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# FORMAL PERSPECTIVES ON SECONDARY PREDICATION

*Edited by Marcel den Dikken and Hideki Kishimoto*

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**Formal Perspectives on Secondary Predication**

# The Mouton-NINJAL Library of Linguistics

Edited by
Yukinori Takubo
Haruo Kubozono
Yo Matsumoto

## Volume 8

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# Series preface

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NINJAL was first established in 1948 as a comprehensive research organization for Japanese. After a period as an independent administrative agency, it was re-established in 2010 as the sixth organization of the Inter-University Research Institute Corporation "National Institutes for the Humanities". As an international hub for research on Japanese language, linguistics, and Japanese language education, NINJAL aims to illuminate all aspects of the Japanese and Ryukyuan languages by conducting large-scale collaborative research projects with scholars in Japan and abroad. Moreover, NINJAL also aims to make the outcome of the collaborative research widely accessible to scholars around the world. The MNLL series has been launched to achieve this second goal.

The authors and editors of the volumes in the series are not limited to the scholars who work at NINJAL but include invited professors and other scholars involved in the collaborative research projects. Their common goal is to disseminate their research results widely to scholars around the world.

The current volume examines various constructions involving "secondary predication." While primary predication represents a homogeneous structural relation at the core of the clause, secondary predication comes in a wide variety of forms. Despite earlier research that tended to emphasize a unified treatment of secondary predication, it has recently become clear that generalizations about secondary predication constructions are far more complex than previously thought. In this volume, the authors discuss secondary predication from a theoretical perspective, exploring it in a wide range of constructions, including depictives, resultatives, predications embedded under epistemic verbs, and verbs of perception and causation.

Yukinori Takubo
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# Preface

Earlier versions of the papers contained in this volume were presented at the Secondary Predication Workshop 2020 and the International Workshop on Secondary Predication 2022, organized by the editors, in collaboration with Éva Dékány, Masashi Kawashima and Kazushige Moriyama. Like the authors, we as editors are very grateful for the constructive comments provided on the papers submitted for publication in the volume by a large cohort of external reviewers, and we would like to acknowledge their important contributions to the volume by listing their names here, in alphabetical order:

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Marcel den Dikken and Hideki Kishimoto

# Chapter 1
# Formal perspectives on secondary predication – An introduction

## 1 Secondary predication research

Predication involves a relation between a predicate and its argument(s), and is the backbone of natural-language syntax and semantics. While primary predication represents a largely homogeneous structural relation at the core of the clause, secondary predication (at least on the surface) comes in a wide variety of forms. Early research in theoretical linguistics tended to stress that all forms of secondary predication can be treated uniformly, but in recent years it has become clear that generalizations about secondary predication constructions are far more complex than previously thought. Since predication constitutes the backbone of the grammar, inquiry into the entire spectrum of secondary predication constructions (including depictives, resultatives, and epistemic constructions) enables us to further our understanding of natural language.

The ultimate goal of predication studies is to answer the question of how predication is established between predicates and their subjects. Subject–predicate relations in simple clauses represent typical cases, but secondary predication has figured prominently in the formal linguistics literature since Halliday (1967). Secondary predication manifests itself in depictives, resultatives, and predications embedded under epistemic verbs and verbs of perception and causation. One of the earliest attempts to define a predication relation in syntactic terms is Williams (1980) – a major catalyst for syntactic analyses of secondary predication in the generative framework. In the past four decades, a number of important syntactic and semantic issues have been raised and discussed in the literature on secondary predication, and some of the prominent issues are taken up by the contributions in the present volume.

In this introduction, we will introduce the issues on the table in the discussion of secondary predication constructions against the background of the light shed on these issues by the individual contributions to this volume and the connections between them, following the order in which the chapters are presented (and justifying this order thereby). At the end of this chapter, we will lay out some avenues for further research.


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## 2 The contributions to this volume

While depictives and resultatives are the main target of investigation in research on secondary predication, there are a variety of other constructions that can fall under the purview of secondary predication. One such case is the focus of Danckaert and Tayalati's chapter. In their contribution, Danckaert and Tayalati start out from the observation that Arabic has two distinct ways of attributing properties to an entity by adjectival modification. The basic type is to attribute a property to a noun directly, as schematically represented in the configuration [MOTHER *proud of children*], in which the projection of the adjective directly modifies the modified noun MOTHER. The other type is called "indirect predication", found in a schematic structural configuration [GIRL (*with*) [*long* HAIR]], where the property of length is attributed to HAIR, and indirectly to GIRL, which is in an inalienable possession relation with HAIR. Danckaert and Tayalati argue that French *tough*-movement constructions (such as *Cette fille est facile à plaire* 'this girl is easy to please') and restrictive partitive constructions (*une fille belle de visage* 'a girl pretty of face, i.e., a girl with a pretty face') can be partially assimilated to one another and to the Arabic cases under the rubric of indirect predication.

For Danckaert and Tayalati, both *tough*-movement constructions and restrictive partitives have the phrase following the adjective (*facile* 'easy' and *belle* 'pretty' in the examples given in the previous paragraph) playing the role of a restrictor of the adjectival predicate. A further parallel between the two constructions is that the adjectival predicate ends up to the left of its subject (the nominal infinitive *plaire* 'please' and the noun phrase *visage* 'face') via leftward movement, which in both cases gives rise to the emergence of a functional P-element to the immediate right of the moved AP. But the nature of the movement undertaken by AP and, concomitantly, the status and position of the functional P involved are different in the two constructions: while the syntax of restrictive partitives features predicate inversion (a case of A-movement) and *de* is a non-verbal copula (a linker, in the sense of den Dikken 2006), in *tough*-movement constructions the AP undergoes Ā-movement in a way similar to what happens in the head-raising analysis of relative clause constructions (Vergnaud 1974, Kayne 1994), and *à* is a complementizer. Once the movement operation conducted by the AP has taken place, the output structure is predicated of the matrix subject, which in both construction types is argued to be base-generated as a subject of predication for the complex expression containing the AP, the functional P-element, and the constituent that follows the functional P. While the AP is predicated directly of this last constituent in the syntax underlying the constructions under scrutiny, the predication relation between the AP and the matrix subject is indirect: the AP is just one of the subparts of the complex predicate for this subject.

In *tough*-movement constructions, the adjective is semantically related not just to the subject of the *tough*-adjective but also to an experiencer (often implicit). Such double association of a psychological adjective is also found in a construction that serves as one of the foci of the chapter contributed by Miura and Kishimoto. Their discussion contrasts the use of Japanese psychological expressions (of various categories) in combination with epistemic and non-epistemic verbs. Japanese combinations of epistemic verbs with psychological expressions present no surprises when viewed from an English perspective. But Japanese (and, as the authors show, Korean as well) can also add a psychological expression to *non*-epistemic sentences, yielding sentences like such as *Mary read the book (and found it) interesting*, which in English-type languages are entirely impossible without the parenthesized material included. In such sentences, the equivalent of *interesting* is semantically related to both the object and the subject, the latter being the experiencer argument of the psychological expression.

Miura and Kishimoto sort out some of the confusion about the distinction between predication and modification, often based on morphological (English *angry* versus *angrily*) or hard-to-define semantic criteria (see, e.g., Matsui and Kageyama 2008, Matsuoka 2023, with particular reference to the difference between depictives and adverbial modifiers in Japanese). They argue that in Japanese, psychological expressions are used as predicates in epistemic constructions but as modifiers in non-epistemic constructions, making use of the diagnostics provided by Kishimoto (2022, this volume), and they go further into the investigation of the peculiar nature of psychological expressions which need to identify their experiencers alongside the arguments they directly modify. For Miura and Kishimoto, there is no direct predication relationship established between the psychological expression and the theme, nor is the semantic relation between the two mediated by a PRO controlled by the theme (as in depictives and, in the case of Japanese, even in resultatives, for both of which Kishimoto's contribution later in the volume makes a strong case for the control analysis). Rather, the psychological expression in the Japanese equivalent of *Mary read the book (and found it) interesting* is a modifier of the VP. The link between the psychological expression and its experiencer argument (the subject) *is* established directly – but only very late in the derivation, via LF-movement to a position adjoined to the subject. The behavior of the psychological expression with respect to word order (placement relative to the object) and focus of negation serves as primary support for the analyses of the constructions under discussion in Miura and Kishimoto's chapter.

After these two investigations of syntactically and semantically complex cases involving multiple layers of (direct and indirect) predication, the volume continues with a series of contributions to the syntax and semantics of resultative secondary predication. A major player in this context is Talmy's (1985, 2000) seminal argu-

ment that the world's languages are broadly divided into verb-framed languages and satellite-framed languages: verb-framed languages incorporate some components of meaning, such as motion, path, manner, figure, ground, cause, etc. into verbs (or verb roots) themselves while satellite-framed languages express these components of meaning outside the verb (root), as satellites. The classification of verb-framed and satellite-framed languages represents the lexicalization patterns that are predominantly, but not exclusively, used in natural languages. In recent years, some syntactic analyses for the realization of manner, path and the like have been advanced (see, e.g., Acedo-Mattellán 2016, Folli and Harley 2020, Hopperdietzel 2022). Kardos and Szávó's chapter steps into this general line of research, investigates the event lexicalization strategies in which the meaning component of the result is merged, and argues that the result component appears in VP for aspectual functions in English, but in Hungarian it is (re)merged in the functional domain above VP.

While in more coarse-grained Talmian typologies, English and Hungarian are commonly placed together in the satellite-framed group, Kardos and Szávó's closer inspection reveals that Hungarian imposes a restriction on its resultative constructions that causes it to behave markedly differently from English (or, for that matter, from closely related Finnish) in a number of respects, some of which make Hungarian look more like the well-described aspectual system of Slavic. The restriction at work in Hungarian requires that the result component be expressed in the form of a particle or secondary predicate which, in neutral sentences (i.e., sentences in which nothing is narrowly focused), must immediately precede the verb as a result of leftward movement and, in tandem with this, must take scope over the portion of the clause which it precedes and c-commands, maximizing the event. Apart from the word-order consequences of this restriction, it leads Hungarian to lack path-encoding simple verbs such as English *to die* (whose Hungarian equivalent requires the particle *meg*, as in *János *(meg-)halt* 'János PRT-died') and it also prevents the quantized nature of objects by themselves to deliver telicity: thus, Hungarian *János takarított egy szobát* 'János cleaned a room' is atelic, unlike its English translation; to make it telic, a particle or resultative secondary predicate must be added.

While Hungarian resultative secondary predicates are formally adpositional (*János lapos-ra kalapált a vaslemezt* 'János flat-to hammered the iron plate, i.e., János hammered the iron plate flat'), English and many other languages feature adjectives as the most typical syntactic category for the resultative expression. But not all adjectives are allowed to serve as resultatives. In an important effort to account for what kinds of adjectives qualify as resultatives, Wechsler (2005) advances the Maximal Endpoint Hypothesis, which draws on Kennedy and McNally's (1999, 2005) classification of gradable adjectives into three different scales (maximal endpoint, minimal endpoint, and open scale), and concludes that only

maximal endpoint adjectives can be resultatives in resultative constructions with subcategorized objects. Zooming in on apparent and real exceptions to the Maximal Endpoint Hypothesis found in corpus data, Kramer's chapter proposes a modified version of the hypothesis to the effect that the end point of the resultative is specified by the standard of comparison rather than the adjective's property scale.

While it is indubitably true that maximal endpoint adjectives (i.e., adjectives which denote the maximal endpoint of a scale) are common in resultatives (as in the iconic examples *hammer the metal flat* and *wipe the table clean*), and minimal endpoint adjectives such as *damp* and *dirty* (which require a minimum of wetness or contamination but leave the maximum entirely unspecified) or open-scale adjectives such as *wide* or *long* much less so, the results of Kramer's corpus study demonstrate that there is, in fact, no strict dichotomy between maximal endpoint adjectives, on the one hand, and minimal endpoint and open-scale adjectives, on the other. All three classes of gradable adjectives can *in principle* participate in resultative constructions, but in order for them to do so, they must have a *precise* standard of comparison; if their standard of comparison is vague by nature, context or world knowledge needs to make the standard precise. Thus, *He opened his mouth wide* is a perfectly well-formed resultative despite the fact that *wide* is an open-scale adjective, thanks to the fact that in the particular case of a person's mouth, the language user knows that there is a physical limit to the extent to which it can be opened, and it is this physical limit that in this case provides the precise standard of comparison allowing the adjective to be used in the resultative at hand. The 'precise standard requirement' is offered as a necessary condition for successful participation in resultative constructions – not as a sufficient condition: indeed, even among maximal endpoint adjectives, there are specimens for which Kramer's corpus study did not attest a single instance in a resultative, including *complete* and *perfect*. As a further constraint on resultatives, Kramer identifies adjective dimensionality: while uni-dimensional adjectives can, multi-dimensional adjectives (a class to which *complete* and *perfect* belong: *This paper is complete/perfect with respect to its coverage of the data but not with respect to its scope of the theory*) cannot partake in resultatives. Thus, this study makes two important contributions to our understanding of the restrictions imposed on resultative secondary predication, by identifying a precise standard of comparison and uni-dimensionality as essential conditions.

