conditions, where the lexical meaning of the verb encodes change in some property for the direct object, the participants are slightly more willing to evaluate inanimate direct object referents as UNDERGOERS of change than they are animate direct object referents. On the other hand, in the [–affected] conditions, where the verb does not encode change of some kind for the direct object, participants are more inclined to evaluate animate direct object referents as affected than they are inanimate direct object referents.

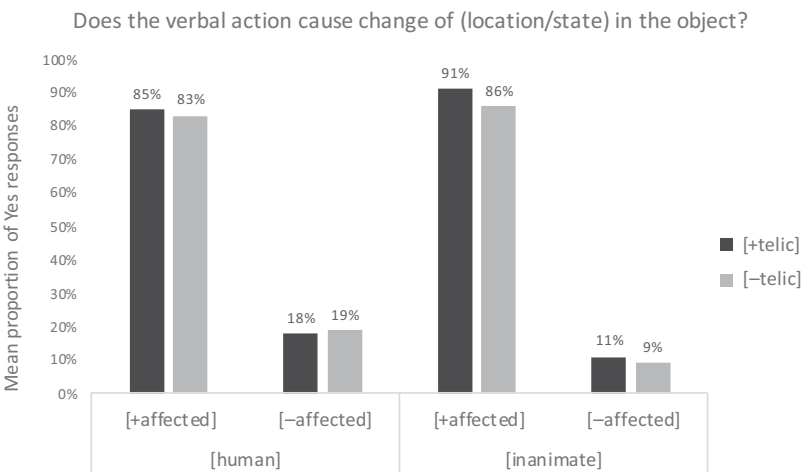

Figure 7: Mean proportion of Yes responses in the pretest on affectedness.

Table 9: Mean proportion of Yes responses in the pretest on affectedness.

Does the verbal action cause change of (location/state) in the object?	[human]		[inanimate]	
	[+telic]	[–telic]	[+telic]	[–telic]
[+affected]	85%	83%	91%	86%
[–affected]	18%	19%	11%	9%

The regression model confirms these observations (Table 10). Affectedness is the only predictor that invokes a significant main effect on the distribution by increasing the likelihood of *Yes* responses ($\beta = 4.07$, SE = 0.33, $p < 0.001$). There is no main effect for animacy, but there is a significant interaction between animacy and affectedness ($\beta = -1.29$, SE = 0.62, $p<0.05$). In the [+affected] conditions, animacy decreases the likelihood of *Yes* responses, while in the [–affected] conditions, it increases it.

Table 10: Results of statistical model for the pretest on affectedness.

Regression model	Estimate	Std. Error	p value	
(intercept)	–0.01	0.15	0.96	
main effects				
affectedness	4.07	0.33	< 2e–16	***
telicity	–0.27	0.31	0.38	
animacy	0.10	0.30	0.74	
interactions				
affectedness : telicity	–0.29	0.61	0.63	
affectedness : animacy	–1.22	0.61	0.05	*
telicity : animacy	0.41	0.61	0.51	
affectedness : telicity : animacy	0.38	1.22	0.76	

With respect to the behavior of individual items, there is some variation between them that calls for discussion. Across the [+affected] conditions, two observations deserve particular attention. First, participants seem to distinguish between directed and non-directed motion encoded for the theme argument by the verbs. Verbs like *sürüklemek* 'drag' (83% *Yes*), *devirmek* 'topple' (89% *Yes*), or *itmek* 'push' (92% *Yes*) encode direct motion for their objects and are predominantly rated to change in some property. Objects of *oynatmak* 'to make wiggle' (63% *Yes*) and *titretmek* 'to make tremble' (75% *Yes*) encode non-directed motion and participants often do not confirm a change in some property. These verbs encode a change in motion but not necessarily in location and are perceived as affected to a lesser extent than objects of verbs encoding directed motion, or objects of destruction verbs or change of state verbs. Second, inanimate objects of change of state verbs like *bir kumandayı bozmak* 'break a remote' (100% *Yes*) or *bir binayı yıkmak* 'topple a building' (100% *Yes*) show a very high proportion of *Yes* responses, indicating that the object changes through the verbal action. In comparison, with animate objects like *bir konuşmacıyı bozmak* 'disrupt a speaker' (lit. 'break a speaker') (67% *Yes*) or *bir lideri yıkmak* 'topple a leader' (81% *Yes*), the proportion of *Yes* responses decreases. Note that the change of state with the animate objects of these verbs is

not of an observable physical property, but rather social in nature. When participants are asked whether the verbal action causes a change in the entity, they may evaluate certain types of changes as insufficient or not salient enough to qualify for a change of state, location, etc. Such intuitions may be evoked more easily with animate objects as they are complex referents composed of different properties and dimensions that could change, including more abstract ones. This could also go back to mereological relations insofar as change is evaluated as applying to only a subpart. Animate and inanimate complements of the verb *düzeltmek* 'correct', for instance (i.e., *bir aptalı düzeltmek* 'correct a fool' (67% *Yes*), and *bir raporu düzeltmek* 'correct a report' (69% *Yes*)), receive relatively decreased *Yes* responses. By convention, correcting a report refers to changing parts of an essay without necessarily affecting the integrity of the essay as a whole. Thus, changing small parts of a report may not be regarded as substantial enough to qualify as a salient change of state.

Across the [–affected] conditions, several animate object referents are evaluated as undergoing a change of state through the verbal action, although the lexical meaning of those verbs does not encode a change in the object. Amongst them, animate objects of the psych verb *sevmek* 'love' (e.g., *bir çocuğu sevmek* 'love a child' (44% *Yes*)) and the negative judgment verb *yalanlamak* 'refute/deny' (i.e., *bir adamı yalanlamak* 'refute a man' (44% *Yes*)) invoke almost equal shares of *Yes*/*No* responses. These verbs typically encode some sort of interaction with the object participant. According to Levin (1993: 196), the two verb classes have in common that they denote a feeling or judgment the subject referent may have as a reaction to something or someone. A similar component of interaction is also present with further verbs that invoke considerable shares of *Yes* responses for animate objects, like *bir misafiri karşılamak* 'welcome a guest' (22% *Yes*) and *bir öğrenciyi seçmek* 'select a student' (31% *Yes*), and verbs of contact like *bir sanatçıyı ellemek* 'touch an artist' (33% *Yes*) and *bir bebeği okşamak* 'caress a baby' (31% *Yes*). In light of the discrepancies between the animate and inanimate objects of these verbs, I would like to entertain the view that the emotional capacity of human, animate objects to experience psychological changes licenses a pragmatic implicature of change for them.

All in all, the results confirm that the linguistic classification of the items as [±affected] is felicitous and in fact quite impressively overlaps with the participants' metalinguistic evaluations. The response patterns show that individual items encoding a directed motion or observable change of state are more easily evaluated as affected than those encoding non-directed motion or rather abstract kinds of change. Furthermore, with some items, the animacy of the object referent evokes diverging response patterns. Animate objects of psych verbs and interaction verbs

tend to be evaluated as affected even if this is not encoded by the verbs' lexical meaning. As the semantic and pragmatic dimensions of the evaluations conjoin, none of the items with diverging behavior is removed or re-classified. However, the main study will discuss whether the divergent behavior of some individual items is also reflected grammatically in the distribution of DOM.

5.3 Pre-study telicity

5.3.1 Set-up and predictions

The goal of the second pre-study was to learn more about the temporal properties of the critical items and patterns of evaluation and variation with respect to the telicity test proposed in the literature. A widely used test for telicity leans on time adverbials (Vendler 1957; Dowty 1979; Krifka 1998; Beavers 2011a). Telic events highlight results over processes and prototypically prefer a combination with interval adverbials like *in x time* over measure adverbials like *for x time* (204)a. Conversely, atelic events prefer measure adverbials (*for x time*) and reject interval adverbials (*in x time*) (204)b.

(204) a. Ali found a map in/??for an hour. telic
b. Ali pushed a cart ??in/for an hour. atelic

The application of temporal adverbials to a critical item from the telic condition γ_1 is illustrated in (205) with the verb phrase *choose a ring*. Denoting a punctually telic event, it combines with the interval adverbial *in x time* (205)a, while it is infelicitous with the measure adverbial *for x time* (205)b. As the event encodes a single transition, the interval adverbial signals an *after* reading and fails to indicate a *during* reading.

(205) a. Salih bir yüzüğ-**ü** bir saat içinde seç-ti.
PN a ring-ACC one hour in choose-PST
'Salih chose a ring in one hour.'
b. #Salih bir yüzüğ-**ü** bir saat boyunca seç-ti.
PN a ring-ACC one hour for choose-PST
'Salih chose a ring for one hour.'

The sentence in (206) illustrates the application of temporal adverbials to a critical item from the atelic condition δ_1. The verb phrase *wait for a parcel* rejects interval

adverbials like *in x time* (206)a and felicitously combines with measure adverbials of the shape *for x time* (206)b.

(206) a. #Fatih bir paket-**i** bir saat içinde bekle-di.
PN a parcel-ACC one hour in wait-PST
'#Fatih waited for a parcel in one hour.'
b. Fatih bir paket-**i** bir saat boyunca bekle-di.
PN a parcel-ACC one hour in wait-PST
'Fatih waited for a parcel for one hour.'

Just as in the pretest on affectedness, accusative marked versions of the direct objects were tested. Methodologically, this was motivated by the pre-experimental observation that dropping the accusative marker would result in "unnatural" or dispreferred readings with some of the verb classes tested. In addition, the time adverbials were applied in preverbal position, which required accusative marking on the non-preverbal direct object for independent syntactic reasons.

The telicity test predicts that test items grouped as [+telic] prefer interval adverbials over measure adverbials, and conversely that test items grouped as [–telic] prefer measure adverbials over interval adverbials. I will now lay out the methodological details of the study and then discuss the results.

5.3.2 Method

Participants

The same 27 speakers of Turkish as a first language who took part in the pretest on affectedness took part in the pretest on telicity immediately afterward (18 female, 9 male; M_{age} = 28 years; range: 19–42 years). None of them had learned a second language before primary school. Participation was on a voluntary basis and not financially rewarded.

Materials

For the experiment, interval and measure adverbials were applied to each of the 64 critical items introduced in Table 8, as illustrated in (205)–(206). Since the same verb was used across the animacy conditions, critical items were distributed on two lists in a Latin Square Design. The lists were balanced for animacy, such that each participant would see each verb only once. Each list consisted of 32 minimal pairs of critical items with interval and measure adverbials (four items per condi-

tion) and eight control items as fillers. The control items were composed of minimal pairs with grammatical and ungrammatical uses of the postpositions *içinde* 'in' and *boyunca* 'for', exemplified in (207)–(208). Half of the control items were felicitous with the postposition *içinde* 'in' and ungrammatical with *boyunca* 'for' (207), and vice versa for the other half (208).

(207) a. *Özge orman-ın boyunca otur-du.
PN forest-GEN for sit-PST
intended: 'Özge sat (all) the forest long.'
b. Özge orman-ın içinde otur-du.
PN forest-GEN for sit-PST
'Özge sat in the forest.'

(208) a. Rukiye yol boyunca konuş-tu.
PN road for talk-PST
'Rukiye talked all road long (for the whole length of the road).'
b. *Rukiye yol içinde konuş-tu.
PN road for talk-PST
intended: 'Rukiye talked all road in.'

The lists were distributed across all participants and critical items and filler items were presented in randomized order.

Procedure and data analysis

The pretest was set up as an acceptability judgement task that was implemented with the online survey software Qualtrics and distributed via a participation link online. It was conducted with the same set of speakers who participated in the pretest on affectedness described in Section 5.2. Participants first took part in the pretest on affectedness and upon completion were distracted with short riddles. After that, they were instructed about the task of the pretest on telicity. They were told that they would be presented with pairs of sentences and asked to rate them according to their naturalness on a scale from 1 (bad) to 5 (good). Participants saw one minimal pair at a time. Figure 8 illustrates the example critical item (205) from the non-affected condition in the pretest, Figure 9 the example filler item (207).

	1 (kötü)	2	3	4	5 (iyi)
Salih bir yüzüğü bir saat içinde seçti.	○	○	○	○	○
Salih bir yüzüğü bir saat boyunca seçti.	○	○	○	○	○

Figure 8: Critical item from the [+telic] condition in the pretest; see (205).

	1 (kötü)	2	3	4	5 (iyi)
Özge ormanın içinde oturdu.	○	○	○	○	○
Özge ormanın boyunca oturdu.	○	○	○	○	○

Figure 9: Filler item (207) in the pretest on telicity.

The statistical analysis was conducted in R, using the lme4 package (Bates et al. 2015) to generate a linear mixed effects model (LMEM) with adverbial type, telicity, animacy, and affectedness as fixed effects, including all interactions, and participants and items as random effects (random intercepts). The dependent variable was the acceptability score, which was comprised of the acceptability ratings of the items on a scale from one to five.

The statistical model was applied to find out about the general felicitousness of the linguistic test applied and whether the evaluation of the items with the time adverbials involved interacted with either of the other two parameters. The behavior of individual items with deviating response patterns will be discussed in addition to the statistical analysis.

5.3.3 Results and discussion

First, the ratings of the control fillers were examined to make sure that the participants understood the given task and responded to the questions attentively. As mentioned above, we had eight control fillers, each of which was comprised of a minimal pair with the postpositions *içinde* 'in' and *boyunca* 'for', of which one was used grammatically and the other ungrammatically. A correct response to the filler items would be one rating the grammatical use of the postposition better than the ungrammatical use. Accordingly, participants who rated less than 75% (< 6 of 8) of the control fillers correctly were removed. On the basis of this, four participants were excluded from the analysis. The remaining 23 informants included in the analysis rated more than seven out of eight control items correctly. Figure 10 illustrates the mean acceptability ratings of the various uses of the postpositions (n = 368 observations).

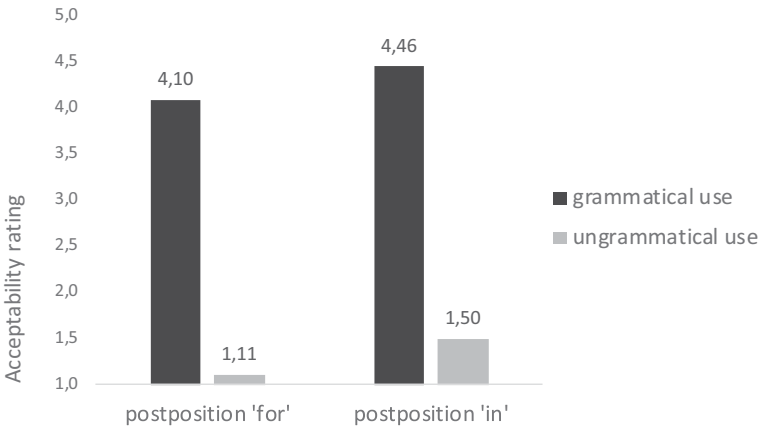

Figure 10: Acceptability ratings of filler items in the pretest on telicity.

The results for the critical items show clearly diverging response patterns for the time adverbials across the telicity conditions. Figure 11 and Table 11 illustrate the mean acceptability ratings of time interval and measure adverbials with items from various conditions on a scale from 1 (bad) to 5 (good) (n = 1472 observations). As predicted by the telicity test, interval adverbials (*in x time*) are overall rated better than measure adverbials (*for x time*) in the [+telic] conditions, and conversely, measure adverbials are rated better than interval adverbials in the [–telic] conditions. This pattern is stable across all conditions, and the contrast between interval and measure adverbials across telicity is stronger for inanimate direct object referents than for animate ones.

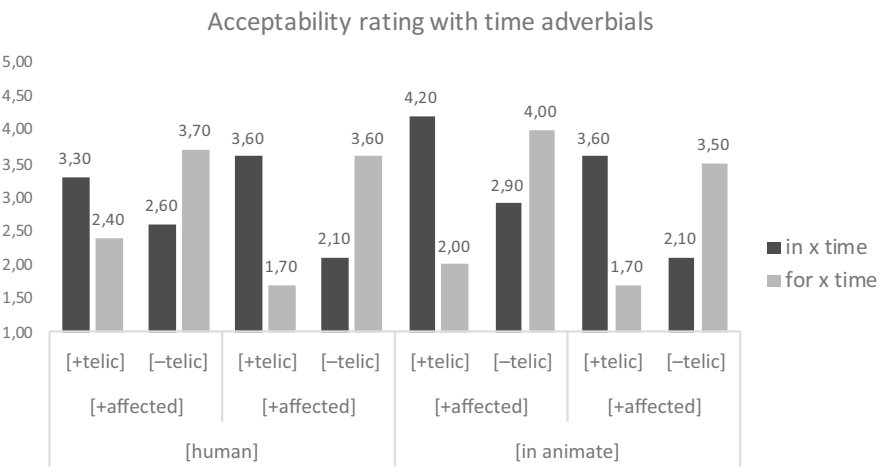

Figure 11: Mean acceptability ratings of critical items with time adverbials in the pretest on telicity.

Table 11: Mean acceptability ratings in the pretest on telicity.

	[human]				[inanimate]			
	[+affected]		[–affected]		[+affected]		[–affected]	
	[+telic]	[–telic]	[+telic]	[–telic]	[+telic]	[–telic]	[+telic]	[–telic]
in x time	3.3	2.6	3.6	2.1	4.2	2.9	3.6	2.1
for x time	2.4	3.7	1.7	3.6	2.0	4.0	1.7	3.5

Table 12 shows the regression model with main effects and selected interaction effects. First of all, it illustrates that all of the predictors have a significant main effect on the acceptability rating. However, what we are interested in is the interaction between adverbial type and telicity with regard to participants' acceptability judgements. Indeed, the model confirms a significant interaction between adverbial type and telicity (β = 2.98, SE = 0.13, t = 22.24). We see that across the [+telic] conditions, interval adverbials are preferred over measure adverbials, and vice versa across the [–telic] conditions. This is exactly what was predicted by the literature on lexical aspect. Interestingly, adverbial type and telicity also interact with animacy (β = –0.61, SE = 0.27, t = –2.30), as the discrepancy between acceptability ratings of interval and measure adverbials across telicity is stronger for inanimates than for animates. Similar observations concern affectedness. Adverbial type and telicity interact with affectedness (β = –0.66, SE = 0.27, t = –2.46). The overall discrepancy between acceptability ratings of interval and measure adverbials across telicity is stronger for non-affected direct objects than for affected ones. This effect goes back to a strong effect across animates. In fact, across inanimates, there is a slight decrease in contrast. This four-way interaction between all predictors is significant (β = –1.36, SE = 0.54, t = –2.54).

Table 12: Results of statistical model for the pretest on telicity.

Regression model	Estimate	Std. Error	t value
(intercept)	2.93	0.12	24.65
main effects			
adverbial	–0.21	0.07	–3.15
telicity	0.26	0.11	2.44
animacy	–0.13	0.07	–2.00
affectedness	0.41	0.11	3.83
interactions			
adverbial : telicity	2.98	0.13	22.24
adverbial : telicity : animacy	–0.61	0.27	–2.30
adverbial : telicity : affectedness	–0.66	0.27	–2.46
adverbial : telicity : animacy : affectedness	–1.36	0.54	–2.54

While the overall pattern of interval and measure adverbials in relation to telicity is clearly confirmed by the data, there are some deviations from this pattern between individual items which call for further discussion. Across the [+telic] conditions, animate and inanimate objects of *ellemek* 'touch' are more acceptable with the measure adverbial *for an hour* than with the interval adverbial *in an hour*. This is probably due to the nature of the interval adverbial *in an hour*, which, in combination with a punctual event like *touch a statue*, prohibits a *during* reading and only makes available an *after* reading of the adverbial. In contrast, the measure adverbial *for an hour* enforces an iterative reading that was not controlled for and makes an atelic interpretation of the event available. It seems that participants prefer an iterative, atelic interpretation over an *after* reading with the interval adverbial *in an hour*. Furthermore, some accomplishment verbs like *yakmak* 'burn', *parçalamak* 'tear apart', and *mahvetmek* 'ruin' clearly favor interval adverbials over measure adverbials with inanimate direct objects, but with animate direct objects the pattern differs, with measure adverbials either outranking or getting similar ratings to interval adverbials. This suggests that with accomplishment verbs which lexically encode both a process component and a result component, the process component can be more prominent if the affected entity is animate. These selected individual items with deviating patterns are illustrated in Table 13.

Table 13: Selected individual items from the [+telic] conditions.

VP [+telic]	Mean Ø acceptability	
	in x time	for x time
bir sanatçıyı ellemek 'touch an artist'	1.5	2.4
bir heykeli ellemek 'touch a statue'	2.2	3.7
bir cadıyı yakmak 'burn a witch'	3.1	3.8
bir masayı yakmak 'burn a table'	3.8	2.0
bir çocuğu parçalamak 'tear apart a kid'	2.5	3.2
bir dolabı parçalamak 'tear apart a wardrobe'	4.0	3.0
bir kızı mahvetmek 'ruin a girl'	3.0	2.8
bir resmi mahvetmek 'ruin a painting'	3.9	2.3

Across the [–telic] conditions, illustrated in Table 14, the verb *görmek* 'see' clearly prefers interval adverbials over measure adverbials. I think that this is due not to a telic reading of the event, but rather to the availability of an inchoative reading which was not controlled for. The critical items translate to *Mehmet saw a poster/a violinist in five minutes* vs. *Mehmet saw a poster/a violinist for five minutes*. The combination with the interval adverbial signals an inchoative reading of the event as starting after five minutes, and is incompatible with a time span reading of the

Table 14: Selected individual items from the [–telic] conditions.