Resultatives are also on the menu in Kishimoto and Yu's contribution, this time with particular emphasis on Mandarin Chinese. Chinese has a rich array of so-called V-V compounds. While V-V compounding is often seen as one of the areal features of East Asian languages such as Chinese, Korean and Japanese, a number of differences in behavior are observed. In Chinese, a resultative V-V compound is formed by compounding the first verb with the second verb expressing the result

state arising from the action denoted by the first verb. This type of V-V compound has the property that the second result verb can be predicated of the preverbal argument or the postverbal argument. In addition, the argument to which the result verb is linked can be identified as either the subject or the object of the first verb (if the verbs have right semantic properties). Though this leads us to expect resultative V-V compounds to be compatible with four distinct interpretations, in reality only three are allowed. Li's (1995, 1999) seminal work provides a lexical-semantic account for the interpretative facts of Chinese resultative V-V compounds. Kishimoto and Yu's chapter offers an alternative syntactic account for them along with some new empirical evidence which cannot be subsumed under Li's lexical-semantic account.

Central to Kishimoto and Yu's proposal is the idea that A-movement can raise NPs into θ-positions, and that such movement can even skip an intermediate NP provided that syntactic head movement (involved in the formation of the compound verb in Mandarin) takes place to render the NP skipped and the landing-site of NP-movement equidistant. But while A-movement into a θ-position can involve an apparently more distant NP under the right circumstances, A-movement to SpecTP can only pick the closest NP c-commanded by T. The derivations meticulously laid out by Kishimoto and Yu deliver the three interpretations supported by Chinese *Taotao zhui-lei-le Youyou* 'Taotao chase-tired-asp Youyou' while adequately ruling out a fourth logically possible reading (*'Youyou chased Taotao and Taotao got tired as a result'). The analysis also derives the interesting fact that topicalization of the object eliminates the reading paraphrased as 'Youyou chased Taotao and Youyou got tired as a result'. In addition, Kishimoto and Yu distil from their central proposal the properties of transitive resultatives in which an argument of the main verb (either the Theme or the Agent) is suppressed, and the properties of Chinese resultatives whose main verb is intransitive.

Kishimoto and Yu's discussion of intransitive resultatives establishes a connection between their chapter and the one by Wilson and Roeper, where the difference between transitive resultatives and intransitive resultatives is at center-stage. The transitive resultative construction (illustrated by *John hammered the metal flat*) is based on transitive verbs and adds a resultative predicate while intransitive resultatives (such as *John ran his shoes threadbare*) are derived from intransitive verbs and omission of the resultative is not allowed. Some accounts endow transitive and intransitive resultatives with a uniform analysis (Hoekstra 1988; Embick 2004, etc.); but others treat the two types of resultatives as possessing distinct structures underlyingly (Carrier and Randall 1992; Randall 2010). Making crucial use of the facts regarding *re-* prefixation (Keyser and Roeper 1984; Randall 2010) together with the post-VP modifier *again*, Wilson and Roeper argue for a version of the non-uniform approach.

Wilson and Roeper's empirical argument for the difference in syntax between transitive and intransitive resultatives is based primarily on the novel observation that the prefix *re-* is compatible with the former (*John rehammered the metal flat*) but not with the latter (**John reran his shoes threadbare*). Though they agree with Carrier and Randall (1992) in assigning transitive and intransitive resultatives distinct syntactic structures, the structures that Wilson and Roeper assign to them are very different from those proposed by their predecessor. They endorse in passing a Hoekstra-style small clause complementation analysis for intransitive resultatives, but Wilson and Roeper's syntactic focus is on the structure of transitive resultatives. The authors first exploit the important observation that *re-* scopes over the verb and the Theme, and not (necessarily) over the resultative secondary predicate, to exclude analyses involving a complex verb ([*hammer flat*]; cf. Chomsky 1957), a ternary-branching VP (*à la* Carrier and Randall 1992), or simple small-clause complementation (*à la* Hoekstra 1988). They then go on to advance an analysis of transitive resultatives in terms of multidominance structures, wherein the Theme is dominated both by the VP and by a small clause of which the secondary predicate is the other term, and thus must simultaneously serve as the internal argument of the verb and as the external argument of the resultative.

Like Wilson and Roeper, Kishimoto's chapter contributes an analysis to the syntax of transitive resultatives that is markedly different from the ones found predominantly in the literature. But Kishimoto's focus is broader, also taking depictives (illustrated by *John left the room angry* and *John ate the meat raw*) into account. Two types of analysis for the syntax of depictives have been proposed in the literature. The direct predication analysis holds that depictives are directly predicated of either the subject or the object of the primary predicate; the alternative takes depictives to contain an invisible PRO subject controlled by the subject or object. The control analysis was primarily motivated by theoretical considerations – in particular, the fact that the θ-Criterion of Chomsky (1981) required that an argument and its θ-marking head hold a one-to-one relation; no argument can receive more than one θ-role. The status of this principle of classic principles-and-parameters theory has been called into question (indeed, it has been jettisoned in the minimalist program), and empirically, in languages like English, the presence or absence of an invisible subject in secondary predicates is not easy to testify empirically. But Kishimoto argues that the presence of an invisible subject is real, presenting clear empirical evidence in favor of it from Japanese secondary predicates – not just depictives but resultatives as well.

For Kishimoto, in Japanese both resultative and depictive secondary predication structures are adjuncts to a projection of the verb, and both have a PRO subject controlled by an argument of that verb. Evidence from subject honorification is presented to explicitly support the presence of a PRO-subject local to the

depictive or resultative secondary predicate. Thus, an object-oriented depictive or resultative, though attributing a property to the matrix object, can be adorned with a subject honorific prefix. Though an analysis in terms of adjunction and a local PRO subject is the 'gold standard' in the literature on depictives, for resultatives it is not. Indeed, Japanese may be the exception that proves the rule for the syntax of English-type resultatives: Kishimoto takes the fact (see Washio 1997) that Japanese differs from English in having no intransitive resultatives with 'fake' objects (as in *John ran his shoes threadbare*) to indicate that languages diverge on the syntactic structure assigned to resultative constructions. In their external syntax, Japanese resultatives resemble depictives much more than they do in, say, English. In their internal syntax, according to Kishimoto, Japanese depictives and resultatives differ with respect to the nature of the silent copular verb that relates the predicate to its PRO-subject: stative 'be' in depictives *versus* inchoative 'become' in resultatives.

In Japanese, depictives appear with the particle *de*. The marker *de* is known to have several distinct uses. Thus, besides appearing on depictives, *de* can also be used for specifying a location. While it has on occasion been suggested that *de* is one and the same marker in all of its various uses (Koizumi 1994), the prevalent view in the literature on Japanese (see, e.g., Hasegawa 2015) is that locative *de* is a particle while the *de* occurring with depictives is an inflectional form of the copula – the latter being emphatically endorsed in Kishimoto's chapter, where the *de* of Japanese depictives is treated, along with the suffix *-ni* found in constructions with the semi-copula *naru* 'become' and in resultatives, as a copular element whose particular morphological realization is determined by the local verb not a particle.

Yamaguchi's contribution to the volume is specifically focused on the question of how the marker *de* found in depictives relates to locative *de*. The chapter's key observation is that *de*-locatives behave in a way similar to depictives with regard to a number of syntactic diagnostics, and that both can be either subject-oriented or object-oriented. Yamaguchi agrees with Kishimoto that both depictives and locatives are adjuncts, occupying distinct positions depending on whether they have subject or object orientation (with subject depictives being located at *v*P while object depictives are adjoined lower). For Yamaguchi, depictives differ from locatives in that the *de* associated with depictives is a functional head (dubbed 'Dep', for 'depictive') while the *de* occurring with locatives is a postposition. The two are endowed with different semantic properties (in particular, different presuppositions), which underscores their distinctness. But their different *de*'s aside, locatives and depictives are parallel.

Parallels between locatives, on the one hand, and both depictive and resultative secondary predicates, on the other, can be found outside Japanese as well. Thus, in English and Dutch, depictives and resultatives are occasionally locative in form despite featuring an adjectival secondary predicate (*She started her career*

*in earnest*, or Dutch *Hij heeft de schuur in rood overgeverfd* 'he has the barn in red repainted'). And perhaps particularly germane to Yamaguchi's data are the facts of Hungarian. We already mentioned in our discussion of Kardos and Szávó's chapter that in Hungarian, resultatives are formally adpositional, featuring the sublative suffixal P *-ra* (recall *János lapos-ra kalapált a vaslemezt* 'János flat-to hammered the iron plate, i.e., János hammered the iron plate flat'). And on Hungarian subject- and object-oriented depictives we find the suffix *-en* (*János nyers-en/mérges-en ette meg a húst* 'János raw-SUP/angry-SUP ate the meat'), which also occurs in superessive locative PPs (*János Budapest-en lakik* 'János Budapest-SUP lives'). But similarly to what Yamaguchi points out for Japanese *de*, there are microscopic differences (having to do with the inventory of harmonic variants for the vowel of the suffix) between superessive *-en* and the *-en* adorning depictives, which appear to hamper a complete assimilation of the two *-en*'s.

While Kishimoto emphasizes the dependence of the marker attached to depictive and resultative secondary predicates on the choice of copular verb, Silvagni's chapter addresses the connection between depictives and copulas in a different way, homing in on combinations of depictives with copular clauses, as in *Maria está en su cama cansada/enferma* 'Maria is in her bed tired/sick', from Spanish. It is well known that in Spanish the distinction between individual-level and stage-level predicates (Carlson 1977) is reflected in the form of copular choice: $ser_{IL}$~$estar_{SL}$. Whereas stage-level predicates make for excellent depictives, individual-level predicates are typically bad in this role – thus, contrast *John met Mary angry* and **John met Mary intelligent* (see Rapoport 1991, 1993). In English, the difference between individual-level and stage-level predicates is often dealt with on the assumption that while stage-level predicates include an event argument, individual predicates lack it (Kratzer 1995). Silvagni, departing from this analysis, proposes that what controls the choice of stage-level and individual-level predicates is the aspectual head which the copular verb can fill. In Spanish, just as in English, depictives are usually stage-level predicates. But individual-level predicates can act as depictives if they are reinterpreted as stage-level predicates by ILP-to-SLP coercion (cf. **There are men tall* and *There are men tall enough to play basketball*; Milsark 1974).

Silvagni's primary contribution is to provide a syntactic explanation for two correlated facts about Spanish depictive secondary predication constructions: *(a)* not only must the depictive itself be (coerced into) a stage-level predicate, but *(b)* the predication structure with which the depictive combines must likewise be stage-level. The literature on Spanish has identified this correlation by the Latin term *consecutio* (building a bridge to the *consecutio temporum* 'sequence of tenses' effect found in clausal subordination). Silvagni models this aspectual harmony in terms of feature agreement, exploiting the difference between interpretable and uninterpretable features. Stage-level predicates are lexically endowed with an uninter-

pretable [Stage] feature, and hence depend on the presence in the outside syntax of a c-commanding [Stage] feature on an aspectual head. Individual-level predicates have no specification for a [Stage] feature under any circumstance, but because the aspectual head Asp has an *interpretable* [Stage] feature, it can legitimately combine with an individual-level predicate, not checking any feature against the IL-predicate but coercing its interpretation into an SL reading.

In the process of developing his analysis of depictive constructions, Silvagni also identifies a number of superficially similar cases of secondary predication, distinguishable from depictives on the basis of the fact that none of these are subject to the 'aspectual harmony' requirement. Among these other cases are frame-predication constructions such as *John feels happier nude* (where *nude* presents a condition for John's feeling happier, thus framing the proposition) and coordinated attributes as in *Mary is alone tired* (where *tired* and *alone* are both predicated of the subject and the two predicates temporally overlap but neither restricts the other, unlike what we see in depictive or frame-predication constructions). Silvagni argues that while the event denoted by a depictive secondary predicate is semantically subordinate to the event denoted by the primary predication structure (*John entered the room nude* is paraphrasable as *while he entered the room, John was nude*), the opposite is true in the case of frame-predication constructions (*John feels happier nude* is equivalent to *when he is nude, John feels happier*). But he converges with most of the extant literature (and echoes what Kishimoto and Yamaguchi assume in their chapters) in representting the depictive in syntax as an adjunct to the verbal or copular phrase.

It is here that den Dikken's chapter takes a different stance, building a bridge between depictives and what Silvagni calls coordinated attributes, by representing depictive secondary predication constructions as asyndetic coordination structures (agreeing on this point with Cormack and Smith 2004, whose asymmetric coordination analysis covers not only secondary predicates but other types of constructions inducing the semantic conjunctive interpretation of two elements). While coordinated attributes involve simple asyndetic coordination (with neither conjunct restricting the other), in the case of depictive secondary predication the second conjunct (the depictive) serves to specify the content of a silent element in the other conjunct – an element represented as *so*. In postulating a silent element in the syntax of depictive secondary predication, den Dikken's chapter shows a likeness to Kishimoto's (although the nature of the silence resorted to in the two chapters is very different). den Dikken syntactically models depictive secondary predication structures analogously to correlatives: while the depictive itself is not an immediate constituent of the clause with which it combines, it is represented by a 'proxy' inside the clause. This proxy, *so*, could potentially be syntactically integrated into the structure of its clause via adjunction – indeed, this would be the

standard approach to the syntax of, say, *He did it like this* in the literature. But den Dikken instead couches this in his 2006 outlook on the syntax of adverbial modification, according to which adverbial modifiers are predicates of some (extended) projection of the verb, taking their modifiees as their subjects, with a relator mediating the relationship between the two terms. The asyndetic specification relation between the depictive and the silent element *so* is modelled in similar terms, following Koster's (2000) lead in exploiting a silent head '**:**' as the mediator of *so* and the depictive that specifies its content. den Dikken's chapter shows in detail that the asyndetic coordination approach to depictive secondary predication explains in an integral way the behavior of English and Dutch depictives in the realms of extraction, linear order, and constituency, and also accounts for the antecedence restrictions on depictives – in particular, the fact that object depictives cannot be associated to indirect objects or prepositional objects, and the fact that ordinary direct objects are eligible for serving as antecedents for depictives only if they can be represented outside the VP.