VP [–telic]	Mean Ø acceptability	
	in x time	for x time
bir kemancıyı görmek 'see a violinist'	3.5	1.9
bir panoyu görmek 'see a poster'	3.9	1.9
bir amatörü oynatmak 'make an amateur play'	2.0	4.2
bir direği oynatmak 'make a mast shake'	3.5	3.3
bir adamı yalanlamak 'refute a man'	3.6	3.3
bir vakayı yalanlamak 'refute an incident'	3.4	3.7
bir garibi ısındırmak 'warm a pauper'	3.6	2.9
bir çorbayı ısıtmak 'warm a soup'	3.0	4.2
bir kızı büyütmek 'raise a girl'	2.7	4.6
bir bahçeyi büyütmek 'enlarge a garden'	3.5	3.5

adverbial, denoting the run-time of the event. The results show that the participants prefer an inchoative reading over a duration reading. Moreover, with the verb *oynatmak*, we observe diverging preferences in relation to animacy. The inanimate object prefers the interval adverbial, whereas the animate object prefers the measure adverbial. This may be due to an interaction of different interpretations available with this verb and the readings evoked by the adverbial. The verb *oynatmak* 'make move/shake' is ambiguous between a punctual and a durative reading. When making a mast shake, the punctual reading is evoked. Evidence for this is that its combination with the interval adverbial (*Hüseyin made a mast shake in an hour*) signals an inchoative reading and fails to indicate a time span reading, similar to the observation above with *görmek* 'see'. With the measure adverbial, *Hüseyin made a mast shake in an hour* denotes an iterative, atelic reading. Again, the participants prefer an inchoative reading over a duration reading. With animate objects, the verb translates to 'make sb. play' or 'fool sb.', both atelic events, hence the preference for a measure adverbial. Finally, the verb *yalanlamak* 'refute/deny' shows similar acceptability ratings for measure and interval adverbials and behaves like a telic accomplishment verb. The verb phrases *bir garibi ısındırmak* 'warm a pauper' and *bir bahçeyi büyütmek* 'enlarge a garden' get relatively good acceptability ratings with interval adverbials. Both verbs denote so-called degree achievements, for which telicity has been argued to arise through conversational implicature.

Turning back to the goal of the second pre-study, it can be summarized that the results show a clear overall contrast in acceptability for different temporal adverbials across the critical items in the [+telic] vs. the [–telic] group. This contrast is predicted by the literature on lexical aspect and confirms that the feature classifi-

cation of the items is felicitous. It is stable across all conditions, but gets stronger or weaker depending on different animacy and affectedness conditions. In addition, amongst the set of items grouped as telic or atelic, there are individual items with diverging behavior. In particular, the acceptability of temporal adverbials seems to be sensitive not only to lexical semantic entailments of telicity but also to pragmatic inferences.

All in all, the data from both the pretest on affectedness and the one on telicity show that the classification of the items as [±affected] and [±telic] for the most part overlaps with the participants' metalinguistic evaluations. Since the linguistic classification is based on personal judgements about semantic entailments and the metalinguistic evaluation includes pragmatic influences, it is unclear whether individual items that deviate from the classification do so because they are inadequately classified or because pragmatic inferences intervene. Especially with respect to affectedness, the dimensions accepted as counting as a "change" vary between participants, just as they do in the literature. Therefore, with regard to the main study, the items with deviating patterns were included in the group they were classified in. Whether their divergent behavior is also reflected grammatically in the distribution of DOM will be discussed in the course of the main study.

5.4 Main study: Affectedness, telicity, and animacy

5.4.1 Set-up and predictions

The main study was designed to test how event structure, particularly affectedness, shapes the distribution of differential case marking, exemplified with indefinite direct objects in Turkish. In Section 4.2, it was reasoned that the nominal parameters discussed in the literature fall short of accounting for the entire distribution of differential case marking in this language. It was argued that affectedness (and not telicity) is the main event structural notion that makes the theme participant semantically prominent, and thereby determines DOM. The goal of this experiment is to empirically validate the claims brought forward. To do so, the experimental set-up manipulated the features affectedness, telicity, and animacy. Telicity was included since the notions of change and result state are conceptually related and many verbs with affected direct objects are telic. Crossing the features prevents confusion between them and enables us to identify the idiosyncratic roles they play with respect to the distribution of case marking. Animacy was included since animate entities provide further dimensions along which they can change, and by virtue of this may modulate the impact of affectedness. Example critical items from all conditions were given in Table 8 in Section

5.1. For convenience, we repeat an item from the [+affected] [+telic] [+animate] condition (α_2) in (209) and one from the [–affected] [+telic] [–animate] condition (γ_1) in (210).

(209) Kemal bir kız-**ı** mahv-et-ti.
PN a girl-ACC ruin-make-PST
'Kemal ruined a girl.'

(210) Selim bir harita(-**yı**) bul-du.
PN a map-ACC find-PST
'Selim found a map.'

Regarding the different predictors that were manipulated, it was hypothesized that animacy would enhance the likelihood of accusative marking (H1). Previous studies have shown this for animacy independently of verbal parameters. When animacy interacts with affectedness, it only expands the dimensions of change and therefore has a positive impact on accusative marking. For the verbal semantic predictor affectedness, it was hypothesized that it is an independent property increasing the likelihood of accusative marking on the direct object (H2). Telicity was not hypothesized to have a positive effect on accusative marking independently of affectedness. Rather, it was expected to increase the likelihood of accusative marking only in combination with affectedness (H3).

(H1) A high rank in animacy increases the likelihood of DOM (+ACC) on the direct object.
(H2) Affectedness increases the likelihood of DOM (+ACC) on the direct object.
(H3) Telicity increases the likelihood of DOM (+ACC) only on affected direct objects.

5.4.2 Method

Participants
52 native Turkish-speaking informants were recruited through the online platform *Prolific*. Each of them was paid £4 for their contribution of about 15–20 minutes (= £12–£16/h). Two of the participants were removed from the analysis as they indicated that Turkish was not their first language. The remaining 50 were all monolingually-raised speakers of Turkish (21 female, 29 male; M_{age} = 32 years, range: 20–52 years).

Materials

The experiment used the set of 64 items introduced in Table 8 as critical items. As mentioned, they were organized in a three factorial 2x2x2 design, fully crossing the predictors (i) affectedness of the direct object, (ii) telicity of the predicate, and (iii) animacy of the direct object referent. Each of them had two levels (i.e., [±affected], [±telic], and [human vs. inanimate]) and the resulting eight conditions included eight items each. In addition to the set of 64 critical items, a set of 32 filler items was designed, including 16 control fillers, 8 incremental theme fillers, and 8 neutral fillers. The control and incremental filler items required a choice between DOM marked (+ACC) and unmarked (–ACC) versions of the direct object. The control fillers were only grammatical, with or strongly biased towards either (+ACC) or (–ACC). The items biased towards (+ACC) had unique entities like 'Kaaba' or 'Pope', or proper names, as direct objects, inducing a definite reading that is only compatible with accusative marking. This is exemplified with a proper name as object in (211). The items biased towards (–ACC) used stereotypical object-verb combinations with (pseudo-)incorporated bare nouns, like *fal bakmak* 'fortune-looking' or *dua etmek* 'prayer-make'. This is illustrated in (212), which requires the unmarked version of the bare noun, resulting in the number-neutral activity reading of *flower picking*. An accusative marked version is infelicitous, as it implies a definite reading with the same flower being picked repeatedly, which is pragmatically strange.

(211) control filler: (+ACC) bias (proper names, unique entities)
*Seda Cumhuriyet Meydan-ı-nda Atatürk an-dı.
PN Republic Place-3SG-LOC PN commemorate-PST
Intended: 'Seda commemorated Atatürk at Republic Square.'
Seda Cumhuriyet Meydan-ı-nda Atatürk-**ü** an-dı.
PN Republic Place-3SG-LOC PN-ACC commemorate-PST
'Seda commemorated Atatürk at Republic Square.'

(212) control filler: (–ACC) bias (incorporated bare nouns)
Tufan sabahları çiçek topla-r-dı.
PN mornings flower pick-AOR-PST
'In the mornings, Tufan used to pick (a) flower(s).'
*Tufan sabahları çiçeğ-**i** topla-r-dı.
PN mornings flower-ACC pick-AOR-PST
Intended: 'In the mornings, Tufan picked the flower.'

The incremental theme fillers were composed of incremental theme verbs, which were combined with object-oriented result adverbials and more neutral/sub-

ject-oriented manner adverbials. With incremental themes, DOM is optional (±ACC), but we expected that result adverbials would favor accusative case (+ACC) (*eat an apple completely*) (213), while manner adverbials would be neutral with respect to accusative case (±ACC) (*eat an apple carefully*) (214).

(213) incremental theme with result adverbial (+ACC)
Ali büsbütün bir elma-**yı** ye-di.
PN completely an apple-ACC eat-PST
'Ali ate an apple completely.'
Ali büsbütün bir elma ye-di.
PN completely an apple eat-PST
'Ali ate an apple completely.'

(214) incremental theme with manner adverbial (+ACC)
Ali dikkatlice bir elma-**yı** ye-di.
PN carefully an apple-ACC eat-PST
'Ali ate an apple carefully.'
Ali dikkatlice bir elma ye-di.
PN carefully an apple eat-PST
'Ali ate an apple carefully.'

The neutral fillers required a choice between accusative (+ACC) and dative (+DAT) marked objects, both options being grammatical but inducing slightly different interpretations, as illustrated in (215).

(215) neutral filler (accusative vs. dative)
Şeyda bir yol-**u** yürü-dü.
PN a path-ACC walk-PST
'Şeyda walked a path.'
Şeyda bir yol-**a** yürü-dü.
PN a path-DAT walk-PST
'Şeyda walked towards a path.'

Critical items and filler items were distributed between two lists in a Latin Square Design. The critical items used the same verb across the animacy conditions, so the lists were balanced for animacy such that each participant would see each verb only once. Whether marked or unmarked (+ACC vs. –ACC) direct objects, as well as accusative or dative marked forms (+ACC vs. +DAT) of the object, were shown at the top or the bottom of the screen was also balanced throughout the experiment. Each list consisted of 60 items in total, 32 critical items and 28 filler items (16 control

fillers, 8 neutral fillers, 4 incremental theme fillers). Items were presented one at a time and in randomized order.

Procedure and data analysis

The questionnaire was implemented online as a forced choice study, using the survey software Qualtrics. It was distributed via a participation link through the platform *Prolific*. Participants were told that they would be presented with several sentences, each with a missing gap, together with two options to fill each gap. They were instructed to choose the option that sounded more natural to them in the given context. Participants saw a sentence with a missing direct object constituent and had to make a forced choice between a marked (+ACC) and an unmarked (–ACC) option to fill the gap. For some filler items, the forced choice was between accusative marked (+ACC) and dative marked (+DAT) objects. Whether marked or unmarked options of the direct object were shown at the top or bottom was balanced throughout the experiment. Figure 12 illustrates an example critical item, Figure 13 an example control filler item.

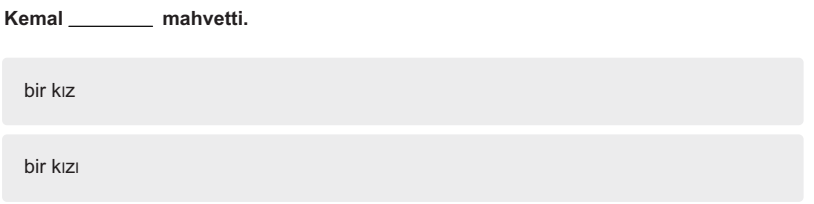

Figure 12: Critical item from the [+affected] [+telic] [+animate] condition in the main study (209).

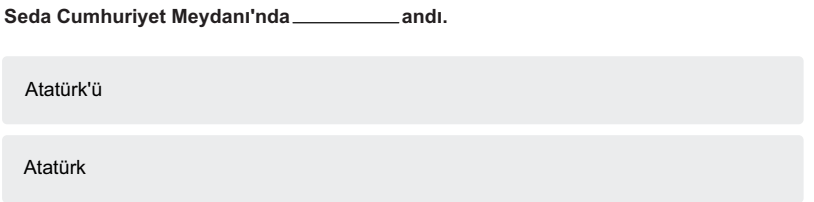

Figure 13: (+ACC) control filler in the main study (211).

The data was analyzed in R, using the lme4 package (Bates et al. 2015) to perform generalized linear mixed effects models (GLMM). A single model with affectedness (±affected), telicity (±telic), and animacy (human vs. inanimate) as predictors (fixed effects), including all interactions, and participants and items as random effects (random intercepts), was performed. For all models, sum contrasts (–0.5/+0.5) were

used. The dependent variable was DOM (i.e., whether participants chose the direct object with DOM (+ACC) or without DOM (–ACC)).

5.4.3 Results and discussion

First, the results of the control fillers were checked to make sure that the participants understood the given task and were attentive to the questionnaire. All participants responded to more than 80% (i.e., ≥ 13 of 16) of the control fillers according to their grammatical requirements. Therefore, none of them was removed. Figure 14 illustrates that they were able to make a distinction between conditions that required accusative case and those that rejected accusative case on the direct object. As expected, the proportion of DOM (+ACC) on unique entities and proper names (+ACC control fillers) is much higher (99%) than on incorporated nouns in stereotypical events (9%).

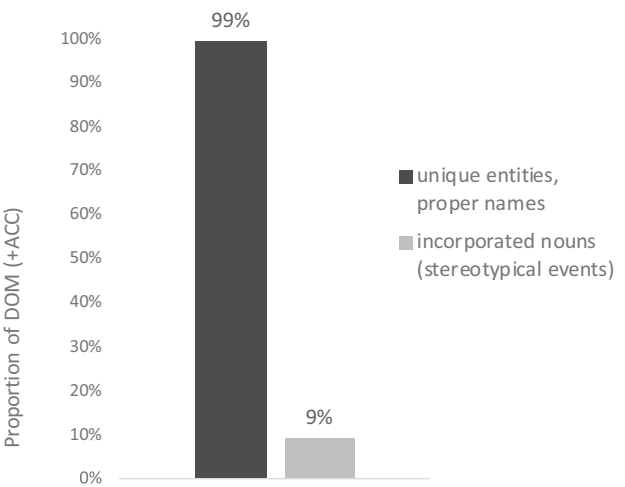

Figure 14: Proportion of DOM (+ACC) for control filler items.

Table 15 summarizes the proportions of DOM chosen for critical items across the different conditions (n = 1600 observations) and gives rise to several observations: First, participants more often choose DOM (+ACC) on human direct objects than on inanimate ones. Second, they also more often choose DOM (+ACC) on affected direct objects than on non-affected ones. The impact of affectedness is consistent across the different animacy and telicity conditions and evokes even stronger contrasts than animacy. Third, telicity shows reverse patterns in the affected vs. non-affected

conditions. In the affected conditions, the proportion of DOM (+ACC) is higher with telic verbs than with atelic ones, while, surprisingly, in the non-affected conditions, the proportion of DOM (+ACC) is less with telic verbs than with atelic ones.

Table 15: Proportion of DOM (+ACC) for critical items.

Proportion of DOM (+ACC)	[human]		[inanimate]	
	[+telic]	[–telic]	[+telic]	[–telic]
[+affected]	94%	86%	81%	73%
[–affected]	57%	76%	49%	60%

The outcome of the regression model (GLMM) with main effects and interaction effects is illustrated in Table 16. In what follows, we repeat the hypotheses with respect to the various predictors and relate this to the statistical analysis of the data.

Table 16: Results of statistical model for the main test.

Regression model	Estimate	Std. Error	p value	
(intercept)	1.66	0.27	1.2E–09	
main effects				
animacy	1.20	0.46	0.01	**
affectedness	1.92	0.46	2.8E–05	***
telicity	0.16	0.46	0.72	
main effects				
animacy : affectedness	0.86	0.91	0.35	
animacy : telicity	–0.35	0.91	0.70	
affectedness : telicity	–1.67	0.91	0.07	.
animacy : affectedness : telicity	–0.99	1.82	0.59	

For the predictor **animacy**, it was hypothesized that a high ranking on the animacy scale would enhance the likelihood of morphological accusative case on the direct object (H1). Indeed, the data show that humanness increases the likelihood of DOM (Figure 15). This is confirmed by the generalized linear mixed effects model, which reveals a significant main effect of the predictor animacy on the outcome ($\beta = 1.20$, $SE = 0.46$, $p < 0.01$). Moreover, they do not show an interaction of animacy and affectedness, meaning that the effect of animacy does not differ depending on the affectedness of the object. The results are in favor of H1. They support a correlation between animacy and DOM and replicate prior results in the literature (Krause and von Heusinger 2019).

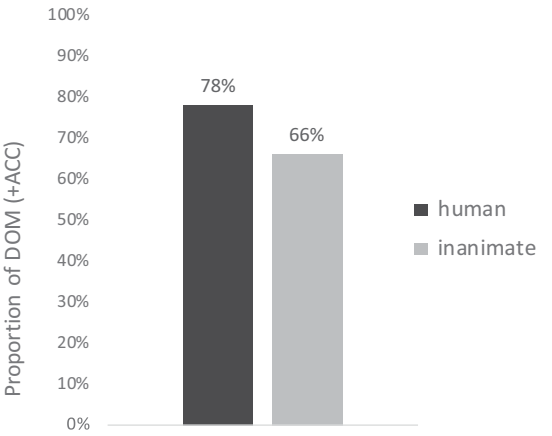

Figure 15: Proportion of DOM in relation to animacy.

Furthermore, it was hypothesized that **affectedness** would increase morphological accusative case on the direct object (H2). Inspection of the data reveals that the affectedness of the direct object evokes clear contrasts in the proportion of DOM in Turkish (Figure 16). Participants chose (+ACC) on affected direct objects more often than on non-affected ones. The statistical model shows a significant main effect of the predictor affectedness on the distribution ($\beta = 1.92$, SE = 0.46, $p < 0.001$). This impact is stable across the other predictors and even stronger than the observations related to animacy. The observations support H2, indicating that the distribu-

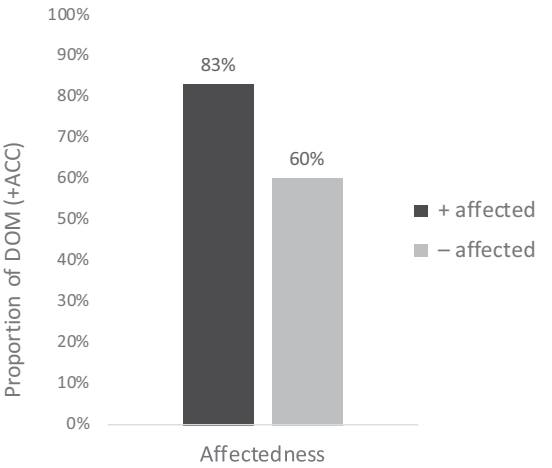

Figure 16: Proportion of DOM in relation to affectedness.

tion of DOM is sensitive to affectedness. They are the first of their kind with respect to verbal parameters and their interrelation with DOM in Turkish.

For the parameter **telicity**, it was hypothesized that it would increase the likelihood of DOM only in combination with affectedness (H3). As predicted, the data reveal no general increase in the proportion of DOM in relation to telicity (Figure 17). However, telic predicates constituted the most likely case for the choice of (+ACC) on the direct object if combined with affectedness, while in the absence of affectedness, surprisingly, telicity actually reduced the proportion of accusative marking (Figure 18). This pattern is stable across the various animacy levels. The

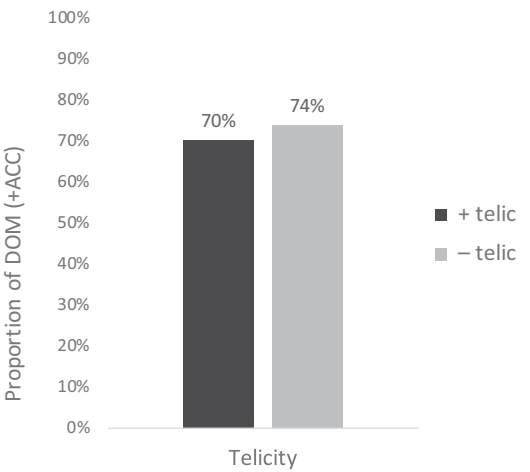

Figure 17: Proportion of DOM in relation to telicity.

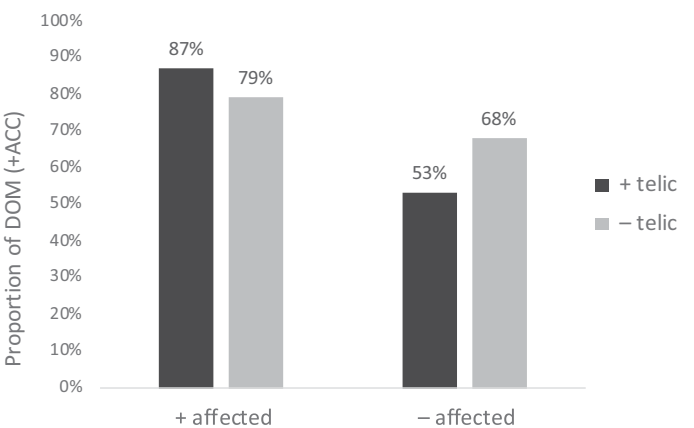

Figure 18: Proportion of DOM in relation to telicity and affectedness.

generalized linear mixed effects model reveals no significant main effect of telicity, but it does reveal an interaction of telicity and affectedness which is at the margin of statistical significance ($\beta = -1.67$, SE = 0.91, $p = 0.07$). In support of H3, the observations discount the possibility of an independent influence of telicity on the distribution of DOM. They suggest that affectedness is the independent predictor of DOM at the verbal semantic level, and that the affectedness of the direct object is also crucial in mediating the role of telicity.

A close inspection of individual items reveals that those in the affected conditions behave fairly homogeneously with respect to the proportions of DOM observed. Affected objects in general exhibit a high preference for DOM, irrespective of animacy. Proportions of DOM for some example verbs are *itmek* 'push' (98% DOM), *sürüklemek* 'drag' (93% DOM), *yıkmak* 'topple/destroy' (92% DOM), and *mahvetmek* 'ruin' (98% DOM). Recall that in the pretest on affectedness, we observed an interaction of affectedness and animacy, and that object referents undergoing a non-directed motion or abstract change of state were evaluated as being affected to a lesser extent. Crucially, this does not reflect grammatically in the present study. There is no general interaction of affectedness and animacy with respect to DOM, and event participants undergoing a directed vs. non-directed motion or an abstract vs. physical change of state equally exhibit a preference for DOM. The only items with diverging behavior are the combinations *bir kız(-ı) büyütmek* 'raise a girl' (33% DOM), *bir çorba(-yı) ısıtmak* 'warm a soup' (33% DOM), and *bir sepet(-i) taşımak* 'carry a basket' (33% DOM). It seems that this has nothing to do with affectedness or animacy, but with the stereotypicality of the object-verb combination. For a language like Turkish, this is not really surprising, as there is a large ongoing discussion on (pseudo-)incorporation, which has been proposed for bare nouns and indefinite NPs without accusative marking (see Section 4.2). Turkish has a productive (pseudo-)incoporating sytem and a preference for expressing stereotypical object-verb combinations without accusative marking. Furthermore, with respect to telicity, it can be stated that even though its effect on affected predicates is not statistically significant, it slightly strengthens the preference for DOM. Note that with the predicates in this group, by virtue of being affected, the direct object is involved in the composition of telicity. Telicity arises from a property change in the direct object that results in a final state.

In contrast, across the non-affected conditions, individual items pattern in rather diverse ways. What we do observe with respect to telicity in these conditions is that punctual predicates like *find x*, *discover x*, or *choose x* (i.e., *achievements* in the terminology of Vendler (1957)) show a dispreference for DOM. Note that with these verbs, the telicity of the predicate does not arise from the change the direct object undergoes in some property, but instead names the endpoint of a process of searching (*find*, *discover*) or decision making (*choose*) that concerns the subject

argument. These verbs do not entail any sort of directed motion or change for the object entity, which is evidenced by the fact that they do not allow resultative predication for the object. Furthermore, the entailment diagnostics of affectedness show clear contrasts between *find x* type verbs and *break x* type verbs. This is empirically confirmed by the pretest on affectedness that was undertaken in Section 5.2. Thus, comparing the effect of telicity on the affected and non-affected conditions gives reason to argue that the involvement of the direct object in determining telicity is crucial for DOM. When the telicity of the predicate arises from the change to a specific result state that the direct object undergoes, it increases DOM. Otherwise, in predicates that are underspecified for change in the direct object, telicity does not favor DOM. Thus, telicity cannot be an independent factor driving overt accusative marking, but is rather a factor dependent on affectedness.

With respect to atelicity across the non-affected conditions, I think that the surprising increase in the proportion of DOM with atelic predicates as compared to telic ones should be treated with caution, since the diversity of accusative marking patterns with individual items makes it hard to stipulate atelicity as an apt factor in predicting group behaviour. The verbs in this condition that show strong biases for DOM are the psych verb *sevmek* 'love' (92% DOM), the verb of contact *okşamak* 'caress' (91% DOM), and the negative judgement verb *yalanlamak* 'refute/deny' (95% DOM). Interestingly, these verbs are the very same ones constituting the group outliers in the pretest on affectedness. For *yalanlamak* 'refute/deny', around half of the informants indicated that it induces change in the direct object. In addition, in the pretest on telicity, *yalanlamak* 'refute/deny' gained similar acceptability ratings for measure and interval adverbials, in fact behaving like a telic accomplishment verb. The diagnostics and the results suggest that it actually patterns with the [+affected] [+telic] group. For *sevmek* 'love', too, around half of the informants in the affectedness pretest indicated that it induces change in the direct object; for *okşamak* 'caress', it was more than a quarter of the informants. Unlike *yalanlamak* 'refute/deny', however, *sevmek* 'love' and *okşamak* 'caress' clearly patterned as atelic in the pretest on telicity. What these verbs have in common is that they encode some sort of interaction and a component of implied activity or motion on behalf of the object participant. Drawing on Levin (1993: 196), they denote a feeling, judgment, or action the subject referent may have as a reaction to (an implied activity/motion of) something or someone. The same holds for the interaction verb *karşılamak* 'welcome' (88% DOM) and the verb of contact *ellemek* 'touch' (93% DOM) from the non-affected, telic condition, which, as a matter of fact, also invoked high proportions of DOM.

To summarize, the goal of this study was to empirically investigate how event structure, and particularly affectedness, shapes the morphological realization of direct objects with and without accusative marking in Turkish. In doing so, telicity and animacy were included alongside affectedness as parameters of interest, as

both of them have been argued to be related to affectedness. Accordingly, the study was implemented as a forced choice task investigating accusative marking choices with affected and non-affected direct object referents from different animacy levels in the context of telic and atelic predicates. The data reveal that event structure does shape the realization of direct objecthood. Participants choose accusative marking on affected direct objects more often than on non-affected ones, and this does not interact with animacy. In fact, affectedness and humanness both significantly raise the likelihood of DOM, with the effect being stronger for affectedness. The results provide the first empirical evidence supporting affectedness as an independent event semantic notion driving accusative marking on the indefinite direct object. With respect to animacy, they confirm what was claimed in previous studies on DOM in Turkish. With respect to telicity, the data do not reveal a general increase in DOM in telic predicates. Interestingly, telicity does increase DOM in combination with affectedness, but it does not increase the likelihood of accusative marking in the absence of affectedness. From this, it can be concluded that the influence of telicity on DOM is not independently motivated and rather stems from an interaction with affectedness. Last but not least, the observations hint at an important role the stereotypicality of the object-verb combination could play. They indicate that the role of affectedness and animacy in enhancing DOM may be overridden by stereotypical object-verb combinations, which prefer to be realized without accusative marking. In Chapter 6, the role of stereotypicality will be discussed in greater detail with respect to the interaction of agentivity and affectedness.

6 Agentivity and affectedness

6.1 Introduction

In the previous sections, we investigated the syntax and semantics of affectedness largely independently from agentivity. The focus was on the degree of affectedness encoded for the O participant by the verbal predicate. Together with agentivity, the two constitute the core notions behind causative change of state events. Thus, a quite natural question that arises is how the nature of the force that causes the change to come about may interact with the morphosyntax and semantics of the affected direct object participant. Take as an example the dynamic events in (216), which denote the same change of state for the direct object but encode different entailments about the agentivity of the subject. The example in (216)a, with a human subject, suggests a volitional involvement of the agent in the event, although the sentence is also compatible with a non-volitional one. In contrast, the inanimate subject in (216)b is a pure causer of the change of state in the direct object and not volitionally involved in the event. The different animacy conditions of the subject serve as an important cue to agentive entailments.

(216) a. The enemy killed a soldier.
b. The accident killed a soldier.

The English examples do not suggest that different types of agents invoke any structural difference in the morphosyntax and semantics of the affected direct object participant. Compare this to the Mandarin and Turkish examples in (217)–(218). In Mandarin, with human, agentive subject referents (217)a, the change of state in the direct object can be felicitously denied. With inanimate causer subjects (217)b, a denial of the change of state in the direct object is not felicitous (Demirdache and Martin 2015: 186–187).

(217) a. Yuēhàn shāo le tā-de shu, dàn méi shāo-zháo.
PN burn PRF 3SG-DE book but NEG burn-touch
'Yuēhàn burned his book, but it didn't get burnt at all.'
b. Huǒ shāo le tā-de shu, #dàn méi shāo-zháo.
fire burn PRF 3SG-DE book but NEG burn-touch
'The fire burned his book, #but it didn't get burnt at all.'

In Turkish, there are certain, restricted contexts in which accusative marking on affected direct objects can be dropped. The details of these contexts will be

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elaborated later in this chapter, but crucially, the possibility of dropping accusative marking on the direct object depends on the agentivity of the subject. With agentive subjects like the one in (218)a, DOM can be optional on inanimate affected UNDERGOERS. With causer subjects like that in (218)b, DOM is obligatory.

(218) a. Temizlikçi bir havlu(-**yu**) kuru-t-tu.
housekeeper a towel-ACC dry-CAUS-PST
'The housekeeper dried a towel.'
b. Isı bir havlu*(-**yu**) kuru-t-tu.
heat a towel-ACC dry-CAUS-PST
'The heat dried a towel.'

In the course of this section, I will examine how different properties of the agent and in particular a shift in the strength of agentivity can interact with the entailments about the dynamic event and the morphosyntactic representation of the affected participant. In the literature, this issue has been addressed most extensively with respect to the presence of volitionality/control on behalf of the agent, with different views and predictions on how volition/control or the lack thereof affects affectedness. In what follows, I will lay out some of the ideas put forward and the marking alternations in support of them. In doing so, two established cross-linguistic strategies will illustrate that a decrease in agentivity correlates with a more prominent grammatical representation of the affected event participant and entailments about event culmination. In addition to these two strategies, I will introduce a third one based on Differential Object Marking. The original data provided will not only be supported theoretically, but also empirically by means of a forced choice study that tested for the interplay between affectedness and agentivity.

Before delving into the details of the discussion, let us start with a few words about agentivity. Following Dowty's (1991) work, which was introduced in Section 2.3.1, the properties that are typically associated with agenthood are causation and the notions of volition and control, as well as sentience, autonomous motion, and independent existence. In transitive change of state events, causation is the property that initiates the change of state in the UNDERGOER. Volition can be characterized as an agent's property of acting on purpose or with intention, without being forced to, but because they wish to. Characteristic of such agents is that they are in control of the event, meaning that they are involved in every phase of the event and able to determine its start and endpoints at will. Some authors prefer to use the term control instead of volition, since control is a more comprehensive term that is not restricted to animate entities and goes beyond pure intentionality. If we understand control as the property of being continuously involved in the event and the ability to determine its start and endpoint, it can capture the contribution of

volition and can be attributed to non-volitional initiators of an event (Næss 2007: 212). These can be machines, or, as I will suggest later in this chapter, certain types of natural forces. Sentience refers to the capacity of animate participants to have knowledge or perception of an event, and to be a cognitive, emotional, or perceptual experiencer of the action denoted by the verb. Dowty includes it as a property of agentivity, but sentience is also regularly brought together with mental or emotional affectedness (Ramchand 2008: 53–55). It seems that cognitive, emotional, and perceptual competences can enable both agentive and patientive involvement in the event (i.e., initiating a change as well as undergoing one). Autonomous motion is taken to refer to any kind of activity and movement that is not caused by another participant but relies on an agent's own energy. Last but not least, independent existence is a property that is entailed by the other four, and refers to having an existence before and after an event. Some of these properties have been argued to be more prominent than others. Causation, for instance, is often singled out as having a primacy over the others since it suffices to motivate subjecthood on its own (see discussion in Beavers 2011a: 25–28). In some approaches, such as the one pursued by Primus (1999), a causal dependency between agent and patient is construed as being the underlying property that differentiates the two participant roles. Besides causation, as mentioned already, the notion of volition or control is singled out as a crucial agent property involved in several grammatical phenomena. Cross-linguistically, it has been related to event culmination, and argued to be involved in split ergative marking. Furthermore, there are languages which morphologically differentiate for the presence or lack of control on behalf of the agent (Jacobs 2011; Fauconnier 2012; Demirdache and Martin 2015). For us, the distinction between controlling and non-controlling agents will also figure prominently in making explicit the relationship between agentivity and the realization of affected O participants.

In the literature, there is no consensus on the interplay between agentivity and affectedness. While some authors are not in favor of positing a direct correlation between these two notions, such that an increase in the agentivity of one participant would lead to an increase in affectedness of another (Tsunoda 1985; Kittilä 2002; Beavers 2011a inter alia), others do postulate exactly such a correlation (Hopper and Thompson 1980; Primus 1999a,b, 2006; Næss 2007).

For Kittilä (2002: 59–60), agentivity and affectedness are two independent poles of a transitive event that can vary in effect without necessarily affecting one another. In support of his argument, he notes that both agentive and affected participants can figure as subjects of intransitive constructions. Furthermore, common marking alternations like optional ergative marking or Differential Object Marking target one participant only without affecting the other. The author argues that there is a conceptual difference between the two notions in that the

relationship of a verbal predicate with the degree of affectedness is a closer one than its relationship with the degree of agentivity. Agency can vary from high to low within one and the same predicate through the use of different types of agents. In contrast, to vary the affectedness of the UNDERGOER within one and the same predicate is more restricted, since verbal predicates entail a particular degree of affectedness. Often, manipulating the animacy of the agent does result in a different degree of agentivity, while manipulating the animacy of the UNDERGOER does not result in a change in the degree of affectedness. As Tsunoda (1985: 392) notes for the verb *kill*, "one can accidentally/non-volitionally kill someone just as effectively as one would when acting intentionally/volitionally" (see (219)). Similarly, there is no reason to assume that the window in (219) is more affected by the action if the agent is volitionally (219)a rather than non-volitionally (219)b involved. The verb *break* denotes a quantized change for the UNDERGOER irrespective of the properties of the agent.

(219) a. The rioter broke the window.
b. The pressure broke the window.

This view is also in line with the formal semantic approach of Beavers (2011a), who focuses on entailments about the specificity of change as encoded by the verbal predicate, and sets aside possible interrelations with agentivity as orthogonal.

In contrast, another line of research defines the two notions as being in a close relationship such that an increase in the agentivity of one participant does in fact lead to an increase in the affectedness of another. This kind of dependency relationship between agent and patient is most explicitly articulated in the work of Primus (1999a,b, 2006). According to her, the PROTO-PATIENT is the participant whose kind of involvement in the event "depends on the kind of involvement of another participant, the PROTO-AGENT" (2006: 56). Similarly, in Næss (2007: 45), the affectedness of the patient is a direct result of the volitional act of the agent. Therefore, a lack of volition on the part of the agent would lead to a reduced degree of affectedness, and therefore a deviant structure with reduced transitivity. In Hopper and Thompson's (1980) conceptualization of semantic and morphosyntactic dimensions of transitivity, which was introduced in Section 2.2.1, volition also plays a special role. Like affectedness, it is listed amongst the transitivity parameters, and the authors state that an action may be more effectively transferred to a participant when it is carried out by an agent that acts on purpose, as compared to one that does not act on purpose (Hopper and Thompson 1980: 252). Accordingly, their account predicts that clauses with non-volitional agents show a reduced morphosyntactic transitivity in comparison with those with volitional agents. Reduced morphosyntactic transitivity means that such clauses may show a case marking pattern that is more similar

to that of those with less affected participants, or a verbal marking associated with detransitivization, like anticausative, passive, or middle voice. The authors provide an example from the Polynesian language Samoan, which has ergative/absolutive case marking. In Samoan, the ergative marked agent expresses a volitional involvement in the 'hit' event in (220)a, which realizes its object in the unmarked form that is taken to reflect absolutive case. In contrast, the unmarked agent of the verb 'see' expresses a lower degree of planned involvement and the object is realized as oblique (220)b.

(220) Hopper and Thompson (1980: 270)
a. Na fasi e le tama leteine.
PST hit ERG the boy the girl
'The boy hit the girl.'
b. Na va'ai le tama i leteine.
PST see the boy OBL the girl
'The boy saw the girl.'

This example seems to support the view that an increase in agentivity evokes a higher degree of involvement of the UNDERGOER in terms of its affectedness. But note that the verbs 'hit' vs. 'see' in (220) encode different degrees of affectedness for the object participant irrespective of the agent. While objects of 'see' are underspecified for change, contact verbs like 'hit' express a potential for change. To evaluate whether it really is the degree of agentivity that makes higher degrees of affected interpretations possible, we would need examples that manipulate agentivity within the same verbal predicate. In fact, German contact verbs seem to be a case in point. As was argued in prior sections of this work, contact verbs express a potential for change for the object participant (see Sections 2.2.2 and 2.3). The examples in (221) show that an animate force recipient of the German contact verb *schlagen* 'beat/hit' is realized as a direct object if the agent is volitional (221)a, and as oblique if the agent is non-volitional (221)b. In the latter case, the realization as direct object is licensed if the affectedness of the force recipient is made linguistically explicit, for example with a secondary resultative predicate (221)c.

(221) a. Das Mädchen schlug den Jungen.
the girl.NOM hit the boy.ACC
'The girl hit the boy.'
b. Der Ast schlug *(gegen) den Jungen.
the branch.NOM hit against the boy.ACC
'The branch hit (against) the boy.'

c. Beim Ausritt schlug der Ast den Jungen. zu Boden.
at the ride out hit the branch.NOM the boy.ACC to ground
'At the ride out, the branch knocked the boy to the ground.'

The alternations in (221) illustrate that the volitionality of the subject referent can make affected readings of the force recipient available. While the boy in (221)a is emotionally affected by the action of being hit by a subject referent acting on purpose, grammar does not treat the force recipient of a non-volitionally acting subject referent as necessarily affected by the action (221)b. In that case, the affected interpretation has to be linguistically specified (221)c. This is supported by the results of an experiment by Goldschmidt et al. (2017) which tested arising expectations about the force magnitude in transitive and intransitive *schlagen* 'hit' events. This was done via the denial-of-expectation-test (Lakoff 1971) that makes visible a default expectation of a force by contrasting it using the contrastive conjunction *aber* 'but'. The authors found out that transitive constructions with an animate agent prototypically denote high force. Sentences of the type *Sie schlägt ihn, aber leicht* 'She hits him but lightly' are rated considerably better than those of the type *Sie schlägt ihn, aber hart* 'She hits him but hard'. In comparison, in constructions without animate agents like *Die Gitarre schlägt gegen die Tischkante* 'The guitar hits the table', no expectations arise about the force magnitude which can be contrasted by *but hard* or *but lightly*. There are no significant differences in participants' ratings of such constructions. Recall that contact verbs are cross-linguistically well known for allowing argument realization alternations. The fact that their lexical semantics encodes (only) a potential for change makes available different entailments about change in the force recipient which can be induced by adverbial modification or, as we have just seen, by interaction with agentivity.

Turning to predicates which lexically encode change for the UNDERGOER participant, the patterns observed point in a different direction than those with contact verbs. In cross-linguistic work investigating how different types of agents affect the syntax and semantics of UNDERGOERS, there are at least two established strategies that can be singled out (Fauconnier 2012, 2013; Copley and Wolff 2014; Demirdache and Martin 2015; Martin 2015). Importantly, neither of them suggests that a decrease in agentivity leads to a less prominent grammatical realization of the affected participant, or to a semantic interpretation of lower degrees of affectedness. On the contrary, one of the strategies involves a more prominent grammatical representation of the affected participant with a less agentive initiator, as compared to those with more agentive ones. In such languages, the event is realized as transitive if the initiator is involved in an agentive way (i.e., volitionally). In contrast, involuntary agency leads to the use of the anticausative voice, but crucially, what this means is that the UNDERGOER is realized as the sole subject of the clause and

the agent is the participant which is realized as oblique. The other strategy involves entailments about event culmination that hold with less agentive participants but not with more agentive ones. In languages with this strategy, the change of state in the UNDERGOER can be felicitously denied in events with controlling agents. In events with less agentive, non-controlling causes as initiators, entailments about event culmination arise such that the change of state in the UNDERGOER cannot be denied. In what follows, I will explicate both strategies in more detail and introduce a third one. This will build on observations from Differential Object Marking in Turkish, strengthened by a structural analysis in the lexical syntactic domain and empirical data from a forced choice study.

6.2 Two cross-linguistic strategies

In her work on involuntary agenthood, Fauconnier (2012, 2013) investigates marking alternations in a typologically diverse sample of 200 languages. With regard to the question of how a decrease in agentivity affects the morphosyntax of the UNDERGOER, her data show two fairly well-attested cross-linguistic patterns. The first one involves anticausative voice. Clauses with involuntary agents are realized with a case marking pattern that deviates from the pattern of those with volitional agents. In a number of typologically unrelated languages, involuntary agency leads to anticausative voice, such that the UNDERGOER is realized as the subject of the clause and the non-volitional agent is marked with oblique case, associated with either agentivity or benefactivity/malefactivity. This is illustrated below with examples from the Australian language Guugu Yimidhirr (Haviland 1979: 123–126; cited after Fauconnier 2012: 64). The clause in (222)a has a volitional agent and transitive nominative-absolutive case frame. The clause in (222)b has a non-volitional agent and anticausative voice. The UNDERGOER is an absolutive marked subject of an intransitive clause. The agent is realized as an adjunct in the adessive case, which signals an active involvement in the event.

(222) a. Ngayu galga nhanu dumbi.
1sg.NOM spear.ABS 2sg.GEN break.PST
'I broke your spear (on purpose).'

b. Ngadhun.gal galga nhanu dumbi-:dhi.
1sg.ADESS spear.ABS 2sg.GEN break-ANTIC.PST
'I accidentally broke your spear.'

This pattern involves reduced morphosyntactic transitivity but not such that the UNDERGOER is realized in a less prominent grammatical role, i.e., as an oblique

instead of a direct argument. On the contrary, the realization pattern of the UNDERGOER does not directly change. Instead, the realization of the less agentive agent as an oblique argument leaves the UNDERGOER as the subject of an intransitive clause, and thereby frames it as the more prominent participant of the two. For Fauconnier, such a detransitivization of events marks a shift in emphasis from their starting point to their endpoint at the level of the causal chain, which starts with the agent and ends with the UNDERGOER.

The second pattern that affects the morphosyntax of the patient in the context of decreased agentivity is a rather unexpected one. Unlike the one introduced above, it is not related to reduced transitivity at all. In many languages of the world, non-volitionality triggers a completive marker which indicates that the endpoint of the action has been reached. Take, as an example, the Indo-European language Bengali, which has an optional auxiliary *fɛla* that is used to emphasize the completion of the action (223) (Ghomeshi 1991: 343; cited after Fauconnier 2012: 79).

(223) a. John aam-ta ket-e khe-l-o.
PN mango-CLF cut-PRF eat-PST-3SG
'John cut the mango and ate it.'
b. John aam-ta khe-ye **fel**-l-o.
PN mango-CLF eat-PRF COMPL-PST-3SG
'John ate up the mango.'

While the completive marker is optional with volitional agents, involuntary agents trigger the use of completive aspect (224) (Basu and Wilbur 2010: 2, 9; cited after Fauconnier 2012: 79).

(224) a. Ami b^{h}at puɹ-e **fele** č^{h}i-l-am.
1SG rice burn COMPL be-PST-1SG
'I accidentally burned the rice.'
b. Bataš fuldani-ti bheŋ-e **fele** č^{h}i-l-o.
wind vase-DEF break-PRF COMPL be-PST-3SG
'The wind broke the vase.'