Depictives and resultatives are the main targets of investigation in research on secondary predication. Depictives and resultatives are often regarded as falling into the same broad class of secondary predicates, but their syntactic behaviors and semantic properties diverge widely. Depictives add a description of a property to either the subject or the object of the clause. For depictives, there are semantic analyses treating their additive nature by resorting to conjunction (e.g., Rothstein 2004). Syntactically, as we see in some of the earlier chapters to the volume, depictives are standardly regarded as adjuncts. den Dikken's correlative *cum* asyndetic coordination analyses in a way bridges the gap between the conjunction and adjunction approaches to depictives.

Taken together, the contributions to the present volume paint a rich and variegated picture of the morphosyntax and semantics of secondary predication in its various guises, including depictive, resultative, *tough*-movement and restrictive partitive constructions. Naturally, they do not fully exhaust these domains of inquiry, and the analyses presented in these chapters open up a variety of avenues for further research. We will close this introduction laying out in the next section some notes that may help inspire such research.

## 3 Prospects for future research

A hallmark of early generative work on the syntax of predication, embodied by the θ-Criterion of Chomsky (1981), is that thematic relationships must be established early, and cannot be the product of syntactic movement operations. The

*tough*-movement construction, analyzed along the lines of Chomsky (1977) and work in its wake, long stood out as a problem for the θ-Criterion: the predicate for the subject of the *tough*-adjective emerges as a result of null operator movement inside the adjective's infinitival dependent, hence (given that null operator movement cannot happen at or prior to D-structure) the predication relation between *tough*+clause and the subject must be established late. The abolition of the θ-Criterion at the outset of the minimalist program eventually rendered the null-operator movement analysis of *tough* constructions 'well behaved', compatible with the theory's basic tenets. Danckaert and Tayalati's and Miura and Kishimoto's chapters show that there are other constructions for which the creation of a predicate with the help of movement (overt or even covert) is possible as well. The creation of a complex predicate through syntactic movement will likely continue to stand out as a relatively rare phenomenon. But complex predicate formation more generally opens up alternatives to familiar and widely distributed constructions for which a movement-based approach has been standard, including raising constructions ('subject-to-subject raising', 'subject-to-object raising', and also 'hyperraising' and 'copy raising'; see den Dikken 2017, 2018 and references cited there). The potential of and restrictions on complex predicate formation are an important item for the research agenda in the years to come.

The implicitness of (parts of) a predicate (highlighted in this volume by Danckaert and Tayalati's observation that from *une femme belle de visage* 'a woman pretty of face' the *de*-phrase can be omitted under the right circumstances) defines a line of research that focuses on recoverability. Cases such as *Have you ever been?* (uttered in the context, say, of a conversation about Paris) present an extreme case, arguably featuring both an implicit directional *to*-PP (*to Paris*) and, in tandem with this, a silent motion verb ('go'; see Kayne 2020 and references there). In the same discourse context, *Have you ever gone to Paris?* would be very awkward without the *to*-PP. There appears to be a close interaction here between the silence of the motion verb and the omissibility of the *to*-PP. Though we are not dealing with this here, ellipsis is also part and parcel of the general question regarding the conditions under which elements which form (essential ingredients of) a predicate can be left unpronounced.

Further questions in connection with complex predicate formation are raised by seemingly simple telic verbs (such as *to die*) and the ability on the part of quantized objects to deliver telicity by themselves (as in *to eat the soup* versus *to eat soup*). The fact that Hungarian apparently lacks both (judging from Kardos and Szávó's chapter) raises the question of whether it is ever sufficient for telicity to arise to combine the verb with a theme argument. A plausible strategy to pursue would be to represent English *to die* and *to eat the soup* in terms of a complex predicate formed by the verb plus a silent secondary predicate (cf. the 'become

not-alive' of generative semantics and the particle construction *to eat up the soup*): in languages lacking simple *to die* and preventing a quantized object by itself from building a telic predicate together with the verb will then differ from English-type languages in the conditions under which a secondary predicate is allowed to remain silent.

The restrictions imposed on resultative secondary predicates go beyond the conditions under which they are allowed to remain silent. That 'uni-dimensionality' and a precise standard of comparison are two important constraints imposed on resultative secondary predicates emerges clearly from Kramer's chapter. But precisely why are these are among the requirements that resultatives have to meet, and what else might constrain the range of predicates that can occur in resultative constructions? Other secondary predications likewise impose severe restrictions on the predicate and its relationship with the verb (incl. the 'aspectual harmony' effects discussed in Silvagni's chapter). All these constraints are finer-grained than what could be gleaned from the previous literature. Empirical discoveries will continue to fine-tune the limits imposed on secondary predication, and in symbiosis with the empirical facts but also autonomously, through the evolution of the theory of the syntax/semantics interface, our understanding of these limits should become more and more precise.

Resultative predicates are often analyzed as involving complex predicate formation with primary predicates even if they are morphologically separate (e.g. Hoekstra 1998). Languages like Chinese and Japanese can have resultative compounds, which form tight units morphologically. The variations of the resultative constructions bring in the long-standing issue of the lexicalist approach (e.g. Bresnan 1982) versus the projectionist approach (e.g. Borer 2005a, 2005b; Marantz 1997), which was inspired by Chomsky (1970); while Li (1995, 1999) presents an analysis of the argument realization patterns of Chinese resultative compounds with reference to (decomposed) lexical representations, Kishimoto and Yu's chapter presents an articulated analysis whereby thematic relations are dealt with in the realm of syntax. Kishimoto's chapter takes a middle view, in taking note of not merely syntactic but also lexical-semantic constraints in the treatment of Japanese resultative compounds. Further inquiry into typological differences highlighting the division of labor between lexicon and syntax in the realization of predication patterns will bring to light the range of possible parametric differences or options available in natural language.

A final set of questions raised by an appreciation of the individual chapters from a higher vantage point addresses the repercussions of (secondary) predication for syntactic theory. Here we highlight the possibility of A-movement into θ-positions (Kishimoto and Yu), the desirability of an extension of the set of functional categories with a member specific to depictives (Yamaguchi's 'Dep'), the possibility

of multiple syntactic roles or even multiple lexical entries for a single functional element (Japanese *de*), and the way in which depictive and resultative secondary predicates are integrated with their syntactic environment – via complementation, adjunction (involved, for Kishimoto, in both depictives and resultatives in Japanese), multidominance structures (Wilson and Roeper), and/or asyndetic coordination (den Dikken). Regarding this last issue, it seems highly unlikely that 'one size fits all'; but the division of labor between the various options and the range of applicability of the various possibilities pose fundamental questions: how far can we go with multidominance or asyndetic coordination (could we, for instance, use one of these for aspectual *come*/*go* constructions such as *Come (and) go (and) eat lunch with us*, raised by a reviewer of this volume), and to what extent can adjunction be constrained or perhaps be factored out of syntactic structure building? These questions should keep linguists interested in predication and the syntax/semantics interface more generally busy for quite a while.

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# Chapter 2
# The syntax and semantics of indirect predication in French

**Abstract:** Our aim is to analyse two predicative structures in French, namely the well-known *Tough*-Construction (TC, e.g. *la voiture est agréable à conduire* 'the car is pleasant to drive') and the lesser studied 'Restrictive Partitive Construction' (RPC, e.g. *cet enfant est vif d'esprit* 'this child is quick-witted'). Drawing on traditional descriptions of Semitic languages, we argue that both constructions instantiate a type of 'indirect predication', known as *naʿt sababī* in the literature on Modern Standard Arabic. Evidence comes from (i) semantic correspondences between the adjectives, verbs and nouns that can appear in the relevant structures, and (ii) the semantics of the element that appears to the right of the adjective (its ontological status, and its role in semantically restricting the adjective). Turning to the syntax of French TCs and RPCs, we offer an analysis couched in the framework of den Dikken (2006), focusing on (i) the syntactic status of *à* and *de* (complementizer or linker?), (ii) and on the internal structure of the complex predicate formed by the adjective and its complement. As to the latter point, we propose that the two constructions involve two distinct types of predicate inversion.

**Keywords:** predicate inversion, *tough*-construction, possession, part-whole relations, French, Arabic

## 1 Introduction

The aim of this chapter is to explore the syntactic and semantic properties of two structures from present-day French which at first blush seem rather different, but which we will suggest are in fact sufficiently similar to allow for a partly unified treatment. The first pattern is the well-known *tough*-construction, which has been widely discussed since the seminal works of, among others, Lees (1960), Rosenbaum (1967) and Postal (1971). French *tough*-constructions (TCs) are illustrated in (1):

(1) a. *Le produit est facile à utiliser.*
the product is easy to use.INF
'The product is easy to use.'


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b. *une voiture agréable à conduire*
a car pleasant to drive.INF
'a car <which is> pleasant to drive'

The second structure that we will be concerned with is less often studied. It is illustrated in (2): we will refer to this type of structure as the 'Restrictive Partitive Construction', henceforth abbreviated as RPC. We return to the semantic properties of this structure in Section 3.

(2) a. *Notre voisin est grand de taille.*
our neighbour is tall of stature
'Our neighbour is tall (lit. tall of stature).'
b. *une femme belle de visage*
a woman pretty of face
'a pretty woman'

Apart from the fact that the structures in (1) and (2) both feature adjectival predication/modification, at first sight there seem to be many differences between them. First, in addition to the adjectival head of the entire construction, RPCs obligatorily contain two DPs, whereas TCs feature a DP and an infinitive. In RPCs, the second nominal element typically refers to an inalienable property of the initial DP, whose referent is naturally interpreted as the possessor of the second DP. As such, the interpretation of RPCs is reminiscent of other constructions in French which express inalienable possession (cf. Van Peteghem 2006: 442). Second, in TCs the initial DP is thematically related to the infinitive: it is typically interpreted as carrying the role of a Theme participant. Third, the adjective in an RPC is followed by a nominal introduced by *de*, instead of a verbal one with *à*, which we see in TCs. Finally, TCs but not RPCs are inherently modal.[1] This semantic component explains why TCs can be readily compared to pronominal middles (featuring the reflexive clitic pronoun *se*, cf. (3)), as well as to restrictive, infinitival relative clauses which seem to contain a covert modal (4) (we refer to Soare and Giurgea (2010a, 2010b) for a comparison between TCs and constructions like (4)):

**1** The modal character of TCs comes to the fore when we take into account the fact the applicability of the *tough*-adjective to a given entity is *conditioned* by what is conveyed by the infinitive. For example, a car that is pleasant to drive is a car that produces pleasure *if* (or *when*) someone drives it. On the relation between modality and conditionals, see Kratzer (2012).

(3) *Le produit s'=utilise facilement.*
the product REFL=uses easily
'The product is easy to use.'

(4) *Les livres à lire sont sur la table.*
the books to read.INF are on the table
'The books to read are on the table.'

Nevertheless, despite these syntactic and semantic differences, there are also similarities between the two structures. For example, the TCs in (1) can in fact be paraphrased by means of RPCs:

(5) a. *Le produit est facile d' utilisation.*
the product is easy of usage
'The product is easy to use.'
b. *La voiture est agréable de conduite.*
the car is pleasant of driving
'The car is pleasant to drive.'

This apparent similarity raises two questions. The first concerns the ontological status of the lexical head of the constituent to the right of the adjective: as we will see in more detail below, in the case of TCs this can be a verb or a deverbal nominalization, and it is always a relational noun in the case of RPCs. A second question is to what extent a unified treatment of the two constructions is warranted, given the apparent differences between them.

The analysis that we will propose is centered around a type of predication which is often discussed in the literature on Semitic languages, but, to the best of our knowledge, less so elsewhere. To be more specific, we will explore the hypothesis that French TCs and RPCs instantiate what is known in the traditional literature on Arabic as *naʿt sababī*, which we can paraphrase as 'indirect predication' (to borrow a term from Polotsky 1978). In essence, an indirect predication structure involves a particular semantic relation between an adjective and two other constituents. The basic form of this configuration can be schematically represented as follows:

(6) XP1 Adj XP2

In a configuration like (6), the adjectival predicate first combines with the constituent to its right (XP2), with which it can be said to form a complex predicate (along lines discussed in Tayalati and Danckaert 2020): the semantic corollary of

this process is that XP2 modifies the meaning of the original predicate. In a second stage, the newly formed complex predicate combines with XP1 (typically a DP), which acts as the subject of the entire construction. Importantly, this structure thus contains two predication relations. In what follows, we will continue to use the labels XP1 and XP2 (or DP1 and/or DP2, in case one or both are categorially nominal) to refer to the two elements co-occurring with the adjectival head of the entire structure.

Apart from these two subject-predicate relations, an additional property of the schema in (6) guarantees the semantic cohesion of the construction, namely a type of possessive relation that holds between XP1 and XP2. Further characterizing the precise nature of these various properties will be the main goal of this chapter.

The remainder of our contribution is structured as follows. In the second part of the chapter, we will discuss the properties of indirect predication (*naʿt sababī*) in Modern Standard Arabic (MSA), highlighting (i) that the relevant constructions involve two distinct 'subject – predicate' relations and (ii) that there needs to be a tight semantic link between the two categories that (directly or indirectly) combine with the adjective. In Section 3 we proceed to argue that the two French structures introduced earlier can felicitously be analysed in terms of indirect predication. Finally, in Section 4 we turn to the syntactic analysis of the two French constructions. We offer an analysis couched in the framework of den Dikken (2006), focusing on (i) the syntactic status of *à* and *de* (complementizer or linker?), and (ii) on the internal structure of the complex predicate formed by the adjective and the element to its right (XP2). As to the latter point, we propose that the two constructions involve distinct types of predicate inversion. Section 5 offers a brief conclusion.