Related observations are contributed by Martin (2015) and Demirdache and Martin (2015). The authors point toward a cross-linguistically well attested link between a subject referent's agentivity and the availability of non-culminating readings with causative change of state predicates. A non-culminating reading means that the change of state, including its endpoint, expected to occur in the event, can be felicitously denied. This is illustrated by the examples from French (Martin 2015: 248)

and Mandarin (Demirdache and Martin 2015: 186–187) below. As (225)a and (226)a show, with agentive subject referents, the change of state in the UNDERGOER can be felicitously denied, while the same is not possible with non-agentive, causer subjects ((225)b, (226)b). Similar contrasts are attested in Japanese, Tagalog, Salish languages, Thai, Adyghe, and other non-related languages (see Demirdache and Martin 2015: 186 for an overview).

(225) a. Ils l'ont réparé mais ça ne fonctionne toujoures pas.
they it=have repaired but this NEG works still NEG
'They have repaired it but it still does not work.'
b. Le choc l'a réparé #mais ça ne marche toujoures pas.
The shock it=has repaired but this NEG works still NEG
'The shock has repaired it #but it still doesn't work.'

(226) a. Yuēhàn shāo le tā-de shu, dàn méi shāo-zháo.
PN burnPRF 3SG-DE book but NEG burn-touch
'Yuēhàn burned his book, but it didn't get burnt at all.'
b. Huǒ shāo le tā-de shu, #dàn méi shāo-zháo.
fire burnPRF 3SG-DE book but NEG burn-touch
'The fire burned his book, #but it didn't get burnt at all.'

According to the Agent Control Hypothesis that the authors propose, a systematic correlation can be made out between the degree of agentivity and the availability of (non-)culminating interpretations of the change of state. Actions initiated by highly agentive participants are "ontologically independent of their potential effects" (Martin 2015: 259). With agentive subjects, the intention of the agentive participant to carry out an action is indicative of its goal, and therefore makes available a reference to that action even in the past tense. Interestingly, the authors make reference to intentions, but they use the term *control*, and note that animate agents are sufficient but not necessary to get readings that deny the change of state. In particular contexts, such readings are also said to be available with inanimate, causer subjects (Martin 2015: 248). Unfortunately, the nature of these "particular contexts" is not further discussed.

For Fauconnier (2012: 121–127), the use of completive marking or the undeniability of a reached culmination does signal that, in such events, an emphasis is placed on the endpoint of the action. This is a property shared with the first strategy, which was the use of anticausative voice. Anticausative voice deletes the agent as a necessary argument from the syntactic representation of the event, and thereby, on the causal level, centers the event on the UNDERGOER. Completive marking, on the other hand, does not change anything about the causal representation of the agent,

but it does center the action on the UNDERGOER at the temporal level. The temporal development of an event can be conceptualized as having a starting point, which coincides with the agent or cause, followed by the course of action usually associated with a change in some property of the UNDERGOER, and finally an endpoint associated with the result attained for the entity that changes. Here, completive markers highlight the attainment of a result for the UNDERGOER, and thereby the endpoint of the event. Building on the work of DeLancey (1981), the contribution of or lack of volition in an agent is intricately woven into this shift of emphasis for the reason that an agent acting on purpose is aware of all phases of an event from its beginning to its termination. In comparison, regarding the consciousness of an agent acting non-deliberately, "only the termination [of an event] is present" (DeLancey 1981: 649).

6.3 Agentivity and DOM of affected objects

Adding to these two strategies that explicate the relation between agentivity and affectedness, I will propose a third one that points in a similar direction. Continuing the tradition, I will use data from Differential Object Marking in Turkish. In the previous sections, we have seen that the affectedness of an indefinite direct object favors its realization with accusative marking. However, under certain circumstances, the accusative marker can be dropped even if the direct object is affected. This possibility depends on the agentivity of the subject referent. While agentive subjects can make optional marking available with affected direct objects, less agentive subjects trigger their realization with overt case. Similar to the approach I have pursued in the previous sections, I think that this interaction between agentivity and affectedness can be modeled on the basis of a competition between the two participants for the UNDERGOER position in the lexical syntactic structure proposed by Ramchand (2008).

Let us start to explicate this phenomenon. The a) examples in (227)–(229) are realized with an animate agent as subject and an inanimate affected direct object. Despite its affectedness, accusative marking of the direct object is optional. While affectedness generally triggers a high preference for direct objects to be case marked, it seems that a certain degree of marking optionality can be available with agentive initiators if the UNDERGOER is inanimate and part of rather stereotypical object-verb combinations. Interestingly, the optionality observed disappears with less-agentive subject referents, as the b) examples illustrate. If the initiator of the event is an inanimate causer or instrument, the affected direct object has to be accusative marked.

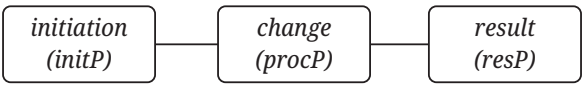
(227) a. Öğretmen bir karton(-**u**) kes-ti.
teacher a carton-ACC cut-PST
'The teacher cut a carton.'
b. Makas bir karton*(-**u**) kes-ti.
scissors a carton-ACC cut-PST
'The scissors cut a carton.'

(228) a. Aşcı bir çorba(-**yı**) ısı-t-tı.
chef a soup-ACC warm-CAUS-PST
'The chef warmed a soup.'
b. Güneş bir çorba*(-**yı**) ısı-t-tı.
sun a soup-ACC warm-CAUS-PST
'The sun warmed a soup.'

(229) a. Temizlikçi bir havlu(-**yu**) kuru-t-tu.
housekeeper a towel-ACC dry-CAUS-PST
'The housekeeper dried a towel.'
b. Isı bir havlu*(-**yu**) kuru-t-tu.
heat a towel-ACC dry-CAUS-PST
'The heat dried a towel.'

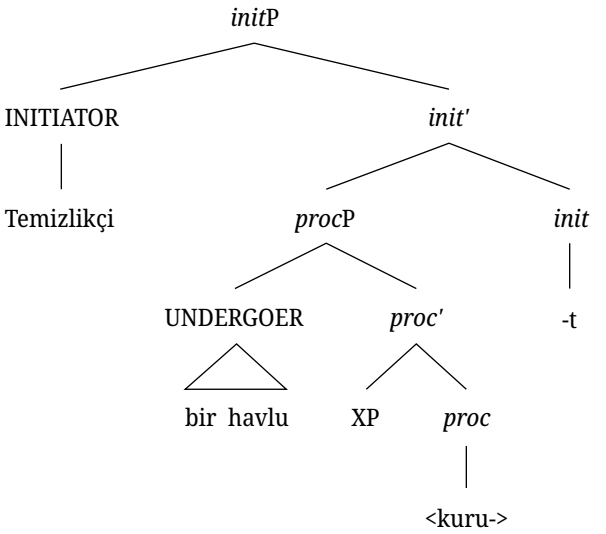
Recall the above-mentioned examples from Bengali in (223)–(224) and French in (225)–(226), where a decrease in agentivity triggers completive aspect. Similarly, the observations from Turkish do not support the view that a decrease in agentivity, in particular volitionality on behalf of the agent, leads to a decrease in the morphosyntactic transitivity of the clause. The marking pattern associated with less agentive subjects reflects the pattern that is correlated with increasing, not decreasing affectedness. Like Demirdache and Martin (2015), who argue that the crucial property enabling non-culminated readings is control, I argue that control on behalf of the agent makes optional accusative marking available. However, unlike them, I will favor a structural line of reasoning. Human agents, by virtue of their volition, can by default be interpreted as willful controllers and psychological experiencers of dynamic changes of state. As such, they can compete with inanimate direct objects for the UNDERGOER position. This means having two participants with two distinct properties that are affected throughout an event. When the human agent is in UNDERGOER position, the affected direct object is the PATH in a rhematic complement position and remains unmarked. When the affected object itself is the UNDERGOER, it is accusative marked.

To start informally, recall that a transitive dynamic event was conceptualized as being decomposable into maximally three parts, represented by three subevents. The first is related to the initiation of the event and generally associated with the subject participant. It constitutes the left edge of the event. The second is related to dynamicity, i.e., the change in some property for an entity, and the third to the possible attainment of a result state for the changing entity. Both the second and the third constitute the right edge and are typically but not exclusively associated with the object participant.

(230) 

In the previous sections we have observed the following. In dynamic events with affected direct objects, the subject is the initiator of the event and is associated with the left edge. The direct object is the UNDERGOER of change and is associated with the right edge. In this case, there is a strong preference for accusative marking on the direct object. If the subject participant is associated not only with initiation, but also with the change (and result) subevents which it shares together with the object participant, accusative marking on the object participant is optional. This is the case with motion verbs, such as in *Deniz ran a marathon*, creation/consumption verbs like in *Deniz ate an apple*, and subject experiencer verbs like in *Deniz read a book*, where the object is PATH and the subject is affected by virtue of being in motion, being a consumer, or being an experiencer of the event. Turning to dynamic events like the ones in (227)–(229), I think that human agents as subject referents can compete with inanimate direct objects for the UNDERGOER position. This competition is possible since they can by default be interpreted as psychological experiencers and willful controllers of the dynamic change of state. It is further facilitated by stereotypical object-verb combinations where the object is more tightly connected to the verb and likely to stay in the event domain, expressing a reading inside the domain of existential closure. Consider the trees in (231), illustrating the competing structures of the sentences in (229). In (231)a, the direct object is in UNDERGOER position. This is the pattern that we would generally expect with change of state verbs. In (231)b, the subject is in UNDERGOER position, and the direct object is in a complement position. This is possible since the subject can be interpreted as a psychological experiencer and willful controller of the event. With respect to case marking, the direct object is accusative marked when it is UNDERGOER, and remains unmarked for event structural reasons when it is PATH, but can be marked for referential properties.

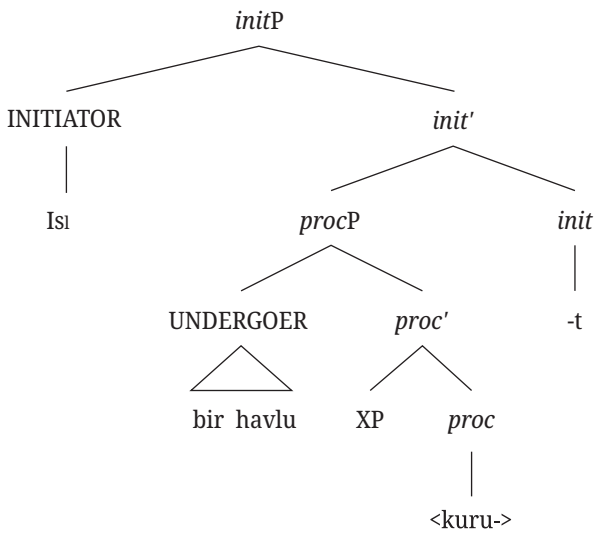
(231) a.



In comparison, with inanimate causes or instruments, as in the b) examples of (227)–(229), such an alternation is not available. They are not experiencers of the event and cannot fill the UNDERGOER position. Inanimate causes also do not control the change of state in the affected direct object, they just initiate it. In (227)a, it is not the instrument which controls the change, but the agent behind the instrument. In (228)b and (229)b, the sun and the heat are causers of the change of state in the

UNDERGOER, but their "force" is not temporally bound to the change in the UNDERGOER, and the endpoint of the action depends not on their force but on properties of the UNDERGOER. The change in the UNDERGOER is less controlled. The inanimate direct object itself is the holder of the changing property and occupies the UNDERGOER position. This is exemplified for (229)b in (232).

(232)



There are several arguments in favor of positing an alternation of the type suggested. The first one involves interpretation. When the agent is not only INITIATOR but also a volitional experiencer sitting in UNDERGOER position, it is directly associated with the change subevent and has to be in control of the change of state. It is constantly aware of all phases of the dynamic event, and only as long as it is acting does the change of state continue. In contrast, inanimate causers or instruments stay at the left edge, and are not by default in control of the event. When the accusative marker is dropped on the direct object with inanimate causers or instruments, as in the b) examples of (227)–(229), an interpretation arises that the inanimate causer acted on purpose. Since this interpretation fails, dropping the accusative marking sounds odd and is prohibited.

Second, as Demirdache and Martin (2015) and Martin (2015) show, it is possible cross-linguistically that the change of state in the affected participant can be denied with agentive, controlling subjects, but not with less agentive, causer subjects. I argue that the predicational asymmetry between the specifier and complement positions associated with the change subevent can capture the alternations with respect to the non-culmination or deniability of the change in the direct object.

The change of state cannot be denied if the affected direct object is UNDERGOER, since, in this position, it is the "subject" of the change subevent, meaning that it is the holder of the predication of change. However, it should be more easily deniable if the affected direct object is in a rhematic complement position, meaning that it is a modifier or descriptor of the dynamic action of the subject participant. This is in fact the case, as the contrasts in (233) show. (233)a, with a human agent and unmarked direct object, has the structure shown in (231)b. The affected direct object is not in UNDERGOER position and the change can be denied. In comparison, (233)b, with an inanimate causer and marked direct object, has the structure shown in (232). The affected direct object is in UNDERGOER position and the change cannot be denied.

(233) a. Temizlikçi bir havlu kuru-t-tu, ama kuru-ma-dı.
housekeeper a towel dry-CAUS-PST but dry-NEG-PST
'The housekeeper dried a towel, but it didn't dry.'

b. Isı bir havlu-**yu** kuru-t-tu, #ama kuru-ma-dı.
heat a towel-ACC dry-CAUS-PST but dry-NEG-PST
'The heat dried a towel, #but it didn't dry.'

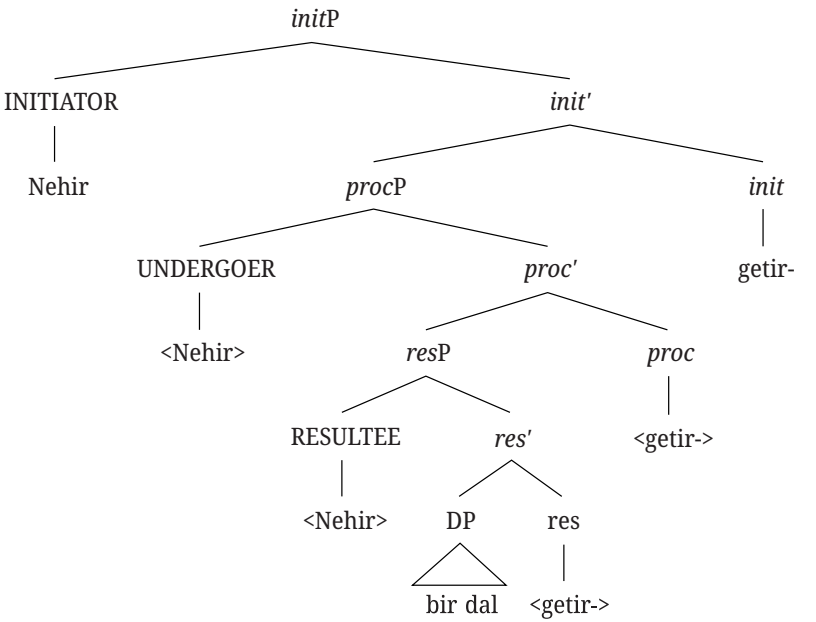
Note also that our account predicts that such alternations are harder to achieve with verbs which are lexically telic (i.e., verbs that lexically specify a result state for the change of state in the object participant).

Third, it is not unusual to have agents that figure in the UNDERGOER position in addition to being in the INITIATOR position. As mentioned earlier, motion verbs with PATH objects, like in *Deniz ran a marathon*, are the most obvious case for affected agents. Furthermore, at different points in this monograph and in the previous literature it has been argued that consumption verbs and subject experiencer verbs take affected agents. I have also suggested the same for dynamic verbs like *find,* where the object denotes the final result of a process of searching that the subject entity undergoes. Since all these verbs take human agents, an interesting question that arises is whether only human agents can be UNDERGOERS, besides being INITIATORS. Ramchand (2008) does not discuss whether inanimate agents can occupy the UNDERGOER position, but I do not see any reason why the semantics of the first phase syntax should not allow for this. Any agent of which a change can be predicated should be able to occupy the UNDERGOER position. In fact, the verb *bring*, which allows for inanimate agents, is a case in point. *Bring* is similar to *find* in that the direct object denotes the final state of an action the subject pursues. Furthermore, it encodes directed motion for the subject participant. Take the example in (234), which exhibits optional accusative marking. The subject participant can be seen as a controller of the dynamic event, with the motion of the object

depending on the motion of the subject. The proposed structure for (234), with the subject as INITIATOR and UNDERGOER, and the object as the GROUND OF RESULT, is represented in (235).

(234) Nehir bir dal(-ı) getir-di.
river a branch-ACC bring-PST
'The river brought a branch.'

(235)



These examples show that different properties of agents can license their interpretation as affected on some level. With motion verbs it is their directed motion, with consumption verbs their ingestive nature, and with other types of verbs their psychological property of being an experiencer. Note also that in (234) both subject and object are inanimate. Nevertheless, the inanimate direct object can perfectly well be realized without accusative marking. This observation is important since it really shows that the marking patterns in the language of investigation cannot be reduced to the generalization that accusative marking is optional when the subject outranks the object in animacy, but obligatory for distinguishing the participants if they exhibit the same level of animacy. In my opinion, a semantically motivated structural account is needed to cover the observations most precisely.

A last issue I want to discuss is the case of affected direct objects which are animate. Is it reasonable to argue that a human agent can equally well compete

with a human direct object for the UNDERGOER position with dynamic verbs where the semantics of the verb indicates a change for the object participant? I do think that, in such a scenario, it is much harder for the human agent to "win" this competition, since, first of all, human direct objects are competitors which are always also psychologically affected in addition to the other dimensions in which they can undergo a change. Second, recall that the contexts enabling such an alternation tend to require stereotypical object-verb combinations where the object is more tightly connected to the verb and likely to stay in the event domain expressing a non-specific reading. For animate, affected direct objects it may be harder to evoke such contexts, since they have the best conditions for being construed as individuated arguments. A context that possibly allows for optionality is given in (236)a. Note that the nominal *adam* 'man' is of male lexical gender, but the activity *adam öldürmek,* literally 'kill a man', can refer to the killing of either a female or male person. Here, the direct object contributes primarily the information that a person was killed (and not an animal, even if this reading is less salient in the first place). In comparison, an inanimate subject causing the event triggers accusative marking on the direct object. But note that – if possible at all – this alternation with animate direct objects which are affected is much more restricted than with inanimate ones.

(236) a. Asker bir adam$^{?}$**(-ı)** öl-dür-dü.
soldier a man-ACC die-CAUS-PST
'The soldier killed a man.'

b. Kaza bir adam*(**-ı**) öl-dür-dü.
accident a man-ACC die-CAUS-PST
'The accident killed a man.'

To sum up the observations made with regard to the question of how agentivity influences the structure of an event, and in particular the morphosyntax and semantics of the UNDERGOER, we can state the following. With dynamic verbs which lexically do not specify a necessary but only a potential change in the force recipient, the agentivity of the force can interact with the affectedness of the force recipient, such that increasing agentivity on the part of one participant leads to increasing affectedness on the part of the other. Contact verbs are a case in point. With the German contact verb *schlagen* 'hit', we have seen that a higher force originating from the agent makes affected readings of the O participant available. In contrast, with verbs that lexically entail a change in the UNDERGOER participant, the observations do not point towards the same dependency relation. On the contrary, with them, decreasing agentivity highlights the affectedness of the UNDERGOER. Cross-linguistically, a decrease in agentivity can lead to the realization of the UNDERGOER as

the more prominent grammatical role, i.e., as the subject of an intransitive clause. It can also lead to the use of completive markers related to the change of state in the UNDERGOER, or the non-deniability of the endpoint of the change of state event. In addition, the more detailed investigation of Differential Object Marking in Turkish indicates that a decrease in agentivity on the part of the subject leads to a more prominent realization of the affected direct object with the accusative marker. This correlates with a predicational reading of the direct object that prohibits a denial of the change of state it undergoes. In the next section, I will present empirical evidence of this original claim.

All in all, I think that the observations do not favor a unified account based on the notion of transitivity. As we have seen, a decrease in agentivity cross-linguistically leads to marking alternations that can be characterized as both "more" and "less" transitive. In some languages, having a less agentive initiator leads to anticausative voice, such that a transitive event is detransitivized, and the UNDERGOER gets to be the sole subject of an intransitive event. In other languages, having a less agentive initiator leads to structures which are best characterized by higher morphosyntactic transitivity, such as completive aspect, or in languages with DOM, morphological marking of the UNDERGOER. What is shared by these marking alternations, however, is that they shift the emphasis toward the UNDERGOER participant and thereby the left edge of the event. Crucially, the affectedness of a participant can be highlighted in both ways: either by encoding the agent as a less prominent argument (e.g., via anticausative morphology) or by encoding the UNDERGOER itself in a more prominent way (e.g., through completive aspect or overt case morphology).

6.4 Testing for the interaction

6.4.1 Set-up and predictions

In the previous section, I claimed that the morphosyntactic realization of an affected direct object can interact with the agentivity of the subject. This section aims to empirically test this interaction by investigating the distribution of DOM (±ACC) on inanimate and animate affected direct objects depending on the agentivity of the subject. Building on the observations above, I expect that under certain circumstances, DOM is optional for the inanimate affected direct object with human, controlling subjects. This optionality is not available with inanimate causes as subjects, which evoke DOM on the inanimate affected direct object. Furthermore, I predict that such an interplay is largely restricted to inanimate direct objects. For human direct objects which are affected, DOM is expected to be

favored irrespective of the properties of the agent. The hypotheses can be summarized as follows:

Inanimate direct objects

(H1) **With human subjects, DOM is optional**.
Human subjects can be interpreted as controllers and continuous experiencers of the change of state. They compete with the direct object for the interpretation as subjects of a changing subevent. The objects' involvement can be predicational (+ACC) or modificational (−ACC).

(H2) **With inanimate subjects DOM is favored**.
Inanimate causes or instruments cannot be interpreted as controllers or continuous experiencers of the change of state. They do not compete with the direct object for the interpretation as subjects of a changing subevent. The objects' involvement is predicational (+ACC).

Human direct objects

(H3) **DOM is favored irrespective of the animacy of the subject.** Human subjects cannot compete with human direct objects for the interpretation as subjects of a changing subevent. The objects' involvement is predicational with human agents as subjects, as well as with inanimate causes and instruments as subjects.

To empirically test these hypotheses, two single-factorial forced choice studies were designed. The "experiment inanimates" manipulated the animacy of the subject (human vs. inanimate), while keeping the animacy of the direct object constant at inanimate. The "experiment animates" manipulated the animacy of the subject (human vs. inanimate), while keeping the animacy of the direct object constant at human. The animacy of the subject was used as a cue to its agentivity, in particular the control it expressed over the change of state event. The experimental items were constructed using exclusively dynamic verbs with object-verb combinations exhibiting a certain degree of stereotypicality or frequency of combination. Consider the example critical items from the "experiment inanimates" in (237), which refer to the causation of a change of state in the direct object. The ones in (238), from the "experiment animates", refer to the causation of physical damage to the body. The minimal pairs differ only in the type of subject realized. In the a) examples, the subject is a human, controlling agent, whereas in the b) examples, it is an inanimate causer or instrument.

(237) "experiment inanimates"
a. Temizlikçi bir havlu(-**yu**) kuru-t-tu. (human sbj, inanimate obj)
housekeeper a towel-ACC dry-CAUS-PST
'The housekeeper dried a towel.'
b. Isı bir havlu(-**yu**) kuru-t-tu. (inanimate sbj, inanimate obj)
heat a towel-ACC dry-CAUS-PST
'The heat dried a towel.'

(238) "experiment animates"
a. Asker bir düşman(-**ı**) yarala-dı. (human sbj, human obj)
soldier an enemy-ACC injure-CAUS-PST
'The soldier injured an enemy.'
b. Kılıç bir düşman(-**ı**) yarala-dı. (inanimate sbj, human obj)
sword an enemy-ACC injure-CAUS-PST
'The sword injured an enemy.'

Both experiments tested DOM (±ACC) on affected direct objects and its dependence on different types of subjects which were manipulated for animacy on the two levels of human and inanimate. Participants were presented with one item at a time and had to make a forced choice between the accusative marked (+ACC) and unmarked (–ACC) versions of the inanimate and human affected direct objects. The human subjects were realized as definite descriptions. The inanimate subjects were also realized as definite descriptions and balanced for being causes or instruments of the change of state event. The human and inanimate direct objects were realized as indefinite descriptions and were encoded by the verb meaning as affected. To provide the best possible comparability between the two experiments, they shared the same design, with the only distinction lying in the animacy of the direct object. The methodological details are explicated below.

6.4.2 Method

Participants

168 speakers of Turkish as their first language were recruited through social media. The "experiment inanimates" comprised 82 participants. One person was excluded from the analysis as he was under age and the questionnaire did not ask for parental consent. The remaining 81 informants were all monolingually raised speakers of Turkish (62 female, 19 male; M_{age} = 34 years, range: 21–67 years). The "experiment animates" comprised 86 participants. Two of them were excluded from the analysis as they were under age. The remaining 84 informants were all monolingually

raised speakers of Turkish (53 female, 30 male, 1 diverse; M_{age} = 33 years, range: 20–76 years). None of the relevant 165 informants had lived for more than one year outside of Turkey.

Materials

For each experiment, a set of 24 critical items was constructed. The items were organized in a single-factorial design, with 12 verbs being manipulated for the predictor subject condition on the two levels of human subject and inanimate subject. Example items that show the manipulations for a single verb are given in (239) for the "experiment inanimates" and in (240) for the "experiment animates". The a) examples illustrate the human subject condition, the b) examples the inanimate subject condition. Within the latter, subjects were balanced as either causes or instruments of the change of state event. I did not expect this distinction to have an impact on the distribution of the results.

(239) a. Yarışmacı bir balon(-**u**) patla-t-tı. (human sbj, inanimate obj)
competitor a baloon-ACC burst-CAUS-PST
'The competitor burst a balloon.'
b. İğne bir balon(-**u**) patla-t-tı. (inanimate sbj, inanimate obj)
needle a baloon-ACC burst-CAUS-PST
'The needle burst a balloon'

(240) a. Doktor bir hasta(-**yı**) iyileş-tir-di. (human sbj, inanimate obj)
doctor a patient-ACC cure-CAUS-PST
'The doctor cured a patient.'
b. Terapi bir hasta(-**yı**) iyileş-tir-di. (inanimate sbj, inanimate obj)
therapy a patient-ACC cure-CAUS-PST
'The therapy cured a patient.'

In addition to the set of 24 critical items, a set of 24 filler items was designed. This set of fillers was used for both experiments and included 12 control fillers and 12 neutral fillers. The animacy (human vs. inanimate) of the subject and object referents of the filler items was balanced throughout the experiment. The control fillers required a choice between accusative marked (+ACC) and unmarked (–ACC) versions of the direct object, whereby with one half of them only accusative marked objects (accusative control filler) were grammatical, and with the other half only bare objects (bare control filler) were grammatical. The accusative control fillers involved ditransitives in the configuration subject–direct object–indirect object. As the direct object was not left-adjacent to the verb, accusative case was obligatory for syntactic reasons (see (241)). The bare control fillers involved idiomatic object-

verb combinations requiring unmarked objects (see (242)). They also included cognate objects (*yağmur yağmak* 'to rain') and object-verb combinations with non-referential, incorporated interpretations of the object, where accusative case marking was ruled out (*eş aramak* 'be on partner search').

(241) Accusative control filler
Grip maceracı*(-**yı**) yatağ-a bağla-dı.
Flu adventurer-ACC bed-DAT tie-PST
'The flu tied the adventurer to bed.'

(242) Bare control filler
Demokrasi toplum-da kök(*-**ü**) sal-dı.
Democracy society-LOC root-ACC put-PST
'Democracy took root in society.'

The neutral fillers required a choice between accusative (+ACC), dative (+DAT), or ablative (+ABL) marked objects, with both of the options given being grammatical but inducing different interpretations, as illustrated in (243).

(243) Neutral filler (dative vs. ablative)
Spiker sanatçı(-**yı**/-**ya**) konuş-tu.
speaker artist-ACC/-DAT speak-PST
'The commentator talked about (ACC)/talked to (DAT) the artist.'

Both experiments had 24 critical items and 24 filler items. In each experiment, critical items and filler items were distributed on two lists in a Latin Square Design. The lists were balanced for subject condition, such that each participant would see each verb only once. Whether marked or unmarked (+ACC vs. –ACC) direct objects (critical items) were shown at the top or bottom, as well as the order in which accusative, dative, and ablative marked forms (neutral fillers) of the objects were presented, was also balanced throughout the experiment. Each list consisted of 36 items in total (12 critical items and 24 filler items). Items were presented one at a time and in randomized order.

Procedure and data analysis

Both questionnaires were implemented as a forced choice study using the online survey software Qualtrics and distributed via a participation link online. In both, participants were told that they would be presented with several sentences, each with a missing part, together with two options to fill each gap. They were instructed to choose the option that sounded more natural to them in the given context.

The forced choice for the critical items and some of the filler items was between a marked (+ACC) and an unmarked (–ACC) version of the direct object to fill the gap. For some filler items, the forced choice was between accusative, dative, or ablative marked objects. The order in which marked and unmarked options of the direct object, as well as the different case markings, were presented was balanced throughout the experiment. Figure 19 illustrates the example critical item (239)b from the "experiment inanimates" and Figure 20 the example accusative control filler item (241) which was used in both questionnaires.

İğne _____ patlattı.

bir balonu

bir balon

Figure 19: Critical item from the non-sentient subject condition in the experiment (see (239)b).

Grip _____ yatağa bağladı.

maceracı

maceracıyı

Figure 20: Accusative control filler item in the experiment (see (241)).

Since both experiments were structured identically, I ran a single statistical model over both of them. Recall that the hypotheses suggested that the agentivity of the subject interacts with DOM on the affected direct object only if it is inanimate. Using a single statistical model allows us to see a possible interaction effect between the subject condition, which was manipulated in both experiments, and the object condition (inanimate vs. human direct object), which was manipulated across the experiments. Therefore, the data was analyzed in R, using lme4 (Bates et al. 2015) to perform generalized linear mixed effects models (GLMM) with subject condition (human subject vs. inanimate subject) and object condition (human object vs. inanimate object) as predictors (fixed effect), including their interaction, and with participants and items as random effects (random intercepts). For the predictors, sum contrasts (–0.5/+0.5) were used. The dependent variable was DOM (i.e., whether participants chose the direct object with or without morphological accusative marking (+ACC vs. –ACC)).

6.4.3 Results and discussion

The results for the control filler items illustrate that the informants were attentive and clearly able to distinguish between conditions where accusative marking was obligatory and those where it was prohibited. As can be seen in Figure 21, with non-preverbal direct objects requiring accusative marking for syntactic reasons, participants almost exclusively decided for case marking (99%). In contrast, with non-referential direct objects and cognate objects in light verb constructions (bare control), they almost exclusively decided against accusative marking (99%). No participant rated less than 80% of the control items according to expectations.

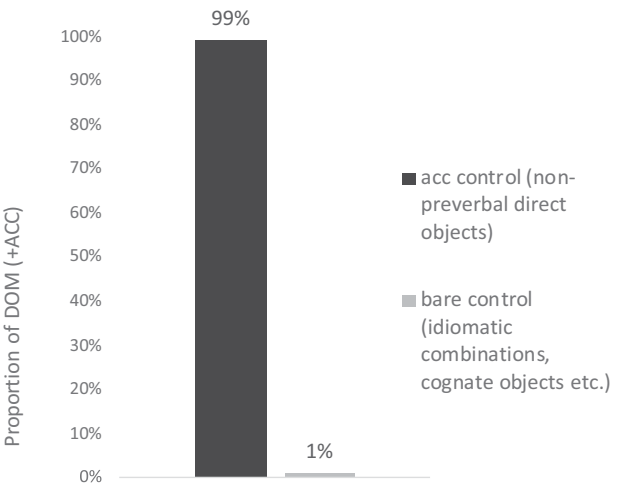


Figure 21: Results for control conditions.

Turning to the critical items, as expected, the results show diverging patterns for inanimate direct objects as compared to human ones. This is summarized in Table 17 and illustrated in Figure 22. With inanimate direct objects, participants' choices are almost equally distributed over accusative marked and unmarked options when the subject is a human agent. When the subject is an inanimate initiator, there is a relative preference for selecting the accusative marked version of the direct object. This preference is stable across subjects that function as causes and instruments, whereof the highest proportion of DOM is evoked by cause subjects. In contrast, with human direct objects, the agentivity of the subject does not induce different marking patterns. Participants strongly prefer accusative marking on direct objects across both the human subject and the inanimate subject condi-

tions. In the latter condition, the highest proportion of DOM is invoked by instrument subjects.

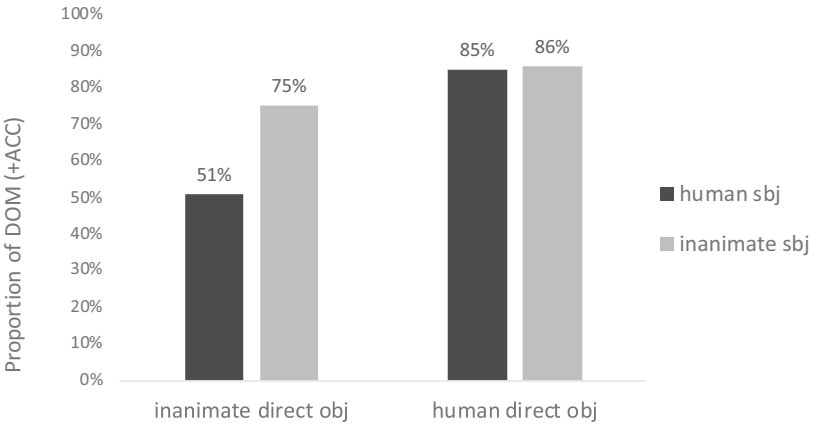


Figure 22: Results for critical items across conditions.

Table 17: Results for critical items across conditions.

	human subject	**inanimate subject**		
	total	**total**	**cause**	**instrument**
inanimate direct object	**51%**	**75%**	79%	71%
human direct object	**85%**	**86%**	81%	91%

The outcome of the regression model (GLMM) with main effects for the predictors' subject condition (inanimate vs. human) and object condition (inanimate vs. human), as well as their interaction, is illustrated in Table 18. It reveals that both object and subject conditions have a significant main effect on the distribution of DOM, with a significant interaction between the two. In what follows, I repeat the hypotheses with respect to the various predictors and relate this to the statistical model.

With respect to the **object condition**, it was hypothesized that marking alternations across different types of agents would only affect inanimate direct objects. Optional case marking was expected to be possible with inanimate but not human direct objects which were affected. This is confirmed by the generalized linear mixed effects model, which shows a significant main effect for the object condition, meaning that the chosen case marking pattern with inanimate direct objects differs significantly from those with human ones ($\beta = 1.18$, $SE = 0.21$, $p < 0.001$).

Table 18: Results of statistical model.

Regression model	Estimate	Std. Error	p value	
(intercept)	1.52	0.22	8.2E–12	
main effects				
object condition	1.18	0.21	1.8E–08	***
subject condition	–0.89	0.42	0.03	*
interaction effects				
object condition : subject condition	1.83	0.30	5.7E–10	***

Regarding the **subject condition**, the results have to be evaluated together with the observations for the object condition. What was hypothesized was actually an interaction between the subject and object conditions, such that DOM would be optional with human subjects (H1) and favored with inanimate subjects (H2), but only within the group of inanimate direct objects. For human direct objects, the subject condition was not expected to have an effect on the distribution (H3). The statistical model confirms these hypotheses. The effect of the subject condition is so strong that it evokes a significant main effect on the distribution of DOM ($\beta = -0.89$, SE = 0.42, $p < 0.05$). Looking into the data reveals that this effect is due to the diverging accusative marking patterns with inanimate direct objects. This **interaction** between the subject and object conditions is significant ($\beta = 1.83$, SE = 0.30, $p < 0.001$).

The results can be seen as supportive of the view that there is a competition between human, controlling agent subjects and affected direct objects for the UNDERGOER position. With human agents, the involvement of the objects can be predicational or modificational, while, with inanimate causes or instruments, the involvement of the objects is always predicational. However, this competition is only possible within the group of inanimate direct objects. Human subjects cannot compete with human direct objects for predication as subjects of a changing subevent. Human direct objects are always experiencers in addition to the other dimensions in which they can undergo a change.

Recall that the experiment manipulated the animacy of the subject. This was done as a generalization over agent control which can be associated by default with animate subjects. However, in the discussion above, I argued that inanimate subjects can also express control. This suggests that not all inanimate subjects must pattern in the same way. In fact, a look into the behavior of individual items, especially with inanimate direct objects, reveals that there are important differences between them.

To start with, the minimal pairs in (244)–(246) illustrate the general pattern that holds with inanimate affected direct objects. Accusative marking is optional

when the subject is a human controlling agent and favored when it is an inanimate causer or instrument. The fact that, in (246)b, accusative marking is a little less preferred than in the other b) examples is probably due to the possibility of reading the subject referent *Güneş*, which means 'sun', as a Turkish personal name of an agent subject, although this reading is not the most salient one. This was overlooked when constructing the examples.

(244) a. Öğretmen bir karton(-**u**) kes-ti. 51% DOM
teacher a carton-ACC cut-PST
'The teacher cut a carton.'
b. Makas bir karton*(-**u**) kes-ti. 90% DOM
scissors a carton-ACC cut-PST
'The scissors cut a carton.'

(245) a. Temizlikçi bir havlu(-**yu**) kuru-t-tu. 53% DOM
housekeeper a towel-ACC dry-CAUS-PST
'The housekeeper dried a towel.'
b. Isı bir havlu(-**yu**) kuru-t-tu. 89% DOM
heat a towel-ACC dry-CAUS-PST
'The heat dried a towel.'

(246) a. Aşcı bir çorba(-**yı**) ısı-t-tı. 33% DOM
chef a soup-ACC warm-CAUS-PST
'The chef warmed a soup.'
b. Güneş bir çorba(-**yı**) ısı-t-tı. 81% DOM
sun a soup-ACC warm-CAUS-PST
'The sun warmed a soup.'

In all of these pairs, the verb indicates a non-quantized change for the affected direct object, meaning that it does entail a change for it, but without lexically encoding a result state. It seems that this factor facilitates the possibility of predicating an affected direct object as modificational. The predicates in (247)–(248) are telic and generally invoke a higher proportion of DOM on the direct object. Furthermore, they do not invoke a similar shift in accusative marking with inanimate subjects compared to animate ones, as was observed with the other examples. In (247)b, the inanimate subject *fırtına* 'storm' invokes roughly the same degree of optionality in accusative marking as the human subject *komutan* 'commander'. In (248)b, the subject *cereyan* 'draught' invokes slightly higher shares of accusative marking on the direct object than the human counterpart *odacı* 'janitor', but still allows for some degree of optionality. I think that these results further confirm the

hypothesis that a certain degree of optionality of DOM with affected direct objects is made available by *controlling* subjects, which can be holders of a change subevent themselves. Both inanimate causes in (247)–(248) are natural forces which possess a dynamicity of their own, which is, in both cases, an inherent directed motion. By virtue of their dynamicity, they can also be interpreted as controllers of the dynamic event. In particular, the motion of the subject referent can be directly mapped onto the movement or motion of the object referent. As such, they too can compete with affected direct objects for the UNDERGOER position.

(247) a. Komutan bir gemi(-**yi**) bat-ır-dı. 72% DOM
commander a ship-ACC sink-CAUS-PST
'The commander sank a ship.'
b. Fırtına bir gemi(-**yi**) bat-ır-dı. 69% DOM
storm a ship-ACC sink-CAUS-PST
'The storm sank a ship.'

(248) a. Odacı bir kapı(-**yı**) aç-tı. 67% DOM
janitor a door-ACC open-PST
'The janitor opened a door.'
b. Cereyan bir kapı(-**yı**) aç-tı. 77% DOM
draught a door-ACC open-PST
'The draught opened a door.'

Comparing these examples to the above-mentioned ones in (244)–(246), the *scissors* do not possess inherent motion or dynamicity in themselves. Moreover, the 'sun' and the 'heat' are also natural forces, but somehow not as "visibly" dynamic as a storm or a draught. Perhaps, with inanimate subjects, a directed motion is a more prominent indicator of dynamicity than a non-directed motion or energy. Another verb which expresses directed motion on behalf of the subject, and which has been mentioned already in the theoretical section, is the verb *bring*. For *bring,* I argued that it is similar to *find* in that the direct object denotes the final state of an action the subject pursues. By default, it is the subject and not the direct object referent that is the UNDERGOER. Again, the motion of the object which is the GROUND OF RESULT (see the structure in (235)) can be mapped on the motion of the subject. The results for *bring* are in favor of this analysis. With both a human subject and an inanimate subject, the proportion of DOM on the direct object is very low. In this respect, *bring* is the only outlier within the group of inanimate direct objects and is also the only one tested for which this pattern was expected.

(249) a. Çiftçi bir dal(**-ı**) getir-di. 7% DOM
gardener a branch-ACC bring-PST
'The gardener brought a branch.'
b. Akarsu bir dal(**-ı**) getir-di. 13% DOM
river a branch-ACC bring-PST
'The river brought a branch.'

Interestingly, 'bring' is also the only verb for which the strong preference for dropping accusative marking holds even for human direct objects, irrespective of subject condition. Again, this strongly favors the view that direct objects of *bring* are not UNDERGOERS, but grounds of result. The small proportion of DOM which is nevertheless induced can be attributed to referential factors such as a specific reading.

(250) a. Antrenör bir oyuncu(**-yu**) getir-di. 15% DOM
trainer a player-ACC bring-PST
'The trainer brought a (football) player.'
b. Transfer anlaşması bir oyuncu(**-yu**) getir-di. 33% DOM
transfer agreement a player-ACC bring-PST
'The transfer agreement brought a (football) player.'

The rest of the individual items with affected human direct objects behave rather uniformly in that they all show a strong preference for DOM irrespective of subject condition. Amongst the items that invoke the highest shares are object experiencer psych verbs like *eğlendirmek* 'amuse' and *korkutmak* 'frighten' (251)–(252).

(251) a. Palyaço bir çocuğ(**-u**) eğlen-dir-di. 98% DOM
clown a child-ACC amuse-CAUS-PST
'The clown amused a child.'
b. Oyun bir çocuğ(**-u**) eğlen-dir-di. 95% DOM
game a child-ACC amuse-CAUS-PST
'The game amused a child.'

(252) a. Çeteci bir polis(**-i**) kork-ut-tu. 96% DOM
gangster a policeman-ACC fear-CAUS-PST
'The gangster frightened a policeman.'
b. Cinayet bir polis(**-i**) kork-ut-tu. 100% DOM
homicide a policeman-ACC fear-CAUS-PST
'The homicide frightened a policeman.'

In comparison, the verb *öldürmek* 'kill', which I suspected would allow optionality in accusative marking with human subjects, shows a slightly weaker but still quite strong preference for accusative marking. Furthermore, it does not show an increase in accusative marking with inanimate initiators (253).

(253) a. Cellat bir adam(**-ı**) öl-dür-dü. 82% DOM
executioner a man-ACC die-CAUS-PST
'The executioner killed a man.'

b. Çatışma bir adam(**-ı**) öl-dür-dü. 84% DOM
conflict a man-ACC die-CAUS-PST
'The conflict killed a man.'