## 2 *Naʿt sababī* in Modern Standard Arabic: Structures and properties

Both traditional and modern grammars of Standard Arabic distinguish two syntactic types of adjectival modification, which correspond to two semantically distinct ways of attributing a property to an entity. Importantly, these two types do not involve two distinct classes of adjectives, given that it is possible for the same adjective to appear in both construction types. The two patterns are illustrated in (7) and (8); apart from being adnominal, the two construals illustrated here can alternatively be predicative (appearing with or without an explicit copula). The example in (7a) instantiates the basic pattern of the direct predication type, which is called *na't ḥaqīqī* (lit. 'real attribute') in the Arabic grammatical tradition. In this example,

the property of being tall is directly attributed to the noun meaning *girl*, without mediation of any other entity. The same construal is possible with transitive adjectives, as shown in (7b): here the property of being proud is exclusively attributed to the mother, not to her children.

(7) a. *fatāt-u-n* *ṭawīlat-u-n*
girl.(F.)SG-NOM-INDF tall.F.SG-NOM-INDF
'a tall girl'

b. *umm-u-n* *faḫūrat-u-n*
mother.(F.)G.NOM-INDF proud.F.SG-NOM-INDF
*bi-ʾaṭfāl-i=hā*
PREP-children.(M.)PL-GEN=PR.F.SG
'a mother proud of her children'

This construal is opposed to that in (8), which illustrates the indirect predication type (*naʿt sababī*):

(8) *fatāt-u-n*$_i$ *ṭawīl-u-n*
girl.(F.)SG-NOM-INDF long.M.SG-NOM-INDF
*šaʿr-u=hā*$_i$
hair.(M.)SG-NOM=F.SG
'a long-haired girl'

As a first approximation, we can say that the meaning of the entire indirect predication results from a complex set of relations that hold between the various elements it consists of, namely an adjective and two DPs.[2] On the one hand, as mentioned in the introduction there are two subject-predicate relations: a first one between the adjective and DP2, and a second one between the complex predicate (consisting of the adjective and DP2) and DP1. On the other hand, the cohesion of the entire construction is further enhanced by a semantic relation between DP1 and DP2. To be more precise, in (8) there exists a possessor-possessee relation between the two nominals, which is made explicit by the resumptive pronoun attached to DP2: as indicated by means of the indices, this resumptive clitic is coreferent with DP1.

2 This complexity also has a morphological correlate: in the indirect modification structure, the adjective agrees with DP1 in case and (in)definiteness and in gender with DP2. Given that the focus of our contribution is in the first place on syntax and semantics, we will not here attempt an analysis of this intricate agreement pattern.

The same semantic bond between two DPs is also found in another structure from MSA, which has different morphosyntactic properties, but essentially the same meaning as the pattern illustrated in (8).[3] The relevant structure is illustrated in (9).[4]

(9) *fatāt-u-n* *ṭawīlat-u* *š-šaʿr-i*
girl.F.SG-NOM-INDF long.F.SG-NOM DET-hair.M.PL-GEN
'a girl with long hair'

From an interpretive point of view, (9) is largely equivalent to (8): the property of 'length' is associated with the girl's hair, and only secondarily with the girl herself. On grounds of this semantic similarity, authors like al-Ghalāyīnī (1966: 224–225) consider both constructions to be part of the *na't sababī* class. However, one difference between the two structures is the nature of the link between DP1 and DP2: in (9), there is no resumptive pronoun, and as a result, the possession relation that holds between the two nominals is purely lexical in nature (rather than syntactic).

But what is the precise nature of the semantic link between the two DPs in MSA indirect predication structures (of various kinds)? At first sight, one could think that DP2 has to be an inalienable part of DP1. For example, the nominals 'girl' and 'house' cannot co-occur in indirect predication structure, as witnessed by the ungrammaticality of (10). In all likelihood, the unacceptability is due to the fact that a house cannot possibly be construed as an inalienable part or possessum of a person:

(10) **fatāt-u-n* *ǧamīlat-u* *l-manzil-i*
girl.F.SG-NOM-INDF beautiful.F.SG-NOM DET-house.M.SG-GEN
(intended) 'a girl with a beautiful house'

The idea that inalienability is the key semantic ingredient of indirect predication relations is in line with the analysis proposed in Siloni (2002) for corresponding

**3** The semantic equivalence between these two formally different classes was also noted by Sībawayh (see Hārūn 1988: 424).

**4** In this construction, the adjective forms a constituent together with XP2/DP2. One characteristic feature of this structure is the fact that the adjective is morphologically reduced (the ending appears as *-u* instead of *-un*); moreover, DP2 obligatorily appears with genitive case. We refer to Hazout (2000) and Siloni (2002) for analyses of adjectival constructs in Modern Hebrew; on the same phenomenon in MSA, see Kremers (2005).

structures in Hebrew.[5] However, taking into account objections raised by, among others, Kremers (2005), Doron (2014) and Rothstein (2014), it is probably the case that the relevant condition is to be formulated in a slightly different way: specifically, we take it that there merely has to be a plausible part-whole relation between DP1 and DP2. In the case of an animate possessor (acting as DP1), inalienable parts are not restricted to concrete entities, but also include abstract properties; for inanimate possessors, DP2 can be an alienable part (for example, a house (DP1) and its door (DP2)).

Having presented the main properties of two types of indirect predication structures in MSA, at this stage a number of questions arise. First of all, can we find the same type of predication outside the Semitic language family? If so, in which languages, and in which particular constructions? In the remainder of this chapter, we will evaluate the merits of the hypothesis that French TCs and RPCs are close correlates of the MSA constructions reviewed in this section. We start by giving a detailed overview of the main properties of French TCs and RPCs (Section 3), after which we turn to the syntactic analysis of both structures (Section 4).

## 3 Two types of indirect modification in French

In the remainder of this chapter, we will explore to what extent we can offer a unified analysis of the two French constructions introduced in Section 1, by assimilating them to the indirect predication pattern typical of Semitic languages. Our eventual conclusion will be that such a unification is partly justified, given that the various structures being compared do indeed share a large number of properties. Nevertheless, we will also argue that there are certain of differences between TCs and RPCs, which we will account for in Section 4.

**5** The corresponding construction in Hebrew is illustrated in (i) (from Doron 2014: 363, her (5c); the label 'CS' stands for 'construct state'):

(i) *yalda* *arukat* *cavar*
girl long.CS neck
'a girl whose neck is long'

Interestingly, the following semantic description proposed by Doron (2014: 363) comes very close to our description of indirect predication in MSA (the term 'annex' corresponds to our XP2): "[t]he adjectival head in this construction is not directly interpreted as an attribute of the noun it modifies, but only indirectly, through being predicated of the annex, which itself is a relation taking the modified noun as argument."

We will start by having a closer look at the following four similarities between French TCs and RPCs. First, the post-adjectival constituent (XP2) semantically acts as a restrictor. Second, the limited conditions under which this last element can be omitted indicate that the bond between the adjective and its restrictor is stronger than that between the adjective and the subject of the entire construction (XP1). Third, in both environments there are systematic constraints on the ontological status of the post-adjectival element. Fourth, both constructions necessarily feature a complementizer-like element (*à* and *de*). In what follows, we discuss each of these properties in turn.

## 3.1 The post-adjectival constituent as a semantic restrictor

Recall that indirect predication structures in MSA are characterized by a double predication relation. We saw that the predication relation between the adjective and its complement results in a more restricted meaning of the original adjective: the adjective qualifies XP1, but it does so only with respect to one of its parts or possessions. The same effect of semantic restriction can be found in French TCs and RPCs. This comes to the fore when we replace the string introduced by *à* (11)–(12) and *de* (13) by other (prepositional) expressions which unambiguously encode semantic restriction, such as those introduced by *quant à* or *en ce qui concerne*, or some other expression meaning 'as far as X is concerned':

(11) a. *un* *livre* *facile* *à* *lire*
a book easy to read
b. *quant à* *sa* *lecture*
as_far_is_concerned POSS reading
c. *en ce qui concerne* *sa* *lecture*
as_far_is_concerned POSS reading
'a book <that is> easy to read / a book <that is> easy as far as reading it is concerned'

(12) a. *une* *voiture* *agréable* *à* *conduire*
a car pleasant to drive
b. *quant à* *sa* *conduite*
as_far_is_concerned POSS driving
c. *en ce qui concerne* *sa* *conduite*
as_far_is_concerned POSS driving
'a car <that is> pleasant to drive / a car <that is> pleasant as far as driving it is concerned'

(13) a. *une fille large des hanches*
a girl large of_the hips
b. *quant aux hanches*
concerning_the hips
c. *en ce qui/pour ce qui est de ses hanches*
as_far_is_concerned of POSS hips
'a girl <who is> large at the hips / a girl <who is> large with respect to the hips'

The above examples clearly show that the adjective does not qualify the leftward DP in its totality, but rather only in one particular respect, the nature of which is specified by XP2.

## 3.2 Omissibility of the post-adjectival complement

Despite the important meaning contribution of the post-adjectival restrictor, the latter can in fact be omitted: this is illustrated in (14). Importantly, as we will show below, the variants with and without XP2 are not semantically equivalent.

(14) a. *Le livre est facile (à lire).* TC
the book is easy to read
'The book is easy (to read).'
b. *La voisine est grande (de taille).* RPC
the neighbour is tall of size
'Our neighbour is tall (of stature).'

In light of our earlier suggestions that XP2 plays an important role in modifying the meaning of the adjective, the observation that this part of the structure can be left out is at first sight surprising. However, there are good reasons to believe that omissibility of XP2 does not invalidate our claim that the latter contributes a crucial meaning component to both TCs and RPCs. In this respect, three considerations merit our attention.

First, in some cases where XP2 can be omitted, such as those given in (14) above, omission is licensed because the meaning of XP2 can be derived from that of XP1. For example, in (14a), the noun *livre* 'book' is very naturally, perhaps even prototypically, associated with the act of reading.[6] Similarly, in (14b), omission is

**6** The distinction between prototypical (definitional) and non-prototypical (non-definitional) properties may be responsible for the degraded status of certain paraphrases with *quant à* and *en ce*

favoured by the fact that *grande de taille* is almost entirely pleonastic: in French, the primary meaning of the adjective *grand* 'big' applies to the physical size (Fr. *taille*) of a given entity. This suggests that omission of XP2 cannot apply freely, but is constrained by either pragmatic predictability (facilitated by the meaning of XP1), or by the lexical semantics of the adjective. In a sense, this amounts to saying that XP2 is in fact present, but perhaps only at an interpretive level, without being syntactically represented.

In a second type of case, omission of XP2 is possible (in the sense that it does not give rise to ungrammaticality), but not without a change in meaning. Consider first the examples in (15):

(15) a. *un livre facile* (*à dérober*)
a book easy to steal
'a book <that is> easy (to steal)'
b. *une femme jeune* (*d' esprit*)
a woman young of mind
'a woman who is young (at heart)'

The examples in (14) showed us that omission of a predictable XP2 results in some type of default interpretation of the adjective, and by that token, the entire construction. This is not to say that the relevant adjectives can only be used in this prototypical way, which is what the examples in (15) show us. Importantly, when this happens, this has to be signaled explicitly by means some additional material, which cannot be omitted without loss of the non-prototypical meaning. This suggests that TCs and RPCs without an explicit XP2 are in fact vague, the prototypical interpretation only arising by default.

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*qui concerne* 'as far as X is concerned' (we thank a reviewer for drawing our attention to this observation). For example, the act of reading is more strongly associated with books than the act of forgetting, whence the full acceptability of (ib) but the degraded status of (iib):

(i) a. *un livre facile à lire*
a book easy to read
b. *quant à / en ce qui concerne sa lecture*
as_far_is_concerned POSS reading
'a book <that is> easy to read / a book <that is> easy as far as reading it is concerned'

(ii) a. *un livre facile à oublier*
a book easy to forget
b. ?? *quant à / en ce qui concerne son oubli*
as_far_is_concerned POSS forgetting
'a book <that is> easy to forget'

Another, slightly different meaning change caused by leaving out XP2 is illustrated in (16) (which features an RPC only):

(16) *Ils sont pauvres d' idées.*
they are poor of ideas
'They are out of ideas.'

In this case, the basic meaning of the adjective *pauvre* 'poor' is fairly specific, and as a result, when the restricting XP2 is omitted, the result is no underspecified utterance, but rather one that makes explicit reference to the financial status of the clause-initial subject, not to their lack of ideas.

The fact that the adjective does not only apply to DP1, but that it also shows sensitivity to the properties of its restrictor also comes to the fore when we consider contexts in which there is a semantic incongruity between the adjective and XP2. Consider for example (17) and (18): the b-examples are ill-formed (or at least pragmatically infelicitous), because the adjective cannot easily be applied to XP2, whereas it is perfectly compatible with XP1.

(17) a. *une tondeuse facile* TC
a lawn_mower easy
'a easy (user-friendly) lawn mower'
b. **une tondeuse facile à regarder*
a lawn_mower easy to look_at
(intended) 'a lawn mower that is easy to look at'
c. *une tondeuse facile à manier*
a lawn_mower easy to handle
'a lawn mower that is easy to handle'

(18) a. *une femme large* RPC
a woman large
'a large woman'
b. **une femme large des cheveux*
a woman large of hairs
(intended) 'a large-haired woman'
c. *une femme large des hanches*
a woman large of_the hips
'a woman with broad hips'

In the third case, which is illustrated by the examples in (19), omission of XP2 does in fact give rise to ungrammaticality:

(19) a. *Le bâtiment est impossible *(à vendre).*
the building is impossible to sell
'The building is impossible (to sell).'
b. *une forteresse difficile *(d' accès)*
a fortress difficult of entry
'a fortress that is difficult (to enter)/a difficult fortress'

The unacceptability of these examples can be explained in terms of an incompatibility between the (simplex) adjectival predicate and DP1: predicates like *impossible* and *difficult* most typically qualify an event, not an entity (at least when applied to an inanimate subject, not to (the character of) an animate entity). In order to be predicated of a given entity, they need to be enriched – through complex predicate formation – with an element that has an eventive verbal core, such as an infinitive or a deverbal noun. In the absence of such an element, it cannot be assessed in which respect the relevant entity is impossible or difficult. The examples in (19) thus show once more that the adjective is not on its own directly predicated of DP1.

We conclude that French TCs and RPCs seem to behave alike as far as the conditions are concerned under which XP2 can be omitted. The latter can be left out (i) when omission does not lead to a change in truth conditions, as a result of the lexical semantics of the adjective (cf. (14a)), or (ii) when XP2 is the prototypical element modified by the adjective (14b). In other cases, omission of XP2 leads to an utterance that is under-determined with respect to the full version including XP2 (15), to a change in meaning (16), or to ungrammaticality (19). In all cases, the evidence reveals the strong ties between the adjective and XP2.

All in all, the evidence is compatible with aligning the two French constructions with the *na't sababī* structures from MSA, in the sense that they too involve two 'subject-predicate' relations, including a process of complex predicate formation that combines the adjective with XP2. What remains to be determined is whether in the French constructions too there exists some type of part-whole relation between XP1 and XP2, and if so, whether this relation is essentially syntactic in nature, as in Arabic (8) (which features pronominal resumption), or alternatively a lexical process, as in Arabic (9), with a relational noun in post-adjectival position which can semantically be construed as a part of the subject NP. In the following section, we will argue that such a relation does indeed exist.

## 3.3 The ontological status of XP2

In Tayalati and Mostrov (2019, 2022), it is argued that in French TCs and RPCs, the complex predicate consisting of the adjective and XP2 is an individual-level predi-

cate, and that XP1 and XP2 stand in a part-whole relation. Drawing inspiration from Van de Velde (1995, 2020), we can substantiate this claim along the following lines. A key observation is that the combination of a nominalized *tough*-adjective and an infinitive are acceptable in a construction that is sometimes called the 'genitive of quality', which is formally DP introduced by *de*. In this environment, the infinitive can either be obligatory (20a) or optional (20b) (cf. Van de Velde 2020: 115):

(20) a. *Cette voiture est d' une grande facilité *(à conduire).*
this car is of a great ease to drive
'This car is very easy to drive.'

b. *Cette équation / ce livre est d' une grande facilité*
this equation / this book is of a great ease
*(à résoudre / lire).*
to solve read
'This equation/book is very easy to solve/read.'

Crucially, the French 'genitive of quality' is incompatible with nouns expressing temporary states (stage-level predicates), unless they are coerced into an individual-level reading. For example, (21) is only acceptable in a context where the subject of the sentence is permanently prone to being tired or worried. No such pragmatic coercion is required for the examples in (20), which can be taken to mean that expressions like *une grande facilité à résoudre* 'a great ease to read (lit.)' receive an individual-level interpretation by default.[7]

7 A reviewer objects that properties expressed by TCs may be time-bound (cf. the time adverbial *hier* 'yesterday' in (i)), which seems to indicate that TCs can be stage-level predicates after all:

(i) *Hier la voiture a été facile à conduire.*
yesterday the car has been easy to drive
'Yesterday the car was easy to drive.'

However, we do not take the interaction with temporal modification to be a counterargument to our claim that the complex predicate in a TC is inherently individual-level. In particular, we take it that the time adverbial is licensed only by the (event argument of) the infinitive. As discussed in, among others, Paykin, Tayalati and Van de Velde (2010, 2013), adjectives which describe an individual's behaviour, which we assume to be *bona fide* individual-level predicates, can similarly be modified by a temporal adverb when co-occurring with an (agentive) infinitive. This last point is illustrated in (ii). We refer to Paykin, Tayalati and Van de Velde (2013) for further discussion.

(ii) *Hier, il a été très sympathique de me raccompagner.*
yesterday he has been very kind of me accompany
'Yesterday, he was very kind to drive me home.'

(21) *Elle est d' une grande fatigue / inquiétude.*
she is of a great fatigue / worry
'She is very tired/worried.'

RPCs, on the other hand, though allowing for a wider range of adjectival predicates than do TCs, are incompatible with stage-level predicates, witness the unacceptability of (22):

(22) **Le boxeur est blessé de la tête.*
the boxer is injured of the head
(intended) 'The boxer is injured at the head.'

This last observation is indicative of this construction's main function, namely to characterize a given entity (DP1) by means of one its most distinctive properties, that is, a property that can distinguish that entity from other referents. Quite naturally, entities are categorized on the basis of salient properties that remain stable over time, that is, by means of individual-level predicates (cf. Kleiber 1984, 1994; Van de Velde 2018).

As to the status of the relation between the two DPs in RPCs, note first of all that DP2 cannot be an alienably possessed noun (23) nor a kinship term (24), even though the latter is clearly relational:

(23) **Nous avons croisé un enfant rouge de pantalon.*
we have crossed a child red of trousers
(intended) 'We came across a kid with red trousers.'

(24) **Il est intelligent de père.*
he is intelligent of father
(intended) 'He has an intelligent father.'

Rather, the adjective has to combine with an element that refers to an essential part of DP1, such as a body part, or, more abstractly, a 'dimension' (we return to the meaning of this term below):[8]

**8** As noted by a reviewer, not all body parts are suitable restrictors in RPCs, as the following ungrammatical examples show:

(i) a. **Il est grand des pieds / de la bouche.*
he is big of_the feet / of the mouth
b. **Il est large du visage / des lèvres.*
he is wide of_the face / of_the lips

(25) *Elle est noire de peau / grande de taille.*
she is black of skin / large of size
'She is black of skin / tall of stature.'

The resulting complex predicate refers to an individual-level property, that is, an essential, stative property of a given entity. This predication relation is further strengthened by a possession relation that holds between XP1 and XP2. The strength of this relation can be demonstrated if we take into account so-called 'lifetime effects' (Kratzer 1995). For example, the use of the past tense in the RPCs in (26) invites the implicature that the referent of DP1, together with all its constituent parts, no longer exists:[9]

(26) *Elle était noire de peau / grande de taille.*
she was black of skin / large of size
'She was black of skin / tall of stature.'

It has to be noted that in RPCs, the adjective can in fact also combine with a noun that refers to a non-essential part of DP1, such as a physical or psychological property. If so, the adjective comes close to having the semantics of an intensifier, and the entire complex predicate comes to denote a non-essential part. This effect is illustrated in (27):

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We take this observation to mean that only those body parts that *crucially* determine a (physical) dimension of a given entity are acceptable in the RPC. For exemple, neither the size of a person's feet nor that of their nose contribute to defining that individual's height, whereas the torso and legs do. For a general overview of constraints on nominals in the RPCs, see Tayalati & Mostrov (2022, section 3).

**9** A reviewer points out to us that some RPCs require a silent determiner (ia), others an overt determiner (ib), and some allow for both options (ic):

(i) a. *Elle est exceptionnelle de patience / *de la patience.*
she exceptional of patience / of the patience
'She is exceptionally patient.'
b. *Il est grand du / *de haut.*
he is big of_the / of hight
'He is tall.'
c. *Il est large d' / des épaules.*
he is broad of / of_the shoulders
'He is broad-shouldered.'

Given that we assume a D projection to be present in all RPCs, this variability does not necessarily pose a problem for our analysis, but we do acknowledge that the exact conditions under which an overt determiner is required, allowed or banned remain to be understood. We leave this issue for future research.

(27) a. *une femme exceptionnelle d' intelligence*
a woman exceptional of intelligence
'a woman of exceptional intelligence/an exceptionally intelligent woman'
b. *une peau éclatante de blancheur*
a skin shining of whiteness
'a skin that is shiningly white'

Despite the fact that that the properties attributed to DP1 in the above examples can be considered not essential, they can still be used to distinguish (and thus categorize) the referents they are applied to. Nevertheless, in contrast with essential individual-level predicates, a non-essential property of this type does not trigger lifetime effects. For example, the fact that the examples in (28) feature a past tense only implies that the subject no longer possesses the attribute that is mentioned:

(28) a. *A une époque, cet homme était exceptionnel d' intelligence.*
at one time this man was exceptional of intelligence
'At one point, that man was exceptionally intelligent.'
b. *Sa peau était éclatante de blancheur.*
POSS skin was shining of whiteness
'Their skin was shining white.'

Finally, the adjective can also appear with a complement DP which is a deverbal noun with a passive interpretation. Consider for example the data in (29), which highlights the affinities between RPCs and TCs (both examples can readily be paraphrased by means of a TC,[10] compare for example (29a) to (1a)).[11]

**10** The passive meaning of the post-adjectival element in TCs, whether it is an infinitive or a deverbal nominalization, has often been commented upon, notably on the basis of the possibility to add an agent argument (a '*by*-phrase'): see, among others, Authier & Reed (2009a: 12) (on French, cf. the example in (i) below, Giurgea (2016: 126) (on Romanian), and Engelhardt (2002: 210) (on Hebrew).

(i) *le test est* [...] *facile d' utilisation par l' ensemble*
the test is easy of usage by the whole
*du corps médical*
of_the staff medical
'The test is easy to use for (lit. by) the entire medical staff.'
(example retrieved through a Google search at <https://ngtest-covid-19.com/ng-test-covid-19-serologique/>, last accessed 29.08.2022)

**11** This is in line with recent work by Van de Velde (2018, 2020), who argues that in French TCs, the complex predicate consisting of the adjective and the infinitive attributes to DP1 a dispositional property.

(29) a. *Pour une fois, ils ont développé un logiciel facile d' utilisation.*
for one time they have developed a device easy of usage
'For once they developed a device that is easy to use.'
b. *un bâtiment difficile d' accès*
a building difficult of access
'a building that is difficult to enter'

In general, when we compare RPCs and TCs, it is clear that the latter display a higher degree of flexibility as far as the range of lexical items is concerned whose projections can fill the slot of XP2. For example, XP2 in TCs can contain an eventive nucleus (as illustrated in (30)), which is not allowed in RPCs (31):

(30) a. *un bijou facile à dissimuler* TC
a jewel easy to hide
'a jewel <which is> easy to hide'
b. *Ce livre est agréable à traduire.*
this book is pleasant to translate
'This book is pleasant to translate.'

(31) a. **un bijou facile de dissimulation* RPC
a jewel easy of hiding
b. **Ce livre est agréable de traduction.*
this book is pleasant of translation

On the other hand, certain eventive verbs or their nominalizations can appear in both constructions:[12]

(32) a. *un logiciel facile à utiliser* TC
a device easy to use
'a device <which is> easy to use'

**12** The example in (32b) was found through a Google search at <https://www.lorientlejour.com/article/985246/lonu-denonce-une-serie-de-violations-commises-par-les-forces-de-securite-turques.html> (last accessed 29.08.2022). As indicated by the %-sign, not all native speakers accept this example, with some preferring the verb *accéder* 'access' to be complemented by a PP rather than a bare DP (it is the latter construal that underlies (32b)).

b. *% une zone si grande et si facile à accéder*
a zone so big and so easy to access
'an area <which is> so big and so easy to access'

(33) a. *un logiciel facile d' utilisation*[13] RPC
a device easy of usage
'a device <which is> easy to use'
b. *une zone facile d' accès*
a device easy of usage
'an area <which is> easy to access'

Let us then try to explain the similarities and differences between the two constructions. First, the contrast between (30) and (31) can be interpreted as follows. We can assume that some properties or attributes of a given entity are more essential than others, in the sense that they refer to an inherent property of the subject in question, rather than to some accidental property whose presence or absence does not fundamentally alter the nature of that entity. We can then say that the complement of *tough*-adjectives may make reference to any property of the external subject, whereas RPCs can only feature those that qualify as an essential attribute of the subject of the entire construction. To be a bit more precise, with Van de Velde (2018: 116–119) we may assume that whenever an eventive deverbal noun acts as XP2 in an RPC, it is interpreted as a 'dimension' of DP1. Note that we understand this term not in its strict sense, referring to physical dimensions only (cf. (34b)), but rather to all properties that define a given entity, including more abstract ones (cf. (34a)):

(34) a. *Ce livre est d' une lecture parfaite.* RPC
this book is of a reading perfect
'This book makes for perfect reading.'

**13** As a reviewer points out, deverbal nouns admitted in RPCs with *de* can sometimes also be linked to a *tough*-adjective by *à*:

(i) *Ces véhicules sont agréables* [*à la conduite*].
these vehicles are pleasant for the driving
'These vehicles are pleasant to drive.'

One could hypothesize that in this usage, *à* 'to' introduces a Goal PP: as a result, 'driving' is not here conceptualized as the prototypical property of cars, but rather more narrowly as the goal for which cars are made, that is, their main function. If this line of reasoning is on the right track, it would follow that the alternation between *à* and *de* is not free in this particular syntactic context, but rather semantically conditioned.

b. *Ce livre est d' une forme parfaite.*
this book is of a shape perfect
'This book is perfectly shaped.'