To sum up, the goal of this section was to empirically test how a shift in agentivity on the part of the subject influences the morphosyntactic realization of the affected direct object by means of differential case marking. Two experiments investigated the distribution of DOM (±ACC) on inanimate and animate affected direct objects depending on subject animacy. Animacy was used as a cue to the subject's agentivity, in particular the control it expresses over the change of state event. The findings illustrate that a shift in agentivity does have an impact on accusative marking patterns of inanimate affected objects: while human, controlling agents allow for a certain degree of optionality of accusative marking on inanimate direct objects, inanimate initiators favor DOM. They also show that different types of inanimate agents evoke different patterns on inanimate direct objects. Natural forces possess an inherent directed motion pattern similar to that of animate subjects. I have suggested that this is due to the fact that they can be interpreted as controllers of events. Furthermore, the fact that there are systematic differences between different kinds of inanimate subjects illustrates that a functional account which requires DOM on the direct object if the subject and the object exhibit the same level of animacy is not sufficient. The observations favor a structural account where agents that control the dynamic change of state event can evoke modificational interpretations of the direct object. In contrast, with agents that do not express control over the event, the direct object itself fills the UNDERGOER position. In such a view, optional case marking is the result of a competition between two participants that are expressed as having a dynamic involvement in the change of state subevent. This competition is only possible between controlling subjects and direct objects if a number of conditions are met. The object-verb combination in the event has to express a rather close relationship of the object to the verb. This is the case with rather stereotypical or frequently used object-verb combinations. It is less common with verbs that lexically specify a result state for the inanimate direct object. It is also much less common with human direct objects in dynamic events. The results

show that the subject condition does not significantly affect the accusative marking pattern with human direct objects. They show a high preference for DOM with both more and less agentive subjects. With verbs that specify a change for the object participant, human subjects cannot compete with human direct objects to be the holders of the change subevent.

7 General conclusions

In this monograph, I have examined the semantic notion of affectedness and its interface with the morphosyntactic encoding of participants in transitive predicates. My aim has been to provide a better understanding of this notion by bringing together crucial insights from different theoretical perspectives and by contributing original data on aspects of morphosyntactic realization which fall short in the literature on affectedness, either because the observations are based on few languages which instantiate such phenomena or because they lack systematic theoretical and empirical underpinning. One of these desiderata relates to the role of affectedness in direct object realization, the other to the question of how properties of the agent participant interact with entailments about change in the event and the morphosyntactic realization of the affected participant. In the following, I summarize the most important observations made throughout this work.

To begin with, I introduced the notion of affectedness and its decomposition in the lexical semantic and syntactic literature. We saw that the concepts of causation, change, resultativity, and PATH are core ingredients that any theory representing change has to make reference to (Chapter 2). The emphasis was on a scalar semantic definition of affectedness as a matter of degree, and the structural correlates of affected entities and PATHS. I presented the relationship between affectedness and the grammatical role of the direct object in two-place predicates, and raised the question of whether the same properties that favor direct object selection also shape the different morphological marking patterns of direct objects in languages which differentiate such marking systems (Chapter 3).

This question was explored in depth from a theoretical (Chapter 4) and an empirical perspective (Chapter 5), with Turkish serving as the language of investigation. The influence of affectedness on direct object realization was instantiated by the presence or absence of morphological accusative case (i.e., the phenomenon of Differential Object Marking) with indefinite objects. To exclude confusion, first, the nominal-semantic and pragmatic factors related to DOM were discussed. I then concentrated on change-related properties of direct objects by differentiating several groups of dynamic verbs for the thematic properties of their direct objects functioning as UNDERGOERS of change, holders of a result state, and PATHS to change.

The inspection showed that affectedness encoded by the verb for a direct object systematically evokes accusative case marking. This is stable across different dimensions of change, including change of state on an observable physical level, change of state in the psychological domain, change of existence, change of location, and different animacy levels of direct object referents. Since affectedness is related to lexical aspect, a related question that arose concerned the role of telicity. I proposed

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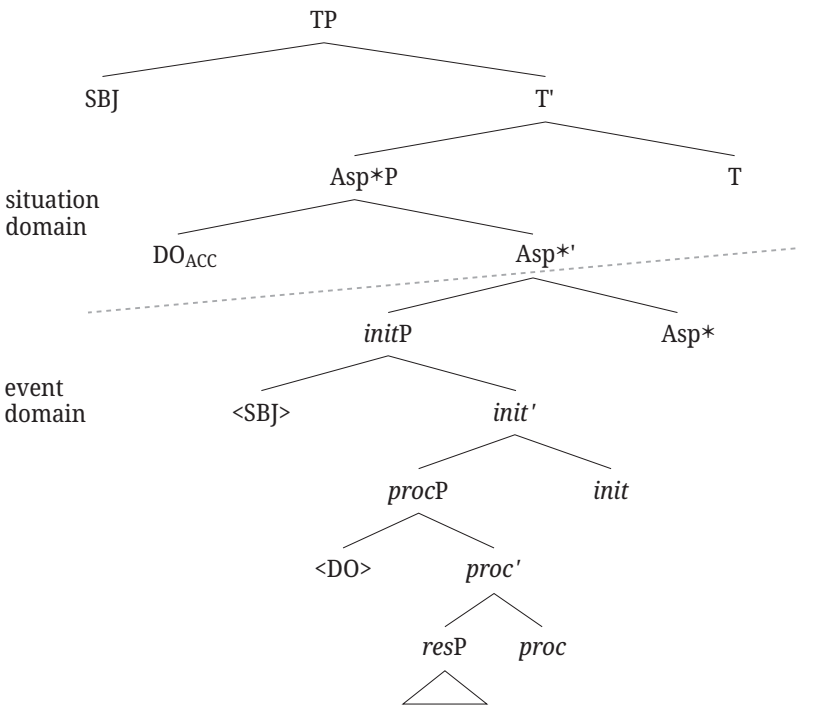
that telicity is not an independent factor involved in direct object realization but one that is dependent on affectedness. It only increases accusative marking when it arises from the change to a specific result state that the direct object undergoes. If it is not the direct object but another participant for which the result state holds, telicity does not favor accusative marking. This contrast is exemplified by comparing telic predicates like *bir bina*(-yı) yıkmak* 'destroy a building', which encode a result state for the direct object and strongly favor accusative marking, and predicates like *bir harita(-yı) bulmak* 'find a map', which encode a bounded process of searching for the subject and do not increase accusative marking.

With respect to the notion of PATH, I argued that the property of being a PATH does not evoke a marked version of the direct object. Verbs that take PATH objects are typical incremental theme verbs, including creation verbs, consumption verbs, and motion verbs. By default, PATH objects remain unmarked for case in terms of event semantics. Thus, while both affectedness and the notion of PATH figure in the mapping of a participant to the grammatical role of a direct object, crucially, they differ with respect to the morphological realization patterns of the direct objects they induce.

From a theoretical point of view, I provided a structural representation of the observations in the semantically motivated lexical syntactic structure developed by Ramchand (2008). Her extended verbal projection has been proven to account for various argument structure alternations linked to event structure across languages. However, it had previously not been related to case marking, even though substantial connections had been drawn in the literature between event structure and accusative case. In this respect, my proposal can be seen as a first approximation of an understanding of differential accusative case marking of direct objects which is motivated by event semantics (cf. Ramchand 2008: 203). Specifically, I associated a great number of verbs with different decompositions related to affectedness, telicity, and the notion of PATH. To model the distinct case marking patterns observed with different group of predicates, I relied on a structural contrast between *predicational* direct objects, which are those occupying specifier positions, and *modificational* direct objects, which are those occupying complement positions. The predicational vs. modificational contrast structurally reflects a semantic distinction between different kinds of arguments by their position. Predicational positions are reserved for THEMES of a subevent (i.e., "holders" of a property predication expressed in an event topology). These positions require arguments which are referentially individuated. In contrast, modificational positions are reserved for RHEMES of a subevent; they serve as part of the description of the property predicated over the THEME, and do not require individuated arguments. In this system, the difference between affected and non-affected direct objects is that the former are predicationally involved in the event; they occupy the UNDERGOER position,

which is a specifier position, whereas non-affected direct objects are modificationally involved in the event and fill the complement position. This includes direct objects of non-dynamic verbs, as well as those of dynamic verbs which function as PATH, or GROUNDS OF RESULT. The event semantic generalization that I formulated states that direct objects in predicational positions (i.e., those functioning as UNDERGOERS of change) receive accusative marking, while modificational direct objects remain unmarked. Affected direct objects receive accusative marking by moving out of the event domain of the clause to the situation domain. To escape existential closure, they move to Spec, Asp*P, where they get their accusative case checked. In this way, they are just above the Asp* head, which binds the event variable and embeds the event into a situation. This is illustrated in (254), repeated from Section 4.4.2. In contrast, modificational direct objects remain inside of the event domain and thereby remain unmarked. They can, however, leave the event domain of the clause for reasons independent of event semantics, such as referentiality or information structure, and thereby get accusative marking.

(254)



From an empirical perspective, the main claims brought forward with regard to the role of affectedness in determining the distribution of DOM were tested in

Chapter 5. I reported on a forced choice study and two associated pretests investigating accusative marking choices with affected and non-affected indefinite direct objects of different animacy levels in the context of telic and atelic predicates. The findings of the forced choice study provide original empirical evidence revealing that affectedness does shape the differential marking patterns of direct objects. Participants more often choose accusative marking on affected direct objects than on non-affected ones, and this does not interact with animacy. Interestingly, the results also confirm that telicity does enhance the likelihood of DOM in combination with affectedness, while, in the absence of affectedness being encoded for the direct object, it does not increase the likelihood of accusative marking.

In the subsequent part of the book (Chapter 6), I addressed the question of how properties of the agent interact with the grammatical realization of the affected direct object and entailments about change and culmination in the event. I explicated a cross-linguistic correlation where a decrease in agentivity on the part of the A participant leads to a more prominent morphosyntax and semantics of the affected O participant. In a number of unrelated languages, controlling A participants make available a denial of the change of state denoted for the O, whereas non-controlling A participants as instigators, such as inanimate causers, give rise to completive interpretations of the change of state and prohibit a denial of the change predicated of the O. Regarding this cross-linguistic phenomenon, I contributed new data which confirm such an interplay between agentivity and affectedness from Turkish DOM. In certain, restricted contexts, which require controlling subjects and stereotypical object-verb combinations, DOM can be dropped on inanimate affected direct objects and the change of state can be felicitously denied. With non-controlling subjects, DOM is obligatory and the change of state in the affected direct object cannot be denied. This observation was supported by empirical material investigating DOM on affected animate and inanimate direct objects, in relation to the properties of the agent. I modelled this correlation as a competition for the UNDERGOER position. Specifically, I argued that controlling agents, by virtue of their dynamicity, either as experiencers of the change of state event or as entities which express dynamic motion themselves, can compete with affected O participants for the UNDERGOER position. Building on prior work in the literature, I argued that a decrease in agentivity shifts the emphasis of the event towards the affected O participant.

All in all, this work provides an original contribution to research on affectedness. It provides a first in-depth investigation of how change-related properties like undergoing a change, functioning as a path to change, and resultativity determine different morphological marking patterns on direct objects. The structural representation provided in Section 4.4.2 articulates a first link between the lexical syntax of affectedness, as proposed by Ramchand (2008), and differential accusa-

tive marking. Furthermore, it does not investigate affectedness in isolation, but in interaction with nominal semantic properties like referentiality and animacy. By bringing together various aspects of affectedness which are mostly discussed separately in the literature, this monograph presents a broad empirical and theoretical picture of this important notion at the morphosyntax-semantics interface.

Appendix 1

Object-verb combinations of the critical items which were tested in the main forced choice study and the related pretests from Chapter 5

Condition	Direct object		Verb
	[inanimate]$_1$	**[human]$_2$**	
$\alpha_{1/2}$: [+affected] [+telic]	*bir dolab(-ı)* 'a closet(-ACC)'	*bir çocuğ(-u)* 'a child(-ACC)'	*parçalamak* 'tear apart'
	bir makale(-yi) 'an article(-ACC)'	*bir genc(-i)* 'a young man(-ACC)'	*değiştirmek* 'change'
	bir resm(-i) 'a painting(-ACC)'	*bir kız(-ı)* 'a girl(-ACC)'	*mahvetmek* 'ruin'
	bir kumanda(-yı) 'a remote(-ACC)'	*bir konuşmacı(-yı)* 'a speaker(-ACC)'	*bozmak* 'break/disrupt'
	bir bina(-yı) 'a building(-ACC)'	*bir lider(-i)* 'a leader(-ACC)'	*yıkmak* 'topple'
	bir romörk(-ü) 'a trailer(-ACC)'	*bir diktatör(-ü)* 'a dictator(-ACC)'	*devirmek* 'overthrow'
	bir masa(-yı) 'a table(-ACC)'	*bir cadı(-yı)* 'a witch(-ACC)'	*yakmak* 'burn'
	bir rapor(-u) 'a report(-ACC)'	*bir aptal(-ı)* 'an idiot(-ACC)'	*düzeltmek* 'fix/correct'
$\beta_{1/2}$: [+affected] [–telic]	*bir arac(-ı)* 'a vehicle(-ACC)'	*bir adam(-ı)* 'a man(-ACC)'	*itmek* 'push'
	bir sepet(-i) 'a basket(-ACC)'	*bir hasta(-yı)* 'a patient(-ACC)'	*taşımak* 'carry'
	bir direğ(-i) 'a mast(-ACC)'	*bir amatör(-ü)* 'an amateur(-ACC)'	*oynatmak* 'wiggle/make play'
	bir perde(-yi) 'a curtain(-ACC)'	*bir asker(-i)* 'a soldier(-ACC)'	*sürüklemek* 'drag'
	bir duvar(-ı) 'a wall(-ACC)'	*bir yönetmen(-i)* 'a director(-ACC)'	*titretmek* 'make tremble'
	bir çorba(-yı) 'a soup(-ACC)'	*bir garib(-i)* 'a pauper(-ACC)'	*ısındırmak* 'warm'
	bir bahçe(-yi) 'a garden(-ACC)'	*bir kız(-ı)* 'a girl(-ACC)'	*büyütmek* 'cause to grow/raise'
	bir treyler(-i) 'a trailer(-ACC)'	*bir müşteri(-yi)* 'a customer(-ACC)'	*sürmek* 'drive'

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(Continued)

Condition	Direct object		Verb
	[inanimate]$_1$	**[human]$_2$**	
$\gamma_{1/2}$: [–affected] [+telic]	*bir harita(-yı)* 'a map(-ACC)'	*bir sekreter(-i)* 'a secretary(-ACC)'	*bulmak* 'find'
	bir tren(-i) 'a train(-ACC)'	*bir misafir(-i)* 'a guest(-ACC)'	*karşılamak* 'welcome'
	bir yüzüğ(-ü) 'a ring(-ACC)'	*bir öğrenci(-yi)* 'a student(-ACC)'	*seçmek* 'choose'
	bir heykel(-i) 'a statue(-ACC)'	*bir sanatç(-yı)ı* 'an artist(-ACC)'	*ellemek* 'touch'
	bir sokağ(-ı) 'a street(-ACC)'	*bir yazar(-ı)* 'a writer(-ACC)'	*tanımak* 'recognize'
	bir oyma(-yı) 'a carving(-ACC)'	*bir modacı(-yı)* 'a fashionist(-ACC)'	*farketmek* 'notice'
	bir kalem(-i) 'a pen(-ACC)'	*bir araştırmacı(-yı)* 'a researcher(-ACC)'	*kazanmak* 'win'
	bir mücevher(-i) 'a jewelry(-ACC)'	*bir sanatçı(-yı)* 'an artist(-ACC)'	*keşfetmek* 'discover'
$\delta_{1/2}$: [–affected] [–telic]	*bir paket(-i)* 'a parcel(-ACC)'	*bir şoför(-ü)* 'a driver(-ACC)'	*beklemek* 'wait for'
	bir piyano(-yu) 'a piano(-ACC)'	*bir ufaklığ(-ı)* 'a kid(-ACC)'	*duymak* 'hear'
	bir vaka(-yı) 'an incident(-ACC)'	*bir hırsız(-ı)* 'a thief(-ACC)'	*yalanlamak* 'deny/controvert'
	bir gül(-ü) 'a rose(-ACC)'	*bir bebeğ(-i)* 'a baby(-ACC)'	*okşamak* 'caress'
	bir galeri(-yi) 'a gallery(-ACC)'	*bir çocuğ(-u)* 'a child(-ACC)'	*sevmek* 'love'
	bir şarkı(-yı) 'a song(-ACC)'	*bir şair(-i)* 'a poet(-ACC)'	*düşünmek* 'think of'
	bir park(-ı) 'a park(-ACC)'	*bir bakıcı(-yı)* 'a caretaker(-ACC)'	*beğenmek* 'like'
	bir pano(-yu) 'a panel(-ACC)'	*bir kemancı(-yı)* 'a violinist(-ACC)'	*görmek* 'see'

Appendix 2

Object-verb combinations across subject conditions of the critical items which were tested in the "**experiment inanimates**" as described in Section 6.4

Subject condition		**Direct object + Verb**
[human agent]	**[inanimate causes]**	
aşcı 'the cook'	*güneş* 'the sun'	*bir çorba(-yı) ısıtmak* 'warm a soup(-ACC)'
çocuk 'the child'	*pil* 'the battery'	*bir kumanda(-yı) bozmak* 'break a remote control(-ACC)'
komutan 'the general'	*fırtına* 'the storm'	*bir gemi(-yi) batırmak* 'sink a ship(-ACC)'
misafir 'the guest'	*sarsıntı* 'the quake'	*bir bardağ(-ı) kırmak* 'break a glass(-ACC)'
odacı 'the janitor'	*cereyan* 'the draught'	*bir kapı(-yı) açmak* 'open a door(-ACC)'
temizlikçi 'the housekeeper'	*ısı* 'the heat'	*bir havlu(-yu) kurutmak* 'dry a towel(-ACC)'
[human agent]	**[inanimate instruments]**	**Direct object + Verb**
çiftçi 'the farmer'	*akarsu* 'the river'	*bir dal(-ı) getirmek* 'bring a branch(-ACC)'
yarışmacı 'the competitor'	*iğne* 'the needle'	*bir balon(-u) patlatmak* 'burst a balloon(-ACC)'
öğretmen 'the teacher'	*makas* 'the scissors'	*bir karton(-u) kesmek* 'cut a carton(-ACC)'
şair 'the poet'	*ateş* 'the fire'	*bir mektub(-u) yakmak* 'burn a letter(-ACC)'
fırıncı 'the baker'	*bıçak* 'the knife'	*bir ekmeğ(-i) yarmak* 'cut (in half) a bread(-ACC)'
tatlıcı 'the confectioner'	*ocak* 'the stove'	*bir şurub(-u) kaynatmak* 'boil a syrup(-ACC)'

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Object-verb combinations across subject conditions of the critical items which were tested in the "**experiment animates**" as described in Section 6.4

Subject condition		**Direct object + Verb**
[human agent]	**[inanimate causes]**	
cellat 'the executioner'	*çatışma* 'the conflict'	*bir adam(-ı) öldürmek* 'kill a man(-ACC)'
antrenör 'the trainer'	*transfer anlaşması* 'the transfer agreement'	*bir oyuncu(-yu) getirmek* 'bring a (football) player(-ACC)'
hemşire 'the nurse'	*gürültü* 'the noise'	*bir bebeğ(-i) uyandırmak* 'wake a baby(-ACC)'
palyaço 'the clown'	*oyun* 'the game'	*bir çocuğ(-u) eğlendirmek* 'amuse a child(-ACC)'
çeteci 'the gangster'	*cinayet* 'the homicide'	*bir polis(-i) korkutmak* 'frighten a policeman(-ACC)'
meclis başkanı 'the parliamentary speaker'	*güvensizlik oyu* 'the vote of no confidence'	*bir bakan(-ı) düşürmek* 'defrock a minister(-ACC)'
[human agent]	**[inanimate instruments]**	**Direct object + Verb**
asker 'the soldier'	*kılıç* 'the sword'	*bir düşman(-ı) yaralmak* 'injure an enemy(-ACC)'
vezir 'the official'	*ilaç* 'the medicine'	*bir şeyh(-i) zehirlmek* 'poison a sheik(-ACC)'
doktor 'the doctor'	*tedavi* 'the treatment'	*bir hasta(-yı) iyileştirmek* 'cure a patient(-ACC)'
müdür 'the director'	*ihbar* 'the notification'	*bir bekçi(-yi) uyarmak* 'warn a guardian(-ACC)'
fabrikatör 'the factory owner'	*öğün* 'the meal'	*bir fakir(-i) doyurmak* 'feed a pauper(-ACC)'
kral 'the king'	*hediye* 'the present'	*bir yetim(-i) sevindirmek* 'make happy an orphan(-ACC)'

References

Abusch, Dorit. 1994. The scope of indefinites. *Natural Language Semantics* 2(2). 83–135.

Ackerman, Farrell & John C. Moore. 2001. *Proto-properties and grammatical encoding: A correspondence theory of argument selection*. Stanford: CSLI.

Aissen, Judith. 2003. Differential object marking: Iconicity vs. economy. *Natural Language and Linguistic Theory* 21(3). 435–483.

Alexiadou, Artemis. 2016. DP internal (clitic) doubling. In Susann Fischer & Mario Navarro (eds.), *Proceedings of the VII Nereus International Workshop: "Clitic Doubling and other issues of the syntax/semantics interface in Romance DPs"*., 1–10. (Arbeitspapier Nr. 128). Konstanz: Fachbereich Sprachwissenschaft der Universität Konstanz.

Arad, Maya. 1998. *VP-structure and the syntax-lexicon interface*. London: University College London (PhD Thesis).

Arslan-Kechriotis, Ceyda. 2009. *Determiner phrase and case in Turkish*. Saarbrücken: VDM Verlag Dr. Müller.

Aydemir, Yasemin. 2004. Are Turkish preverbal bare nouns syntactic arguments? *Linguistic Inquiry* 35(3). 465–474.

Baker, Mark C. 1997. Conditions on external possession in Mohawk: Incorporation, argument structure, and aspect. Paper presented at the Symposium on External Possesion, University of Oregon, Eugene.

Baker, Mark C. & Nadya Vinokurova. 2010. Two modalities of case assignment: case in Sakha. *Natural Language and Linguistic Theory* 28. 593–642.

Bárány, András & Laura Kalin. 2020. Introduction. In András Bárány & Laura Kalin (eds.), *Case, agreement, and their interactions: New perspectives on differential argument marking*, 1–26. Berlin: De Gruyter. https://doi.org/10.1515/9783110666137-001.

Barraza Carbajal, Georgina. 2008. Marcacíon preposicional de objeto directo inanimado. In Arco Libros (ed.), *Actas del VII Congreso Internacional de Historia de la Lengua Espanola: Mérida (Yucatán)*, 4–8 September 2006, 341–351. Madrid.

Basu, Debrachana & Ronnie Wilbur. 2010. Complex predicates in Bangla: An event-based analysis. *Rice Working Papers in Linguistics* 2. 1–19.

Bates, Douglas, Martin Mächler, Ben Bolker & Steven Walker. 2015. Fitting linear mixed-effects models using lme4. *Journal of Statistical Software* 67(1). 1–48.

Beavers, John. 2006. *Argument/oblique alternations and the structure of lexical meaning*. Stanford: Stanford University (PhD Thesis).

Beavers, John. 2008. Scalar complexity and the structure of events. In Johannes Dölling, Tatjana Heyde-Zybatow & Martin Schäfer (eds.), *Event structures in linguistic form and interpretation*, 245–263. Berlin/New York: De Gruyter.

Beavers, John. 2010. The structure of lexical meaning: Why semantics really matters. *Language* 86(4). 821–864. https://doi.org/10.1353/lan.2010.0040.

Beavers, John. 2011a. On affectedness. *Natural Language and Linguistic Theory* 29. 335–370.

Beavers, John. 2011b. An aspectual analysis of ditransitive verbs of caused possession in English. *Journal of Semantics* 28. 1–54. https://doi.org/10.1093/jos/ffq014.

Beavers, John. 2013. Aspectual classes and scales of change. *Linguistics* 51. 681–706. https://doi.org/10.1515/ling-2013-002.

Blume, Kerstin. 1998. A contrastive analysis of interaction verbs with dative complements. *Linguistics* 36(2). 253–280.

https://doi.org/10.1515/9783111311272-010

Borer, Hagit. 2005. *Structuring sense. Volume II: The normal course of events*. Oxford: Oxford University Press.

Bossong, Georg. 1985. *Empirische Universalienforschung: Differentielle Objektmarkierung in den neuiranischen Sprachen*. Tübingen: Narr.

Bossong, Georg. 1991. Differential object marking in Romance and beyond. In Douglas A. Kibbee & Dieter Wanner (eds.), *New analyses in Romance linguistic*, 143–170. Amsterdam: Benjamins.

Bross, Fabian. 2020. Object marking in German Sign Language (Deutsche Gebärdensprache): Differential object marking and object shift in the visual modality. *Glossa: a journal of general linguistics* 5(1). 1–37. https://doi.org/10.5334/gjgl.992.

Brugè, Laura & Gerhard Brugger. 1996. On the accusative *a* in Spanish. *Probus* 8. 1–51.

Burzio, Luigi. 1986. *Italian syntax: A government-binding approach*. Dordrecht: Reidel.

Çetinoğlu, Özlem & Miriam Butt. 2008. Turkish non-canonical objects. In Miriam Butt & Tracy Holloway King (eds.), *Proceedings of the LFG08 Conference*, 214–234. Stanford: CSLI Publications.

Chomsky, Noam. 1981. *Lectures on government and binding. The Pisa Lectures.* (Studies in Generative Grammar). Berlin/New York: Mouton de Gruyter.

Chomsky, Noam. 2000. Minimalist inquiries: The framework. In Roger Martin, David Michaels & Juan Uriagereka (eds.), *Step by step*, 89–155. Cambridge: MIT Press.

Chomsky, Noam. 2001. Derivation by phase. In Michael Kenstowicz (ed.), *Ken Hale: A life in language*, 1–52. Cambridge: MIT Press.

Comrie, Bernard. 1975. Definite and animate direct objects: A natural class. *Linguistica Silesiana* 3. 13–21.

Comrie, Bernard. 1976. *Aspect. An introduction to the study of verbal aspect and related problems*. Cambridge: Cambridge University Press.

Comrie, Bernard. 1985. Causative verb formation and other verb-deriving morphology. In Timothy Shopen (ed.), *Language typology and syntactic description*: *Grammatical categories and the lexicon*, 309–348. Cambridge: Cambridge University Press.

Comrie, Bernard. 1989. *Language universals and linguistic typology: Syntax and morphology*. Chicago: University of Chicago Press.

Copley, Bridget & Phillip Wolff. 2014. Non-culmination and agency. Exploring the hypothesis space. Talk given to Chronos 11, Pisa.

Copley, Bridget & Heidi Harley. 2015. A force-theoretic framework for event structure. *Linguistic and Philos* 38. 103–158. https://doi.org/10.1007/s10988-015-9168-x.

Copley, Bridget & Heidi Harley. 2020. *What would it take to tame the verbal Hydra?* Unpublished Ms., CNRS Paris 8/ University of Arizona.

Coppock, Elizabeth & David Beaver. 2015. Definiteness and determinacy. *Linguistics and Philosophy* 38. 377–435.

Croft, William. 1988. Agreement vs. case marking and direct objects. In Michael Barlow & Charles A. Ferguson (eds.), *Agreement in natural language. Approaches, theories, descriptions*, 159–286. Stanford: CSLI Publications.

Cruse, Alan D. 1973. Thoughts on agentivity. *Journal of Linguistics* 9(1). 11–23.

Dalrymple, Mary & Irina Nikolaeva. 2011. *Objects and information structure*. Cambridge: Cambridge University Press.

Davidson, Donald. 1967. The logical form of action sentences. In Nicholas Rescher (ed.), *The logic of decision and action*, 81–95. Pittsburgh: University of Pittsburgh Press.

Davis, Anthony. 2001. *Linking by types in the hierarchical lexicon*. Stanford: CSLI Publications.

de Hoop, Helen. 1992. *Case configuration and noun phrase interpretation*. Groningen: Grodil.

de Hoop, Helen & Andrej Malchukov. 2007. On fluid differential case marking: A bidirectional OT approach. *Lingua* 117(9). 1636–1656.
de Hoop, Helen & Andrej Malchukov. 2008. Case-marking strategies. *Linguistic Inquiry* 39(4). 565–587.
de Hoop, Helen. 2015. Against affectedness. In Sander Lestrade, Peter de Swart & Lotte Hogeweg (eds.), *Addenda Artikelen voor Ad Foolen*, 169–176. Nijmegen: Radboud Universiteit Nijmegen.
de Swart, Peter. 2007. *Cross-linguistic variation in differential subject marking*. Dordrecht: Springer.
Dede, Müşerref. 1981. Grammatical relations and surface cases in Turkish. *Proceedings of the Berkeley Linguistic Society* 7, 40–49.
Dede, Müşerref. 1986. Definiteness and referentiality in Turkish verbal sentences. In Dan I. Slobin & Karl Zimmer (eds.), *Studies in Turkish linguistics*, 147–163. Amsterdam: John Benjamins.
DeLancey, Scott. 1981. An interpretation of split ergativity and related patterns. *Language* 57(3). 626–657.
Demirdache, Hamida & Fabienne Martin. 2015. Agent control over non culminating events. In Elisa Barrajón López, José Luis Cifuentes Honrubia & Susana Rodríguez Rosique (eds.), *Verb classes and aspect*, 185–217. Amsterdam: John Benjamins. https://doi.org/10.1075/ivitra.9.09dem.
Diesing, Molly. 1992. *Indefinites*. Cambridge: MIT Press.
Dixon, Robert M. W. 1979. Ergativity. *Language* 55(1). 59–138.
Dixon, Robert M. W. 1994. *Ergativity*. Cambridge: Cambridge University Press.
Dowty, David R. 1979. *Word meaning and Montague grammar. The semantics of verbs and times in generative semantics and in Montague's PTQ*. Dordrecht: Reidel.
Dowty, David R. 1991. Thematic proto-roles and argument selection. *Language* 67. 547–619. https://doi.org/10.1353/lan.1991.0021.
Eckardt, Regine. 2003. Manner adverbs and information structure: Evidence from the adverbial modification of verbs of creation. In Ewald Lang, Claudia Maienborn & Cathrine Fabricius-Hansen (eds.), *Modifying adjuncts*, 261–305. Berlin: Mouton de Gruyter. https://dx.doi.org/10.1515/9783110894646.261.
Enç, Mürvet. 1991. The semantics of specificity. *Linguistic Inquiry* 22. 1–25.
Engsheden, Ake. 2018. Verbal semantics and differential object marking in Lycopolitan Coptic. In Ilja A. Seržant & Alena Witzlack-Makarevich (eds.), *Diachrony of differential argument marking*, 153–182. Berlin: Language Science Press. https://doi.org/10.5281/zenodo.1228253.
Erdal, Marcel. 1981. Turkish participles and the absence of reference. In Hans Jacob Polotsky & Dwight W. Young (eds.), *Studies presented to Hans Jacob Polotsky*, 21–49. East Gloucester: Pirtle and Polson.
Erguvanlı, Eser Emine. 1984. *The function of word order in Turkish grammar*. Berkeley: University of California Press.
Erguvanlı-Taylan, Eser Emine. 1986. Pronominal versus zero representation of anaphora in Turkish. In Dan I. Slobin & Karl Zimmer (eds.), *Studies in Turkish linguistics*, 209–231. Amsterdam: John Benjamins.
Farkas, Donka. 1994. Specificity and scope. In Lea Nash & Georges Tsoulas (eds.), *Actes du Premier Colloque Langues & Grammaire*, vol. 1, 119–137. Paris: Université Paris-8. http://citeseerx.ist.psu.edu/viewdoc/summary?doi=10.1.1.22.9999.
Farkas, Donka. 2006. Specificity. In Keith Brown (ed.), *Encyclopedia of Language and Linguistics*, 633–635. Amsterdam: Elsevier.
Fauconnier, Stefanie. 2012. *Constructional effects of involuntary and inanimate agents: A cross-linguistic study*. Leuven: Katholieke Universiteit Leuven. (PhD Thesis).
Fauconnier, Stefanie. 2013. Completives as markers of non-volitionality. *Folia Linguistica* 47(1). 35–53. https://doi.org/10.1515/flin.2013.003.

Filip, Hana. 1997. Integrating telicity, aspect and NP semantics: The role of thematic structure. In Jindrich Toman (ed.), *Formal approaches to Slavic linguistics (FASL) III. The College Park Meeting 1994*, 61–96. Michigan: Ann Arbor Michigan Slavic Publications.

Fillmore, Charles J. 1968. The case for case. In Emmon Bach & Robert T. Harms (eds.), *Universals in language*, 1–88. New York: Holt, Rinehart and Winston.

Fillmore, Charles J. 1970. The grammar of hitting and breaking. In Roderick A. Jacobs & Peter S. Rosenbaum (eds.), *Reading in English transformational grammar*, 123–139. Waltham: Ginn.

Fillmore, Charles J. 1977. The case for case reopened. *Syntax and Semantics* 8. 59–81.

Fleischhauer, Jens. 2016. *Degree gradation of verbs*. Düsseldorf: Heinrich-Heine-Universität Düsseldorf (PhD Thesis).

Fodor, Janet. 1970. *The linguistic description of opaque contexts*. Cambridge: Massachusetts Institute of Technology (PhD Thesis).

Fodor, Janet & Ivan Sag. 1982. Referential and quantificational indefinites. *Linguistics and Philosophy* 5. 355–398.

García García, Marco. 2007. Differential object marking with inanimate objects. In Georg A. Kaiser & Manuel Leonetti (eds.), *Proceedings of the Workshop "Definiteness, Specificity and Animacy in Ibero-Romance Languages"*, 63–84. (Arbeitspapier Nr. 122). Konstanz: Fachbereich Sprachwissenschaft, Universität Konstanz.

García García, Marco. 2014. *Differentielle Objektmarkierung bei unbelebten Objekten im Spanischen*. Berlin: De Gruyter.

García García, Marco, Beatrice Primus & Nikolaus P. Himmelmann. 2018. Shifting from animacy to agentivity. *Theoretical Linguistics* 44 (1–2). 25–39. https://doi.org/10.1515/tl-2018-0002.

García García, Marco. 2018. Nominal and verbal parameters in the diachrony of differential object marking in Spanish. In Ilja A. Seržant & Alena Witzlack-Makarevich (eds.), *Diachrony of differential argument marking*, 209–242. Berlin: Language Science Press.

Gawron, Jean Mark. 2006. Paths and scalar change. Unpublished Ms., San Diego State University.

Ghomeshi, Jila. 1991. The semantics of the Bengali verb fɛla. *Canadian Journal of Linguistics* 36(4). 337–361. https://doi.org/10.1017/S0008413100014493.

Goldschmidt, Anja, Thomas Gamerschlag, Wiebke Petersen, Ekaterina Gabrovska & Wilhelm Geuder. 2017. Towards verb modification in frames. A case study on German Schlagen (to hit). In Helle Hvid Hansen, Sarah E. Murray, Mehrnoosh Sadrzadeh & Henk Zeevat (eds.), *Proceedings of the 11th International Tbilisi Symposium on Language, Logic and Computation*, 18–36. Berlin: Springer.

Grimshaw, Jane. 1987. Unaccusatives: An overview. *North East Linguistics Society (NELS)* 17, 244–59.

Grimshaw, Jane. 1990. *Argument structure*. Cambridge: MIT Press.

Gruber, Jeffrey S. 1965. *Studies in lexical relations*. Cambridge: Massachusetts Institute of Technology (PhD Thesis).

Guntsetseg, Dolgor, Klaus von Heusinger, Udo Klein & Dildora Niyazmetova. 2008. *Differential object marking in Mongolian and Uzbek*. SFB 732 presentation. University of Stuttgart. 2008.

Hale, Ken & Samuel J. Keyser. 1987. A view from the middle. *Lexicon Project Working Papers* 10. 1–36.

Hale, Ken & Samuel J. Keyser. 1992. The syntactic character of thematic structure. In Iggy M. Roca (ed.), *Thematic structure. Its role in grammar*, 107–144. Berlin: de Gruyter Mouton. https://doi.org/10.1515/9783110872613.

Hale, Ken & Samuel J. Keyser. 1993. The basic elements of argument structure. In Heidi Harley (ed.), *Papers from the UPenn/MIT Roundtable on Argument Structure and Aspect*, 73–118. Cambridge: MIT Working Papers in Linguistics 35.

Haspelmath, Martin. 1993. More on the typology of inchoative/causative verb alternations. In Bernard Comrie & Maria Polinsky (eds.), *Causatives and transitivity*, 87–120. Amsterdam: John Benjamins.

Haspelmath, Martin. 1994. Passive participles across languages. In Barbara Fox & Paul J. Hopper (eds.), *Voice: Form and function*, 151–178. Amsterdam: John Benjamins.

Haspelmath, Martin. 2020. Role-reference associations and the explanation of argument coding splits. *Linguistics* 59(1). 1–52. https://doi.org/10.1515/ling-2020-0252.

Havers, Wilhelm. 1911. *Untersuchungen zur Kasussyntax der indogermanischen Sprachen*. Berlin, New York: De Gruyter. https://doi.org/10.1515/9783111384566.

Haviland, John. 1979. Guugu Yimidhirr. In Robert M. W. Dixon & Barry J. Blake (eds.), *Handbook of Australian languages*, vol. 1, 27–180. Amsterdam: John Benjamins. https://doi.org/10.1075/z.hal1.06hav.

Hay, Jennifer, Christopher Kennedy & Beth Levin. 1999. Scalar structure underlies telicity in "Degree Achievements". *Semantics and Linguistic Theory* IX. 127–144.

von Heusinger, Klaus. 2002. Specificity and definiteness in sentence and discourse structure. *Journal of Semantics* 19(3). 245–274. https://doi.org/10.1093/jos/19.3.245.

von Heusinger, Klaus & Georg A. Kaiser. 2005. The evolution of differentiated object marking in Spanish. In Klaus von Heusinger, Georg A. Kaiser & Elisabeth Stark (eds.), *Proceedings of the Workshop "Specificity and the Evolution/Emergence of Nominal Determination Systems in Romance"*, 33–69. (Arbeitspapier Nr. 119). Konstanz: Fachbereich Sprachwissenschaft, Universität Konstanz.

von Heusinger, Klaus & Jaklin Kornfilt. 2005. The case of the direct object in Turkish: Semantics, syntax and morphology. *Turkic Languages* 9. 3–44.

von Heusinger, Klaus & Georg A. Kaiser. 2007. Differential object marking and the lexical semantics of verbs in Spanish. In Georg A. Kaiser & Manuel Leonetti (eds.), *Proceedings of the Workshop "Definiteness, Specificity and Animacy in Ibero-Romance Languages"*, 85–110. (Arbeitspapier Nr. 122). Konstanz: Fachbereich Sprachwissenschaft, Universität Konstanz.

von Heusinger, Klaus. 2008. Verbal semantics and the diachronic development of DOM in Spanish. *Probus* 20(1). 1–34. https://doi.org/10.1515/PROBUS.2008.001.

von Heusinger, Klaus & Georg A. Kaiser. 2011. Mismatching the first person in Romance. In Natascha Pomino & Elisabeth Stark (eds.), *Proceedings of the V Nereus International Workshop "Mismatches in Romance"*, 95–111. (Arbeitspapier Nr. 125). Konstanz: Fachbereich Sprachwissenschaft, Universität Konstanz.

von Heusinger, Klaus. 2011. Specificity. In Klaus von Heusinger, Claudia Maienborn & Paul Portner (eds.), *Semantics. An international handbook of natural language meaning*, vol. 2, 1025–1058. Berlin: De Gruyter Mouton. https://doi.org/10.1515/9783110255072.1025.

von Heusinger, Klaus & Elif Bamyacı. 2017a. Specificity effects of Turkish Differential Object Marking. In Leyla Zidani-Eroğlu, Matthew Ciscel & Elena Koulidobrova (eds.), *Proceedings of the 12th Workshop on Altaic Formal Linguistics (WAFL12)*, 309–319. Cambridge, MA. http://mitwpl.mit.edu/catalog/mwpl83/.

von Heusinger, Klaus & Elif Bamyacı. 2017b. Specificity effects of Turkish differential object marking in monolingual and bilingual speakers. Paper presented at the "*Workshop on (In)definiteness and (Non)specificity: Meaning and usage*" Berlin, June, 2017.

von Heusinger, Klaus & Jaklin Kornfilt. 2017. Partitivity and case marking in Turkish and related languages. *Glossa: a journal of general linguistics* 2(1). 1–40. http://doi.org/10.5334/gjgl.112.

von Heusinger, Klaus. 2019. Indefinites and specificity. In Barbara Abbott & Jeanette Gundel (eds.), *Oxford handbook of reference*, 146–167. Oxford: Oxford University Press. 10.1093/oxfordhb/9780199687305.013.9

von Heusinger, Klaus. 2019. Specificity. In Paul Portner, Klaus von Heusinger & Claudia Maienborn (eds.), *Semantics – Noun phrases and verb phrases*, vol. 4, 70–111. Berlin: De Gruyter Mouton. https://doi.org/10.1515/9783110589443-003.

von Heusinger, Klaus, Jaklin Kornfilt & Semra Kizilkaya. 2019. Differential object marking, partitivity and specificity in Turkish. In Tanya Bondarenko, Justin Colley, Colin Davis & Mitya Privoznov (eds.), *Proceedings of the 14th Workshop on Altaic Formal Linguistics (WAFL 14)*, 145–156. Cambridge: MIT Working Papers in Linguistics 90.

Higginbotham, James. 1985. On semantics. *Linguistic Inquiry* 16. 547–93.

Himmelmann, Nikolaus P. & Beatrice Primus. 2015. Prominence beyond prosody – A first approximation. In Amedeo De Dominicis (ed.), *pS-prominenceS: Prominences in Linguistics. Proceedings of the International Conference*, 38–58. University of Tuscia, Viterbo: DISUCOM Press.

Hirakawa, Yahiro. 1994. Case checking and a double nominative construction in Japanese. Unpublished Ms., McGill University.

Hopper, Paul J. & Sandra A. Thompson. 1980. Transitivity in grammar and discourse. *Language* 56(2). 251–299.

Hopper, Paul J. 1985. Causes and affects. In William H. Eilfort, Paul D. Kroeber & Karen L. Peterson (eds.), *Papers from the Parasession on Causatives and Agentivity at the 21st Regional Meeting of the CLS*, 67–88. Chicago: Chicago Linguistic Society.

Ionin, Tania. 2006. *This* is definitely specific: Specificity and definiteness in article systems. *Natural Language Semantics* 14. 175–234. https://doi.org/10.1007/s11050-005-5255-9.

İşsever, Selçuk. 2003. Information structure in Turkish: The word order-prosody interface. *Lingua* 113(11). 1025–1053.

Jackendoff, Ray. 1990. *Semantic structures*. Cambridge: MIT Press.

Jackendoff, Ray. 1996. Semantics and cognition. In Shalom Lappin (ed.), *The handbook of contemporary semantic theory*, 539–559. Oxford: Blackwell.

Jacobs, Peter William. 2011. *Control in SKWXWU7MESH*. Vancouver: University of British Columbia (PhD Thesis).

Johanson, Lars. 1977. Bestimmtheit und Mitteilungsperspektive im türkischen Satz. *Zeitschrift der Morgenländischen Gesellschaft* 3(2). 1186–1203.

Kamali, Beste. 2015. Caseless direct objects in Turkish revisited. In André Meinunger (ed.), *Byproducts and side effects/ Nebenprodukte und Nebeneffekte*, 107–123. (ZAS Papers in Linguistics 58). Berlin: ZAS.

Kamp, Hans & Ágnes Bende-Farkas. 2006. Epistemic specificity from a communication-theoretical perspective. *Journal of Semantics* 36. 1–51.

Karimi, Simin. 1999. Specificity effect: Evidence from Persian. *Linguistic Review* 16. 125–141.

Karttunen, Lauri. 1968. *What do referential indices refer to?* Santa Monica: RAND Corporation.

Kearns, Kate. 2011. *Semantics.* Second edition. Basingstoke/Hampshire: Palgrave Macmillan.

Keenan, Edward L. 1984. Semantic correlates of the ergative/absolutive distinction. *Linguistics* 22. 197–223.

Kelepir, Meltem. 2001. *Topics in Turkish syntax: Clausal structure and scope*. Cambridge: Massachusetts Institute of Technology (PhD Thesis).

Kennedy, Christopher & Louise McNally. 2005. Scale structure, degree modification, and the semantics of the gradable predicates. *Language* 81(2). 345–381.