The idea to assimilate the eventive expressions acting as XP2 in the examples in (32), (33) and (34a) to physical dimensions (as in (34b)) receives further support from the observation that both can appear in a number of other possession constructions. For example, nouns like *utilisation* 'usage', accès 'access' and *lecture* 'reading' can all appear with the possessive verb *avoir* 'have' (35), as well as in a particular binomial construction which expresses inalienable possession (the basic shape of this pattern is 'N1 + *à* + definite article + N2 + adjectival modifier', cf. (36)):

(35) a. *Nous avons créé un logiciel qui a une utilisation facile.*
we have created a device which has a usage easy
'We have created a device that is user-friendly.'
b. *Cette zone a un accès facile.*
this are has an access easy
'This area can easily be accessed.'
c. *Ce livre a une lecture assez facile* [. . .].[14]
this book has a reading fairly easy
'This book is fairly easy to read.'

(36) a. *Nous avons créé un logiciel à l' utilisation facile.*
we have created a device with the usage easy
'We have created a device that is easy to use.'
b. *Nous entrons dans une zone à l' accès facile.*
we enter into an area with the access easy
'We are entering an area that can easily be accessed.'
c. *un livre à la lecture facile*
a book with the reading easy
'a book that is easy to read'

To conclude this section, we can say that in the case of RPCs, a deverbal noun is conceived of as a constitutive part of DP1, and is syntactically integrated in the con-

**14** Example retrieved through a Google search at <https://www.babelio.com/livres/Vigne-Neachronical-tome-1--Memento-Mori/615142/critiques>, last accessed 29.08.2022.

struction as XP2: as such, it fulfils its by now familiar role of a semantic restrictor. By extension, we argued that in TCs too there exists a part-whole relation between DP1 and the infinitive, in the sense that the latter is conceived as one of the defining features of the former.

More generally, it seems to be the case that the two French constructions exploit the same lexical strategy to articulate the link between XP1 and XP2 as the one we encountered for MSA constructions of the type illustrated in (9).

## 3.4 The status of *à* and *de*

The fourth and last property shared by TCs and RPCs concerns the status of the functional morpheme appearing between the adjective and XP2. Specifically, there is evidence that in both cases these elements are fully functional items, devoid of any lexical content, and by this token distinct from the respective homophonous prepositions. For example, it is well known that genuine PPs headed by *à* and *de* can be replaced by a dedicated clitic pronoun (*y* in the case of *à*, and *en* in the case of *de*, cf. the b-examples in (37) and (38)), and they can also be *wh*-moved (illustrated here with interrogative *wh*-movement in the c-examples):

(37) a. *Emily est attentive à nos attentes.*
Emily is mindful to our expectations
'Emily is mindful of our expectations.'
b. *Emily y est attentive.*
Emily of.them.CL is mindful
'Emily is mindful of them.'
c. *A quoi Emily est elle attentive*?
to what.Q Emily is she mindful
'What is Emily mindful of?'

(38) a. *Émile a été accusé de vol.*
Émile has been accused of theft
'Émile was accused of theft.'
b. *Émile en a été accusé.*
Émile of.it.CL bas been accused
'Émile was accused of it.'
c. *De quoi Émile a-t- il été accusé*?
of what.Q Émile has he been accused
'What was Émile accused of?'

On the other hand, both operations are categorically ruled out in the case of the post-adjectival elements in TCs (39) and RPCs (40), a fact that can be interpreted to mean that though homophonous with genuine prepositions, *à* and *de* are of a different category in the relevant environments.

(39) a. *La voiture est agréable à conduire.*
the car is pleasant to drive
'The car is pleasant to drive.'
b. **La voiture y est agréable.*
the car for.it.CL is pleasant
(intended, approx.) 'The car is pleasant for it.'
c. **A quoi la voiture est elle agréable*?
for what.Q the car is she pleasant
(intended) 'In which respect is this car pleasant?'

(40) a. *Cet enfant est vif d' esprit.*
this child is lively of mind
'This child is quick-witted.'
b. **Cet enfant en est vif.*
this child of.it.CL is lively
(intended, approx.) 'This child is quick in this respect.'
c. **De quoi cet enfant est il vif*?
of what.Q this child is he quick
(intended) 'In what respect is this child quick?'

Would it then be possible to analyze *à* and *de* as complementizers? In the case of the element *de* as characteristic of RPCs, an analysis along these lines is dubious because *de* only introduces nominal elements, which is not what complementizers are normally specialized to do. The element *à* appearing in TCs seems a better candidate to be a type of complementizer (see Section 4.2), although one could object that this analysis is doubtful in view of the fact that the infinitive does not alternate with a finite complement clause introduced by a genuine *that*-complementizer like *que* (see, among others, Canac Marquis 1996, Huot 1981, Guérin 2006). This type of alternation is in fact attested with certain impersonal constructions featuring an expletive subject and a clausal associate:

(41) a. *Il est important* [*de réaliser vos rêves*].
it is important of realize your dreams
'It is important to make your dreams come true.'

b. *Il est important* [*que vous réalisiez vos rêves*].
it is important that you realize.SBJV your dreams
'It is important that you make your dreams come true.'

To sum up, while we agree with the claim from Guérin (2006) that the string '*tough*-adjective + *à* + infinitive' is to be analyzed as a complex predicate, we do not accept the author's position that the element *à* is a preposition.

All in all, our discussion of the similarities between French RPCs and TCs suggests that there are sufficient grounds to attempt a unified analysis of the two constructions. In the following section, we will suggest that the common core of both structures is a process of predicate inversion that is involved in the derivation of the complex predicate consisting of the adjective and XP2.

# 4 Two types of predicate inversion

In this fourth section we will sketch the contours of a syntactic analysis of the French constructions that we are concerned with. The principle aim is to capture both what unites French RPCs and TCS, namely the presence of a complex predicate in which an adjective is combined with a nominal(ized) element, as well as the characteristic word order 'predicate – subject'. Importantly, we also want to account for the two most salient differences between the two structures, namely the different choice of linking element (*de* vs. *à*), and the fact that a broader range of post-adjectival restrictors is tolerated in TCs as compared to RPCs. We start with the analysis of RPCs.

## 4.1 Restrictive Partitive Constructions and predicate inversion

In a nutshell, our analysis of French RPCs is built on the idea that the characteristic 'predicate (= adjective) – subject (= XP2)' order is derived through A-movement of the predicative AP, yielding what can be considered a case of predicate inversion that shares a number of properties with other French constructions that have been analyzed in similar terms. Concretely, we assume that at the heart of the construction is the predicative nucleus in (42). Following den Dikken (2006), we take it that the subject-predicate relation is established through mediation of a relator-head,

which can essentially be a functional head of any kind.[15] For present purposes, all that matters is that the relevant relator does not give rise to phi-agreement (viz. in number and gender) between the nominal category and the adjective.

(42) [$_{\text{RelatorP}}$ [$_{\text{DP}}$ taille ] [$_{\text{Relator'}}$ Ø [$_{\text{AP}}$ grand] ]]

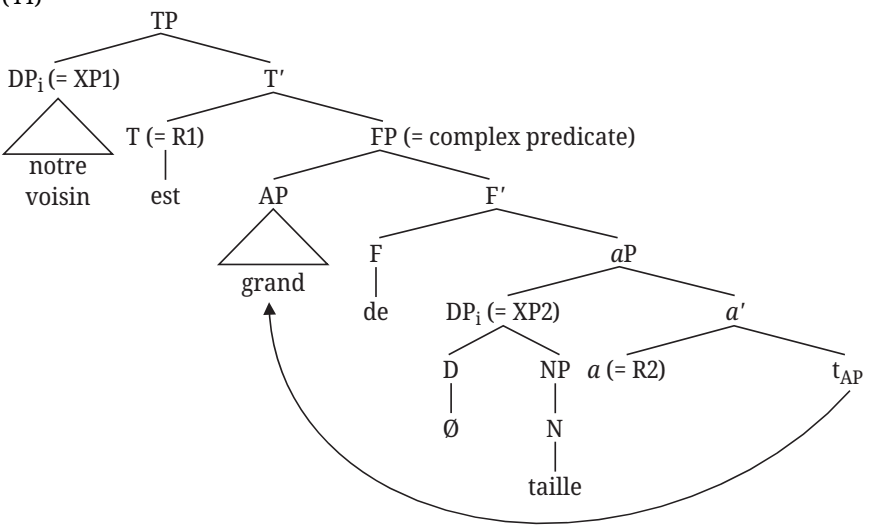
In the next step of the derivation, predicate inversion takes place. Here, the structure we propose features the expected linker *de*, which is also found in French in a wide range of (DP-internal) instances of predicate inversion, such as those (43), where we see a binominal structure in the a-example, and a 'noun-adjective' structure in the the b-example (the syntax of the latter structure is fairly complex: for discussion we refer to den Dikken (2006: 229–236), and to the references cited there):

(43) a. *ce bijou d' église*
that jewel of church
'that jewel of a church'
b. *une pizza de chaude*
a pizza of cold
'a hot pizza'

Our assumption is that the linking morpheme *de* can appear in a variety of 'predicate-subject' constructions, as long as the inverted order is not derived through A-bar movement (more on this option in Section 4.2). Movement of the AP past its subject (= XP2) effectively completes the derivation of the complex predicate, which then simply combines with its external subject (= XP1) via mediation of a second relator, to yield the complete structure which is detailed in (44). The main difference between the higher and the lower Relator Phrase is that in the latter but not the former there is phi-agreement between the subject and the predicate.

**15** The analysis from den Dikken (2006) differs from that of Bowers (1993), who postulates the existence of a functional head Pred, which, as its name suggests, is very narrowly specialized to encode predication relations. As mentioned, under den Dikken's proposal, any functional head, irrespective of its semantic content, can act as a relator, and no functional head exists whose sole function it is to be a relator.

(44)




Let us further comment upon the most important properties of this structure. First, as indicated we may assume that the higher relator (R1) can be equated with the functional head T (without excluding that the inflected copula is not in fact base-generated in T, but rather that it originates in a lower head between T and the complex predicate FP, not shown here). The lower relator (R2) may be identified as 'little *a*', that is, the adjectival counterpart of the verbal head *v* (on this last fuctional head as a relator, see den Dikken 2006: 22–24). Second, we take it that the semantic connection between the two nominals is established through a binding relation of the type argued for in Vergnaud and Zubizarreta (1992). Specifically, we propose that the phonologically empty D-head contains an expletive article, and that the variable index associated with XP2 (the lower DP) is bound by the subject of the whole construction (that is, XP1). The semantic correlate of this binding configuration is the part-whole relation that exists between the binding and the bound category.[16] Evidence that the element to the left of the linker *de* is a (type-denoting) DP (type <e>), not a bare NP (type <e,t>), comes from cases where a(n expletive) definite article is overtly present. This is the case in (45), where the plural definite determiner appears amalgamated with the linking element *de*:

(45) *une* *personne* *large* *des* *hanches*
a person board of_the.PL hips
'a person with broad hips'

**16** Compare also the analysis of Arabic TCs in Tayalati and Danckaert (2020).

A third issue concerns the motivation of AP movement. We would like to propose that predicate inversion in RPCs instantiates a case of A-movement, rather than A-bar movement (on both types of movement in the adjectival extended projection, see also Corver 2000). We can further hypothesize that the linking element *de* is not just a nominal copula (den Dikken 2006), but more generally a non-verbal copula which may appear in the adjectival domain too. However, we do acknowledge that further research is needed to further clarify the exact properties of the target site of predicate movement. In any event, the head F which hosts the linker *de* is part of the extended projection of the adjective *grand* 'tall': this is sufficient to guarantee that the complex constituent *grand de taille* 'tall of stature' should have the distribution of a regular, albeit prosodically heavy, adjective.

Having discussed the syntactic structure of French RPCs, we now move on to TCs.