Kennedy, Christopher & Beth Levin. 2008. Measure of change: The adjectival core of degree achievements. In Louise McNally & Chris Kennedy (eds.), *Adjectives and adverbs: Syntax, semantics, and discourse*, 156–182. Oxford: Oxford University Press.

Kennelly, Sarah D. 1994. Caseless existential DPs in Turkish. *Paris-8 Working Papers in Linguistics 158*.

Kennelly, Sarah D. 1997. Nonspecificity = theticity: An instantiation of presentational focus. In Benjamin Bruening (ed.), *Proceedings of the Eighth Student Conference in Linguistics*, vol. 31, 237–252. Cambridge: MIT Press.

Keskin, Cem. 2009. *Subject agreement-dependency of accusative case in Turkish*. Utrecht: LOT.

Ketrez, Fatma Nihan. 2005. *Children's scope of indefinite objects*. Los Angeles: University of Southern California (PhD Thesis).

Kilgarriff, Adam, Vít Baisa, Jan Bušta, Miloš Jakubíček, Vojtěch Kovář, Jan Michelfeit, Pavel Rychlý & Vít Suchomel. 2014. The Sketch Engine: ten years on. *Lexicography* 1. 7–36. http://www.sketchengine.eu

Kiparsky, Paul. 1998. Partitive case and aspect. In Miriam Butt & Wilhelm Geuder (eds.), *The projection of arguments: Lexical and compositional factors*, 307–345. Stanford: CSLI Publications.

Kittilä, Seppo. 2002. *Transitivity: Towards a comprehensive typology*. Turku: University of Turku (PhD Thesis).

Kittilä, Seppo. 2006. Object-, animacy- and role-based strategies. A typology of object marking. *Studies in Language* 30(1). 1–32.

Kizilkaya, Semra, Zarina Levy Forsythe & Klaus von Heusinger. 2022. Affectedness and differential object marking in Turkish and Uzbek. *Linguistics* 60(6). 1907–1941.

Kornfilt, Jaklin. 1997. *Turkish. A descriptive grammar*. London: Routledge.

Kornfilt, Jaklin. 2003. Scrambling, subscrambling, and case in Turkish. In Simin Karimi (ed.), *Word order and scrambling*, 125–155. Malden: Blackwell.

Kornfilt, Jaklin. 2020. DOM and DSM in Turkish: Not only dependent case, but also dependent agree. In András Bárány & Laura Kalin (eds.), *Case, agreement, and their interactions. New perspectives on differential argument marking*, 127–174. Berlin: De Gruyter. https://doi.org/10.1515/9783110666137-006.

Kratochvíl, František. 2014. Differential argument realization in Abui. *Linguistics* 52(2). 543–602.

Kratzer, Angelika. 1996. Severing the external argument from its verb. In Johan Rooryck & Laurie Zaring (eds.), *Phrase structure and the lexicon*, 109–137. Dordrecht: Kluwer.

Kratzer, Angelika. 2000. Building statives. *Annual meeting of the Berkeley Linguistics Society* 26 (1). 385–399.

Kratzer, Angelika. 2004. Telicity and the meaning of objective case. In Jacqueline Guéron & Jacqueline Lecarme (eds.), *The syntax of time*, 389–423. Cambridge: MIT Press. https://doi.org/10.7551/mitpress/6598.003.0017.

Krause, Elif & Klaus von Heusinger. 2019. Gradient effects of animacy on differential object marking in Turkish. *Open Linguistics* 5(1). 171–190. https://doi.org/10.1515/opli-2019-0011.

Krifka, Manfred. 1989. Nominal reference, temporal constitution and quantification in event semantics. In Renate Bartsch, Johan van Benthem & Peter van Emde Boas (eds.), *Semantics and contextual expressions*, 75–115. Dordrecht: Foris Publications.

Krifka, Manfred. 1992. Thematic relations as links between nominal reference and temporal constitution. In Ivan A. Sag & Anna Szabolcsi (eds.), *Lexical matters*, 29–53. Stanford: Stanford University.

Krifka, Manfred. 1998. The origins of telicity. In Susan Rothstein (ed.), *Events and grammar*, 197–236. Dordrecht: Kluwer.

Kuno, Susumu. 1972. Functional sentence perspective: A case study from Japanese and English. *Linguistic Inquiry* 3(3). 269–320.

Kuno, Susumu & Kenichi Takami. 2004. *Functional constraints in grammar. On the unergative-unaccusative distinction*. Amsterdam: John Benjamins. https://doi.org/10.1075/cal.1.

Kural, Murat. 1996. *Verb incorporation and elementary predicates*. Los Angeles: University of California (PhD Thesis).

Kural, Murat. 1997. Ölçüm Öbekleri. *Dilbilim Araştırmaları Dergisi* 8. 52–57.
Laca, Brenda. 2006. El objeto directo. La marcación preposicional. In Concepción Company Company (ed.), *Sintaxis historica del español. Primera parte: La frase verbal*, vol. 1, 423–475. Mexico: Fondo de cultura económica – Universidad Nacional Autónoma de México.
Lakoff, George. 1965. *On the nature of syntactic irregularity*. Technical Report NSF-i6, The Computation Laboratory of Harvard University. Cambridge, MA.
Lakoff, Robin T. 1971. If's, and's and but's about conjunction. In Charles J. Fillmore & D. Terence Langendoen (eds.), *Studies in linguistic semantics*, 114–149. New York: Holt, Rinehart and Winston. https://doi.org/10.1017/S0008413100007222.
Landau, Idan. 2010. *The locative syntax of experiencers* (Linguistic Inquiry Monographs 53). Cambridge: MIT Press.
Larson, Richard K. 1988. On the double object construction. *Linguistic Inquiry* 19(3). 335–391.
Latrouite, Anja. 2011. *Voice and case in Tagalog: The coding of prominence and orientation*. Düsseldorf: Heinrich Heine Universität (PhD Thesis).
Lee-Schoenfeld, Vera. 2012. Case and affectedness in German inalienable possession constructions. *Linguistische Berichte* 232, 40–57.
Lehmann, Christian. 1991. Predicate classes and participation. In Hansjakob Seiler & Waldfried Premper (eds.), *Partizipation. Das sprachliche Erfassen von Sachverhalten*, 183–239. Tübingen: Gunter Narr Verlag.
Leonetti, Manuel. 2003. Specificity and object marking: The case of Spanish. In Klaus von Heusinger & Georg A. Kaiser (eds.), *Proceedings of the Workshop Semantic and Syntactic Aspects of Specificity in Romance Languages*, 67–101. (Arbeitspapier Nr. 113). Konstanz: Fachbereich Sprachwissenschaft, Universität Konstanz.
Leonetti, Manuel. 2004. Specificity and differential object marking in Spanish. *Catalan Journal of Linguistics* 3. 75–114.
Levin, Beth. 1993. *English verb classes and alternations. A preliminary investigation*. Chicago/London: University of Chicago Press.
Levin, Beth & Malka Rappaport Hovav. 1995. *Unaccusativity. At the syntax-lexical semantics interface*. Cambridge: MIT Press.
Levin, Beth & Malka Rappaport-Hovav. 2005. *Argument realization*. Cambridge: Cambridge University Press.
Levy-Forsythe, Zarina. 2018. *Object incorporation in Uzbek*. Be'er Scheva: Ben-Gurion University of the Negev (MA Thesis).
Lewis, Geoffrey. 1975. *Turkish Grammar*. Oxford: Oxford University Press.
Lohndal, Terje. 2014. *Phrase structure and argument structure: A case study of the syntax-semantics interface*. Oxford: Oxford University Press.
López, Luis. 2012. *Indefinite objects. Scrambling, choice functions, and differential marking*. Cambridge: MIT Press.
Lundquist, Björn & Gillian Ramchand. 2012. Contact, animacy, and affectedness in Germanic. In Peter Ackema, Rhona Alcorn, Caroline Heycock, Dany Jaspers, Jeroen van Craenenbroeck & Guido Vanden Wyngaerd (eds.), *Comparative Germanic syntax. The state of the art*, vol. 191, 223–248. Amsterdam/Philadelphia: John Benjamins.
Malaia, Evie. 2014. It still isn't over: Event boundaries in language and perception. *Language and Linguistics Compass* 8(3). 89–98.
Malchukov, Andrej L. 2005. Case pattern splits, verb types and construction competition. In Mengistu Amberber & Helen de Hoop (eds.), *Competition and variation in natural languages: The case for case*, 73–117. Amsterdam: Elsevier.

Malchukov, Andrej L., Martin Haspelmath & Bernard Comrie. 2010. Ditransitive constructions: A typological overview. In Andrej L. Malchukov, Martin Haspelmath & Bernard Comrie (eds.), *Studies in ditransitive constructions: A comparative handbook*, 1–64. Berlin: De Gruyter Mouton.

Malchukov, Andrej L. & Helen de Hoop. 2011. Tense, aspect, and mood based differential case marking. *Lingua* 121. 35–47.

Marantz, Alec. 1997. No escape from syntax: don't try morphological analysis in the privacy of your own lexicon. In Alexis Dimitriadis & Laura Siegel (eds.), *Proceedings of the 21st Annual Penn Linguistics Colloquium*, 201–225. Philadelphia, PA: University of Pennsylvania.

Martin, Fabienne. 2015. Explaining the link between agentivity and non-culminating causation. In Sarah D'Antonio, Mary Moroney & Carol Rose Little (eds.), *Proceedings of SALT 25*, 246–266. Stanford University.

McCawley, James. 1968. Lexical insertion in a transformational grammar without deep structure. In Bill J. Darden, Charles-James N. Bailey & Alice Davison (eds.), *Papers form the fourth regional meeting*, 71–81. Chicago Linguistic Society. Chicago, IL: University of Chicago Press.

Miwako, Uesaka. 1996. *The "te-i-ru" construction in Japanese. Interaction between aspect and syntax*. Montreal: McGill University (MA Thesis).

Næss, Åshild. 2004. What markedness marks: The markedness problem with direct objects. *Lingua* 114. 1186–1212.

Næss, Åshild. 2007. *Prototypical transitivity*. Amsterdam: John Benjamins.

Næss, Åshild. 2011. The grammar of eating and drinking verbs. *Language and Linguistics Compass* 5. 413–423. https://doi.org/10.1111/j.1749-818X.2011.00279.x.

Özge, Umut. 2011. Turkish indefinites and accusative marking. In Andrew Simpson (ed.), *Proceedings of the 7th Workshop on Altaic Formal Linguistics (WAFL 7)*, 253–267. Cambridge: MIT Working Papers in Linguistics 62.

Özge, Umut. 2013a. What does it mean for an indefinite to be presuppositional? In Guram Bezhanishvili, Sebastian Löbner, Vincenzo Marra & Frank Richter (eds.), *Logic, Language, and Computation – 9th International Tbilisi Symposium on Logic, Language, and Computation, TbiLLC 2011, Revised Selected Papers*, 138–154. Berlin: Springer.

Özge, Umut. 2013b. "Strong" indefiniteness and topicality. In Emmanuel Chemla, Vincent Homer & Grégoire Winterstein (eds.), *Proceedings of Sinn und Bedeutung 17*, 399–408. Paris: ENS Paris.

Özge, Umut, Duygu Özge & Klaus von Heusinger. 2016. Strong indefinites in Turkish, referential persistence, and salience structure. In Anke Holler & Katja Suckow (eds.), *Empirical perspectives on anaphora resolution*, vol. 563, 169–192. Berlin: De Gruyter. https://doi.org/10.1515/9783110464108-009.

Özge, Umut & Klaus von Heusinger. 2020. Case marking and forward and backward discourse function. In Deniz Zeyrek & Umut Özge (eds.), *Discourse meaning: The view from Turkish*, 81–102. Berlin: De Gruyter. https://doi.org/10.1515/9783110686654-004.

Öztürk, Balkız. 2005. *Case, referentiality and phrase structure*. Amsterdam: John Benjamins.

Perlmutter, David M. 1989. Multiattachment and the unaccusative hypothesis: The perfect auxiliary in Italian. *Probus* 1. 63–119.

Portner, Paul & Katsuhiko Yabushita. 2001. Specific indefinites and the information structure theory of topics. *Journal of Semantics* 18. 217–297.

Pottier, Bernard. 1968. L'emploi de la préposition a devant l'objet en espagnol. *Bulletin de la Société de Linguistique* 1. 83–95.

Primus, Beatrice. 1999a. *Cases and thematic roles. Ergative, accusative and active*. Tübingen: Niemeyer.

Primus, Beatrice. 1999b. Rektionsprinzipien. In Heide Wegener (ed.), *Deutsch kontrastiv. Typologisch vergleichende Untersuchungen zur deutschen Grammatik*, 135–170. Tübingen: Stauffenburg.

Primus, Beatrice. 2006. Hierarchy mismatches and the dimensions of role semantics. In Ina Bornkessel, Matthias Schlesewsky & Bernard Comrie (eds.), *Semantic role universals and argument linking. Theoretical, typological and psycholinguistic perspectives*, 53–88. Berlin: De Gruyter.

Primus, Beatrice. 2012. *Semantische Rollen*. Heidelberg: Universitätsverlag Heidelberg.

Prince, Ellen F. 1981. Topicalization, focus-movement, and Yiddish-movement: A pragmatic differentiation. *Proceedings of the Seventh Annual Meeting of the Berkeley Linguistics Society*. 249–264.

Pustejovsky, James. 1991. The syntax of event structure. *Cognition* 41. 47–81.

Quirk, Randolph & Sidney Greenbaum. 1973. *A concise grammar of contemporary English*. New York: Harcourt Brace Javanovich.

Ramchand, Gillian. 2008. *Verb meaning and the lexicon. A first phase syntax*. Cambridge: Cambridge University Press.

Ramchand, Gillian. 2011. Minimalist semantics. In Cedric Boeckx (ed.), *The Oxford handbook of linguistic minimalism*, 1–20. New York: Oxford University Press. https://doi.org/10.1093/oxfordhb/9780199549368.013.0020.

Ramchand, Gillian. 2013. Argument structure and argument structure alternations. In Marcel den Dikken (ed.), *The Cambridge handbook of generative syntax*, 265–321. Cambridge: Cambridge University Press.

Ramchand, Gillian & Peter Svenonius. 2014. Deriving the functional hierarchy. *Language Sciences* 46. 152–174. https://doi.org/10.1016/j.langsci.2014.06.013.

Ramchand, Gillian. 2017. The event domain. In Roberta D'Alessandro & Irene Franco (eds.), *The verbal domain*, 233–254. Oxford: Oxford University Press.

Ramchand, Gillian. 2018. *Situations and Syntactic Structures. Rethinking Auxiliaries and Order in English*. Cambridge: MIT Press.

Ramchand, Gillian. 2019. Event structure and verbal decomposition. In Robert Truswell (ed.), *The Oxford handbook of event structure*. Oxford: Oxford University Press. https://doi.org/10.1093/oxfordhb/9780199685318.013.32.

Rappaport Hovav, Malka & Beth Levin. 1998. Building verb meanings. In Miriam Butt & Wilhelm Geuder (eds.), *The projection of arguments: Lexical and compositional factors*, 97–134. Standford: CSLI Publications.

Rappaport Hovav, Malka & Beth Levin. 2001. An event structure account of English resultatives. *Language* 77(4). 766–797.

Rappaport Hovav, Malka, Edit Doron & Ivy Sichel (eds.). 2010. *Lexical semantics, syntax, and event structure*. Oxford: Oxford University Press.

Reinhart, Tanya. 1981. Pragmatics and linguistics: An analysis of sentence topics. *Philosophica* 27. 53–94.

Ritter, Elizabeth & Sara Thomas Rosen. 1998. Delimiting events in syntax. In Miriam Butt & Wilhelm Geuder (eds.), *The projection of arguments: Lexical and compositional factors*, 135–164. Stanford, CA: CSLI Publications.

Rohde, Hannah, Andrew Kehler & John Elman. 2006. Event structure and discourse coherence biases in pronoun interpretation. In Ron Sun (ed.), *Proceedings of the 28th Annual Conference of the Cognitive Science Society*, 617–622. Mahwah: Lawrence Erlbaum.

Romero Heredero, Diego. 2020. *Semántica verbal y Marcado Diferencial de Objeto en español* [Verbale Semantik und Differentielle Objektmarkierung auf Spanisch]. Köln/Alcalá: Universität zu Köln/Universidad de Alcalá (PhD Thesis).

Rosen, Carol. 1981. The Relational Structure of Reflexive Clauses: Evidence from Italian. Cambridge, MA: Harvard University (PhD Thesis).

Rothmayr, Antonia. 2009. *The structure of stative verbs*. Amsterdam: John Benjamins.

Rothstein, Susan. 2004. *Structuring events: A study in the semantics of lexical aspect*. Oxford: Blackwell.
Rufilanchas, Daniel Riaño. 2014. Differential object marking in Ancient Greek. *Linguistics* 52(2). 513–541. https://doi.org/10.1515/ling-2013-0071.
Sağ, Yağmur. 2019. *The semantics of number marking: Reference to kinds, counting, and optional classifiers.* New Brunswick, NJ: Rutgers University. https://doi.org/doi:10.7282/t3-7dny-mz84.
Seidel, Elyesa. 2019a. Anaphoric potential of pseudo-incorporated nouns in Turkish. In Hatice Sofu, Deniz Abik, Muna Yücel Özezen, Cem Can & Abdurrahman Kilimci (eds.), *Proceedings of the 18th International Conference on Turkish Linguistics (ICTL 18)*. Wiesbaden: Harrassowitz.
Seidel, Elyesa. 2019b. *Pseudo-incorporation and event structure*. University of Cologne (PhD Thesis).
Silverstein, Michael. 1976. Hierarchy of features and ergativity. In Robert M. W. Dixon (ed.), *Grammatical categories in Australian languages*, 112–171. Canberra: Australian National University.
Sinnemäki, Kaius. 2014. A typological perspective on differential object marking. *Linguistics* 52(2). 281–313.
Smith, Carlota S. 1991. *The parameter of aspect*. Dordrecht: Kluwer.
Sorace, Antonella. 2000. Gradients in auxiliary selection with intransitive verbs. *Language* 76(4). 859–890.
Speer, Nicole K. & Jeffrey M. Zacks. 2005. Temporal changes as event boundaries: processing and memory consequences of narrative time shifts. *Journal of Memory and Language* 53. 125–140.
Spitzer, Leo. 1928. Rum. p(r)e, Span. á vor persönlichem Akkusativobjekt. *Zeitschrift für romanische Philologie* 48. 423–432.
Sportiche, Dominique. 2005. Division of labor between merge and move: Strict locality of selection and apparent reconstruction paradoxes. Unpublished Ms., UCLA.
Svenonius, Peter. 2004. On the edge. In David Adger, Cécile de Cat & George Tsoulas (eds.), *Peripheries: Syntactic edges and their effects*, 259–287. Dordrecht: Kluwer.
Temme, Anne. 2018. *The peculiar nature of psych verbs and experiencer object structures*. Berlin: Humboldt-Universität zu Berlin (PhD Thesis).
Tenny, Carol. 1992. The aspectual interface hypothesis. In Ivan A. Sag & Anna Szabolcsi (eds.), *Lexical matters*, 1–27. Stanford: Center for the Study of Language and Information (CSLI).
Tenny, Carol. 1994. *Aspectual roles and the syntax-semantics interface*. Dordrecht: Kluwer.
Torrego, Esther. 1998. *The dependencies of objects*. Cambridge: MIT Press.
Torrego, Esther. 1999. El complemento directo preposicional. In Ignacio Bosque & Violeta Demonte (eds.), *Gramatica descriptiva de la lengua espanola*, vol. 2, 1779–1805. Madrid: Espasa Calpe.
Travis, Lisa deMena. 2010. *Inner aspect. The articulation of VP*. Dordrecht: Springer.
Tsunoda, Tasaku. 1981. Split case-marking patterns in verb-types and tense/aspect/mood. *Linguistics* 19. 389–438.
Tsunoda, Tasaku. 1985. Remarks on transitivity. *Journal of Linguistics* 21(2). 385–396.
Tsunoda, Tasaku. 1999. Transitivity and intransitivity. *Journal of Asian and African Studies* 57. 1–9.
Van Valin Jr., Robert D. & Randy J. LaPolla. 1997. *Syntax: Structure, meaning and function*. Cambridge: Cambridge University Press.
Van Valin Jr., Robert D. 1999. Generalized semantic roles and the syntax-semantics interface. In Francis Corblin, Carmen Dobrovie-Sorin & Jean-Marie Marandin (eds.), *Empirical issues in formal syntax and semantics 2*, 373–389. The Hague: Thesus.
Van Valin Jr., Robert D. 2005. *The syntax-semantics interface*. Cambridge: Cambridge University Press.
Vendler, Zeno. 1957. Verbs and times. *The Philosophical Review* 66(2). 143–160.
Verkuyl, Henk J. 1972. *On the compositional nature of the aspects*. Dordrecht: D. Reidel Publishing Company.

Wierzbicka, Anna. 1982. Why can you have a drink when you can't have an eat? *Language* 58(4). 753–799.
Williams, Edwin. 2003. *Representation theory*. Cambridge, MA: MIT Press.
Wiltschko, Martina. 2014. *The universal structure of categories. Towards a formal typology*. Cambridge: Cambridge University Press.
Witzlack-Makarevich, Alena & Ilja A. Seržant. 2018. Differential argument marking: Patterns of variation. In Ilja A. Seržant, Alena Witzlack-Makarevich & Kelsey Mann (eds.), *Diachrony of differential argument marking*, 1–40. Berlin: Language Science Press.
Wunderlich, Dieter. 1997. Cause and the structure of verbs. *Linguistic Inquiry* 28(1). 27–68.
Yang, Ning. 2008. *The indefinite object in Mandarin Chinese: Its marking, interpretation and acquisition*. Nijmegen: Radboud University (PhD Thesis).
Zidani-Eroğlu, Leyla. 1997. *Indefinite noun phrases in Turkish*. Madison: University of Wisconsin-Madison (PhD Thesis).
Zúñiga, Fernando & Seppo Kittilä. 2019. *Grammatical voice*. Cambridge: Cambridge University Press. https://doi.org/10.1017/9781316671399.

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