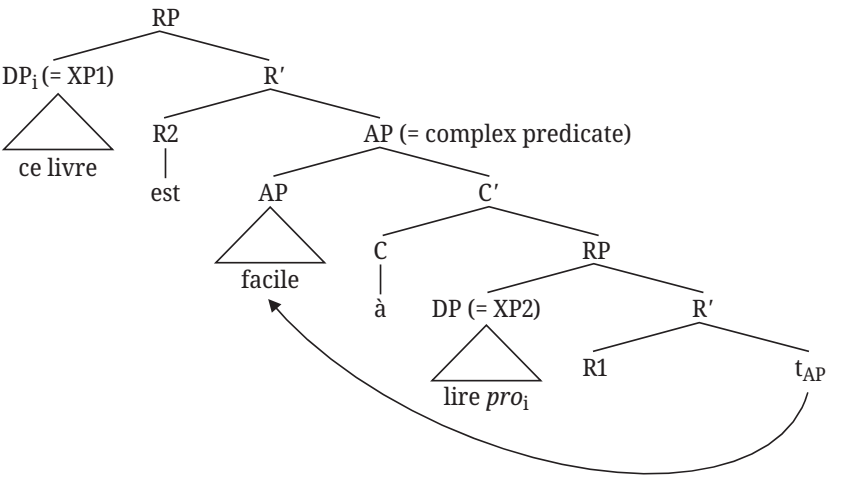
## 4.2 French *tough*-constructions and predicate relativization

The core ingredients of our analysis of French TCs are the following. First, we assume that they contain a predicational core like (46), with a phonologically null relator (as was the case for RPCs). Following Authier and Reed (2009a,b), we analyze the infinitive itself as a deverbal nominalization. For reasons of space, here we will not be further concerned with the internal structure of this part of the structure, which we simply label as 'DP' in the representation in (46):

(46) $[_{\text{RelatorP}}\ [_{\text{DP}}$ lire ] $[_{\text{Relator'}}$ Ø $[_{\text{AP}}$ facile] ]]

Next, we propose that the predicate-subject order is derived through A-bar movement of the predicate AP, yielding a structure in which the string '*à* + infinitive' is a type of non-finite relative clause, which takes the *tough*-adjective as its antecedent. By drawing a structural parallel between TCs and restrictive relative clauses, our analysis directly accounts for our earlier proposal that the post-adjectival element in a TC semantically acts as a restrictor of the *tough*-predicate. Furthermore, the morpheme *à* is analyzed as a non-finite complementizer lexicalizing C° (on *à* fulfilling a similar function in other relativization structures, see Sleeman (2005) and Giurgea and Soare (2010a,b)). Finally, just as in the case of RPCs, the external subject DP1 is combined with the complex predicate via a second relator head. All this is summarized in (47):

(47)




Let us further comment upon some of the properties of this structure. First, we take it that A-bar movement of the AP is akin to Head-raising deriving a restrictive relative clause. As a result, under our analysis French TCs are structurally similar – though by no means identical – to other patterns that have been analyzed in terms of predicate relativization, such as those in (48):

(48) a. the [$_{NP}$ [$_{NP}$ great actor]$_i$ [$_{CP}$ (that) he always wanted to be ~~a~~ ___$_i$ ]
b. Lisa is [$_{DegP}$ [$_{DegP}$ [$_{AP}$ tall]$_i$ [$_{Deg'}$ -er]] [$_{CP}$ than OP$_j$ John is [$_{DegP}$ t$_i$ [$_{Deg'}$ t$_j$ ]]]].
c. Juan no entendió [ lo [$_{AP}$ hermosa$_i$ [$_{CP}$ que era$_j$
Juan not understood DET.N beautiful.F.SG that was
la novela t$_j$ t$_i$ ]]].
DET.F novel(.F)
'Juan did not understand how beautiful the novel was.'
(Szczegielniak 2013: 256, his (2))

For reasons of space, we will not elaborate on all the intricacies of the syntactic derivations of these three examples, but we will say a couple of words about what they have in common, namely (i) A-bar movement of a predicate and (ii) the presence of a relative clause. First, (48a) shows relativization of a nominal predicate: this construction is slightly peculiar in English because it requires a definite external determiner, whereas inside the relative clause, the predicate needs to be indefinite. Next, in Lechner (2004) a head raising analysis is proposed for clausal comparatives such as that in (48b) (see in particular Lechner 2004: 38–51). Specifically, analyzing comparative adjectives as degree phrases (DegPs), the author argues that clausal com-

paratives involve AP-raising from the specifier of DegP in the embedded clause to the specifier of a DegP in the matrix clause (the higher DegP is itself headed by the comparative morpheme). Finally, Spanish has a type of degree relative clause, illustrated in (48c). Szczegielniak (2013) proposes that these structures involve raising of a predicative adjective, along lines indicated in the example. Support for this analysis comes from the fact that the adjective agrees in gender (and number, not indicated in the glosses) with the NP inside the *que*-clause, namely *novela* 'novel'.

Note furthermore that our analysis of French TCs as non-finite predicate relatives (derived through A-bar movement of the relative head) is in line with the descriptive generalization that predicate relativization canonically involves head raising (Cinque 2015: 8–9, 2020: 22). This aspect of our analysis is also compatible with the observation that French TCs are transparent for *wh*-movement (cf. (49)), given that *wh*-movement across a *wh*-moved predicate tends to be (relatively) acceptable (on the status of extractions of this kind in English, see den Dikken 2006: 86):[17]

(49) [*A qui*]$_i$ *un tel livre est il facile à offrir* ___$_i$ ?
to whom a such book is it easy to offer
'To whom is such a book easy to give?'
(Authier and Reed 2009b: 16, their (32b))

Second, observe that the complex predicate in (47) is labeled as an AP. We take it that semantically, a restricted adjective is still an adjective; in terms of its categorial distribution, the relevant unit clearly behaves like a(n internally complex) adjective, not like a clause. However, from a theoretical-syntactic point of view, this aspect of the structure in (47) is potentially worrisome, as the categorial label is provided by the raised specifier, not by the head of the projection (the relative complementizer *à* in C°), violating endocentricity.[18] However, as argued in Donati and Cecchetto (2010) and Cecchetto and Donati (2015), there is evidence that this is exactly what may happen in relative constructions involving head raising. Consider, for example, a simple case of direct object relativization (cf. (50)):

**17** This observation need not be problematic in light of our assumption that French *tough*-infinitives are DPs, given that *wh*-movement out of DPs is not ruled out in the language (which is not to say that there are no constraints on this operation: see, among others, Godard 1992).

**18** Labeling of a mother node by a displaced phrasal category is also allowed in the system of Chomsky (2008, 2013), but only if the moved element shares one or more features with the head of the projection it moves to (and by this token, if the moved phrase and the attracting head are in an Agree-relation). This is not the case for the headed relative clauses analyzed by Donati and Cecchetto (2010) and Cecchetto and Donati (2015), nor for French TCs as analyzed in the present paper.

(50) $[_{DP}$ the $[_{NP}$ books$_i$ $[_{CP}$ (that) John read $\_\_{}_i$ ]]]

In this structure, the base position of the raised direct object is inside a verbal extended projection, whose topmost functional layer is a CP, that is, a clause. However, it is clear that the structure in (50) is a DP containing a clausal modifier, not a (nominalized) clause. To solve this conundrum, Donati and Cecchetto (2010) and Cecchetto and Donati (2015) propose that the raised head relabels the clausal extended projection as nominal. This step of the derivation effectively ensures that the c-selection requirement of the external determiner is met. Taking our cue from this analysis, we propose that in French TCs too, the A-bar moved head (the 'antecedent') of the relative clause provides the label of the entire complex predicate (comprising both the head and the relative modifier).[19]

Third, one major consequence of our proposal is that at the level of DP1 (the subject of the complex predicate), French TCs do not involve passive-like A-movement (*pace* Authier and Reed 2009b, Giurgea and Soare 2010a) nor operator-like A-bar movement (or *wh*-movement). Rather, in the proposed structure the highest subject is base-generated in the specifier of the RelatorP that takes the AP as its complement.

In this respect, it is interesting to note that French TCs differ considerably from their English counterparts. In particular, in the wake of Chomsky (1977, 1982) it is standardly assumed that *wh*-movement plays a role in the derivation of English TCs (although there is also – and apparently contradictory – evidence that they involve A-movement as well: see e.g. Hicks 2009). Evidence for the presence of A-bar movement comes from the observation that *tough*-movement can be recursive, and that it can license parasitic gaps. Interestingly, it is well established that both these phenomena are impossible in the case of French TCs (see e.g. Authier and Reed 2009b: 2). Especially the impossibility to apply recursively casts doubt on an operator movement analysis of French TCs.

The two remaining options, viz. base generation and A-movement of XP1 (DP1), are more difficult to evaluate. On the one hand, building on Kayne (1975) and Legendre (1986), Authier and Reed (2009b: 3–12) present a series of similarities between TCs and passive raising in French: although the parallel between the two operations breaks down at some point, it is certainly the case that their properties are highly similar. On the other hand, if our idea that French TCs involve predicate

**19** Note however that even if we adopt the labeling theory of Donati and Cecchetto (2010) and Cecchetto and Donati (2015), it remains to be determined what the trigger could be of AP movement in a structure like (47). In particular, given that the resulting category arguably isn't (c-)selected by any head in the matrix clause, it does not seem feasible to extend Donati and Cecchetto's (2010) analysis of the trigger of NP movement in relativization structures to AP movement in French TCs.

inversion is on the right track, it is nearly impossible to think of a plausible syntactic derivation in which XP1 is A-moved across the inverted predicate. Consider why this is so.

As to the first option, if we were to assume that the former is itself A-moved – which is not the analysis that we are proposing – subsequent A-movement of XP1 would be a clear violation of Relativized Minimality (Rizzi 1990). Under the alternative, A-bar movement analysis of the complex predicate that is proposed here, A-movement of XP1 is equally problematic, as it qualifies as a instance of Improper Movement (in the sense of Chomsky 1973). Assuming that the CP-layer headed by *à* constitutes a cyclic domain, raising of XP1 would have to involve an intermediate step at the edge of CP, which under standard assumptions cannot be followed by a movement step targeting an A-position.[20]

Base generating XP1 outside the complex predicate clearly does not run into locality problems of this type, but it raises questions about (i) the above-mentioned parallels between passives and TCs and (ii) the thematic properties of XP1, in particular in relation to the verbal core of XP2. Concerning the first question, if we follow Authier and Reed (2009a,b) in analyzing the infinitive of French TCs as deverbal nominalizations, the parallel behaviour of TCs and passives would primarily result from the absence of a (syntactically projected) external argument, without there being any necessity to assume that both phenomena involve A-movement. In addition, as mentioned in Section 3.3 (see also fn. 10) *tough*-infinitives tend to have passive-like properties in many languages, again without this implying that TCs themselves are derived through A-movement.[21] Second, as to the thematic relation between XP1 and the *tough*-infinitive, we take it that the internal argument of the (nominalized) verb is a null clitic (indicated as *pro* in (47)), which is bound by the higher subject.[22] In this respect, it is interesting to note that in some varieties of non-standard French, an overt object clitic can be attached to the infinitive of a *tough*-construction:[23]

**20** But see Brillman (2015) for an analysis of (English) TCs as involving Improper Movement.

**21** Note also that if indeed Authier & Reed's (2009a,b) nominalization analysis is on the right track, A-movement of a DP out of this nominal category would pose locality problems of the 'A-over-A' kind (Chomsky 1964: 46, fn. 10).

**22** The dependency between the subject of the TC and the null clitic is reminiscent of a clitic doubling configuration whereby the DP and the clitic do not enter the derivation as a 'big DP' (Torrego 1995), but rather base-generation of both items in separate positions in the structure (Sportiche 1996). We leave it for future research to explore how the obligatory coreference between the subject and the clitic can be derived from the syntactic structure.

**23** We thank an anonymous reviewer for drawing our attention to examples of this kind. (51) is an attested example found at <https://monchiwawa.com/que-faire-si-votre-chien-chihuahua-est-diffi-

(51) [*Les chihuahuas*]$_i$ *sont difficiles à les$_i$=faire manger.*
the chihuahuas are difficult to them=make eat
'It is difficult to make chihuahuas eat.'

The same phenomenon can be observed in dialectal varieties of Spanish (the example in (52) is taken from Bosque and Gallego 2011: 39).[24]

(52) *Eso$_i$ es muy difícil de solucionar=lo$_i$.*
that is very hard of solve=it
'That is very hard to solve.'

# 5 Conclusion

In this chapter we have offered a partly unified analysis of French *tough*-constructions (TCs, e.g. *ce livre est facile à lire* 'this book is easy to read') and what we have called 'Restrictive Partitive Constructions' (RPCs, e.g. *notre voisin est grand de taille* 'our neighbour is tall <of stature>'). Starting from the description of comparable constructions in Modern Standard Arabic, we proposed that the common core of both structures in French is a complex predicate which features the order 'predicate-subject', and in which the inverted subject semantically acts as a restrictor of the adjectival predicate. Concerning the syntax of French TCs and RPCs, we proposed that in both cases the characteristic 'predicate-subject' order inside the complex predicate is derived through movement, but that the nature of the movement operation, and concomitantly, the lexicalization of the overt linker, is different in both cases. Concretely, predicate inversion in RPCs was argued to be an instance of A-movement, whereas the same phenomenon in TCs was analyzed in terms of A-bar movement. Although we had to leave open a number of questions regarding the syntax and semantics of the structures under discussion, we hope that our chapter contributes to the study of predication relations, in particular complex predicates and predicate inversion.

cile-avec-sa-nourriture/> (last accessed 23.01.2023). Similar examples can easily be found on the internet.

**24** As documented Tayalati and Danckaert (2020), MSA TCs also feature obligatory pronominal resumption.

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Kaori Miura and Hideki Kishimoto

# Chapter 3
# On the syntax of psychological expressions in Japanese: their predicative and adjunctive nature

**Abstract:** This chapter concerns the embedding and adjunction of what we call Psychological Expressions (PEs) derived from adjectives and nominal adjectives. Most typically, these PEs interpretively describe the mental state of the subject of the verb. We will address the question of whether PEs are construed as predicates or adverbial modifiers. Our major claim is that PEs embedded under epistemic verbs are identified as predicates, while the PEs in the non-epistemic verb constructions act as adverbial modifiers. The epistemic verb PE embeds a small clause in which the accusative argument and the PA are contained. The PE cannot be scrambled over the accusative argument, due to the Anti-Locality Principle. In contrast, the non-epistemic PEs may adjoin to VP (object-oriented) or vP (subject-oriented) depending on its semantic orientation. We will argue for this view with recourse to the facts regarding subject honorification and negative focus. In particular, negative focus is argued to provide crucial evidence that the PE undergoes LF movement to form a local adnominal modification relation with an argument so as to identify the argument as its experiencer.

**Keywords:** psychological expression, predication, adjunction, LF Psych-Movement, subject honorification, negative focus, Japanese, Korean

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# 1 Introduction

This chapter concerns the embedding and adjunction of what we call Psychological Expressions (PEs) derived from adjectives (e.g. *omosiroi* 'interesting' and *oisii* 'tasty') and nominal adjectives (e.g. *kyoomisinsin* 'curiosity', *wagamama* 'selfish') and so forth.[1] We will address the question of whether PEs are construed as predicates or adverbial modifiers. Our major claim is that PEs embedded under epistemic verbs are identified as predicates, while the PEs in the non-epistemic verb constructions act as adverbial modifiers.

Our empirical starting point is the observation of an ordering puzzle between two seemingly similar clauses in Japanese, both involving PEs. In (1a) a sequence consisting of an accusative nominal plus *omosiroku* 'interesting' appears with the epistemic verb *kanziru* 'feel'. In (2a) exactly the same sequence occurs with the verb *yomu* 'read', which is an instance of non-epistemic verbs.[2] The two sentences look alike except for the choice of the matrix predicate. However, as (1b) and (2b) illustrate, PEs show a split in distribution. In (1b), *omosiroku* cannot appear before the accusative NP *hon* 'book', while in (2b), it can appear before the accusative NP.

(1) a. *John wa sono hon o omosiroku kanzi-ta.*
John TOP that book ACC interesting feel-PST
'John felt that book to be interesting.'
b. **John wa omosiroku sono hon o kanzi-ta.*
John TOP interesting that book ACC feel-PST

(2) a. *John wa sono hon o omosiroku yon-da.*
John TOP that book ACC interesting read-PST
'John read that book and found it interesting.'

**1** PEs can be categorially two types: one is the mental state adjective such as *omosiroi*, and the other is the perception adjective such as *oisii*. Although the latter type may not describe a psychological state in a strict sense, both types of adjectives may describe externally observable mental states of individuals, and fall into the single class since they pattern together syntactically.

**2** A sentence like *John-wa hon-o omorisoku yonda* 'John read the book and found it interesting' represents a personal experience of the agent *John*. In contrast, *John-wa omosiroi hon-o yonda* 'John read an interesting book' is ambiguous in that the adjective can represent either a personal experience (i.e. John's personal experience such that he read a book which he found interesting personally) or an objective judgement (i.e. John read a book which is considered to be interesting to the readers in general).

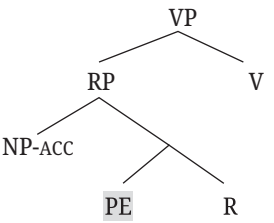
b. *John wa omosiroku sono hon o yon-da.*
John TOP interesting that book ACC read-PST

This split correlates with the difference in selection and modification of the two types of verbs. The epistemic verb *kanziru* may select a clausal complement in which both *omosiroku* and the object are contained. On the other hand, the transitive verb *yomu* selects a nominal complement and *omosiroku* is a verbal modifier. Kishimoto (2022) suggests that secondary predication may be established by direct predication or indirectly with the mediation of control. We argue that (1a) involves direct predication, being mediated by a Relator (den Dikken 2006, 2007). We provide evidence that control is not involved in (1a), basing our discussion on the fact that the small clause predicate cannot be scrambled over to the left of the object, as in (1b). This ordering restriction does not obtain in (2a), as seen from (2b).

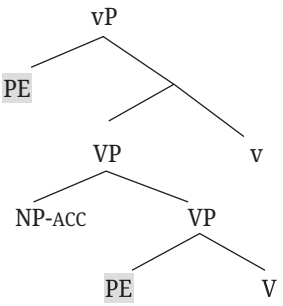
In Japanese, it is well observed that secondary predicates can be displaced (Koizumi 1994). Hence, one interesting issue to be raised is why the order of the PE and the accusative NP in the epistemic construction in (1a) is fixed, whereas that of the PE and the accusative NP in the non-epistemic construction in (2a) is not. We argue that (1b) reflects the effect of the Anti-Locality Principle (Abels 2003), but (2b) does not. From our perspective, (2a) does not contain a small clause complement. We argue for this view on the basis that a subject honorification relation cannot hold between the object and the PE in the non-epistemic construction. We claim that PEs with non-epistemic verbs are modifiers, and are adjoined to either VP or vP, depending on the meanings they carry (Sode 2002). The present view of the PE in (2a) stands in sharp contrast with Matsuoka's (2021, 2023) claim that the PE in (2a) is a secondary predicate and projects a position for a subject. We will argue against Matsuoka with recourse to the facts regarding subject honorification and negative focus, in particular.

The proposed structural differences between (1a) and (2a) are schematized in (3) and (4), respectively.

(3) SC complementation




(4) Adverbial modification



We assume that R(elator) is responsible for the formation of the small clause in the non-epistemic verb construction (den Dikken 2006, 2007). In (3), the matrix verb takes RP as its sister, and Spec of RP is filled by the accusative NP. The PE stands in a sister relation to R. The crucial point is that the PE in (3) forms a part of predicational unit, but that of (4) does not. The PE in (4) is adjoined to VP/vP, thereby modifying the matrix verb. Most typically, these PEs interpretively describe the mental state of the subject of the verb. This semantic property of the PE is argued to come from its LF movement to the matrix subject to hold a local adnominal modification relation to the subject, obtaining the LF construal [PA $NP_{subj}$].

The outline of the chapter is as follows. In section 2, we illustrate that the order of PEs with respect to the accusative object is fixed in the epistemic construction as opposed to the one in the non-epistemic construction. In section 2.1, on the basis of the order restriction and other syntactic facts, we argue for a direct predication analysis for PEs with epistemic verbs. In contrast, we argue that PEs with non-epistemic verbs are adverbial modifiers, and are adjoined to the verbal component of the structure. We will provide some pieces of evidence that go counter to Matsuoka's (2021, 2023) proposal on the PEs with non-epistemic verbs. Section 3 elaborates on the syntax of the adjunct PE with the core proposal of LF Psych-Movement. The distribution and interpretation of the PEs with non-epistemic verbs against the negative operator *-nai* 'not' illustrate that they undergo LF Psych-Movement to the matrix subject for adnominal modification if it is the experiencer argument linked to the PE. Section 4 concludes.

## 2 PEs with epistemic verbs and non-epistemic verbs

One important issue to be raised in the subsequent discussion is how secondary predicates (SPs) form a predication relation with their antecedents. In regard to secondary predication, Kishimoto (2022) notes that two types of analysis have been proposed in the previous literature: the direct predication analysis and the control analysis. They differ from each other with respect to whether or not the subject is projected inside the SP phrase.

(5) a. *John left the room* [$_{SP}$ *angry*]. (the direct predication analysis)
b. *John left the room* [$_{SP}$ PRO *angry*]. (the control analysis)

In (5a) the SP *angry* is directly related to the matrix subject *John* without PRO. In (5b) the SP has PRO controlled by the matrix subject *John*. Kishimoto argues both

the depictive SP and the resultative SP in Japanese involve a structure like (5b), which comprises an invisible PRO subject, and that the visible antecedent of the PRO subject is interpreted as the subject of the SP by way of control. Then, he argues that neither the structure (5a) nor (5b) is possessed by adjective-based PEs with non-epistemic verbs like (2a), and that they are not SPs but adverbial modifiers.

Although we agree with the analysis taking PEs with non-epistemic verbs to be verbal modifiers rather than predicates, there is a room for a further exploration. In particular, we will deal with the question of how the different distributions of PEs can be explained when they appear with epistemic and non-epistemic verbs. We claim that the PEs with epistemic verbs are best characterized by the direct predication analysis, whereas the PEs appearing in non-epistemic clauses are verbal modifiers.

## 2.1 PEs with epistemic verbs

In this section, we will provide an analysis of PEs that are formed embedded under epistemic verbs. Japanese epistemic verbs can take a small clause as complement (Kikuchi and Takahashi 1991; Sode 1999, 2002; Koizumi 2002). We argue that when the PE is embedded under an epistemic verb, the RP is syntactically (but not phonologically) present (see den Dikken 2006, 2007).

At the outset, observe that in (6), a set of the object and the nominal adjective in the adverbial form, i.e. *NA stem+ku* [*Mary o* (*totemo*) *kasiko-ku*], can be considered as the complement of the matrix verb *kanziru* 'feel'. What is remarkable about this type of clause is that an ordering restriction is placed on the nominal adjective relative to the object.

(6) a. *John wa Mary o totemo kasikoku kanzi-ta.*
John TOP Mary ACC very smart feel-PST
'John felt Mary to be very smart.'
b. ?**Totemo kasikoku John wa Mary o kanzi-ta.*
very smart John TOP Mary ACC feel-PST

When the matrix predicate is not the epistemic verb but a transitive verb such as *wakasu* 'boil' as in (7), the ordering restriction does not obtain.[3] As in (7b), the nominal adjective can appear before the clausal subject.

**3** Kikuchi and Takahashi (1991) argue that the movement of small clause predicates out of the comparative deletion sentence is impossible, but that of adverbs is possible. A similar phenomenon is identified in the two types of constructions with the PEs, as in (ia) and (ib).

(7) a. *John wa nabe no oyu o atuku wakasi-ta.*
John TOP pot GEN hot.water ACC hot boil-PST
'John boiled the water in a pot hot.'
b. *Atuku John wa nabe no oyu o wakasi-ta.*
hot John TOP pot GEN hot.water ACC boil-PST
(adapted from Kikuchi and Takahashi 1991: 86)

The PE *omosiroku* in (1b) behaves in the same way as the adjective *kasikoku* 'smart' in (6). When *omosiroku* appears with the epistemic verb *kanziru*, its distribution is quite limited, and it cannot occur before the object as in (1b). On the other hand, when *omosiroku* appears with a transitive non-epistemic verb, it can be placed before the object as in (2b).

The same distributional pattern is observed for PEs when they are scrambled over the clausal subject. As shown in (8), the PE *oisiku* 'delicious' in the epistemic verb complement cannot appear before the clausal subject, while *oisiku* with the non-epistemic verb can.

(8) a. **Oisiku John wa sono sasimi o kanzi-ta.*
delicious John TOP that raw.fish ACC feel-PST
'John felt the raw fish to be delicious.'
b. *Oisiku John wa sono sasimi o tabe-ta.*
delicious John TOP that raw.fish ACC eat-PST
'John ate the raw fish and found it delicious.'

Nominal adjectives such as *wagamama* 'selfish' are inflected for *-de* and *-ni*, but not for *-ku*. Nominal adjectives can be embedded by the epistemic verb when they appear in the *ni*-form as in (9a) and (10a), but not in the *de*-form, as in (9b) and (10b).

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(i) a. **John wa* [$OP_i$ [*kono sakana o* $t_i$ ] *kanzi-ta*]
John TOP this fish ACC feel-PST
*yorimo ano sakana o oisiku kanzi-ta.*
than that fish ACC delicious feel-PST
'John felt that fish was more delicious than this fish was.'
b. *John wa* [$OP_i$ [*kono sakana o* $t_i$ ] *tabe-ta*]
John TOP this fish ACC eat-PST
*yorimo ano sakana o oisiku tabe-ta.*
than that fish ACC delicious eat-PST
'John ate that fish and found that it was more delicious than this fish.'

The fact also lends support to the present analysis, although we put aside this construction for the sake of the flow of discussion.

(9) a. *Taroo wa Hanako o wagamama-ni kanzi-ta.*
Taro TOP Hanako ACC selfish-COP feel-PST
'Taro felt Hanako to be selfish.'
b. **Taroo wa Hanako o wagamama-de kanzi-ta.*
Taro TOP Hanako ACC selfish-COP feel-PST

(10) a. *Taroo wa Hanako o sinsetu-ni kanzi-ta.*
Taro TOP Hanako ACC kind-COP feel-PST
'Taro felt Hanako to be kind.'
b. **Taroo wa Hanako o sinsetu-de kanzi-ta.*
Taro TOP Hanako ACC kind-COP feel-PST

When nominal adjectives are combined with the copular verb *aru*, they appear in the *de*-form (e.g. *wagamama-de aru*), but this form is impossible when used with the epistemic verb as in (9b) and (10b). The contrast in acceptability between *a*- and *b*-sentences in (9) and (10), respectively, suggests that nominal adjectives in the *ni*-form may have a similar structure to *ku*-adjectives.

The adequacy of this view is confirmed by the fact that nominal adjective PEs, just like adjective-based PEs, cannot be moved across the accusative NP when the matrix predicate is *kanziru*, as shown in (11).

(11) a. **Taroo wa wagamama-ni Hanako o kanzi-ta.*
Taro TOP selfish-COP Hanako ACC feel-PST
'Taro felt Hanako to be selfish.'
b. **Taroo wa sinsetu-ni Hanako o kanzi-ta.*
Taro TOP kind-COP Hanako ACC feel-PST
'Taro felt Hanako to be kind.'

The data illustrate that the PEs form a small clause with the accusative NP in the epistemic clauses regardless of whether they are categorized as adjectives or nominal adjectives.

Additional empirical support for the distributional contrast of PEs comes from Korean. In Korean, the PEs marked with *-key*, e.g. *masiss-key* 'delicious', may be construed with the epistemic verb *sayngkakhay* 'think' as in (12). They cannot appear before the object *ku mwulkoki* 'that fish' as in (12b) or before the clausal subject *Talo* as in (12c).[4]

**4** The sentence (12a) is not perfect, but four native Korean informants found it better than (12b) and (12c).

(12) a. ?*Talo nun ku mwulkoki lul masiss-key sayngkakhay-ss-ta.*
Talo TOP that fish ACC delicious-*key* think-PST-DEC
'Talo thought that the fish was delicious.'
b. **Talo nun masiss-key ku mwulkoki lul sayngkakhay-ss-ta.*
Talo TOP delicious-*key* that fish ACC think-PST-DEC
c. **Masiss-key Talo nun ku mwulkoki lul sayngkakhay-ss-ta.*
delicious-*key* Talo TOP that fish ACC think-PST-DEC

In contrast, *masiss-key* appearing with the consumption verb *meke* 'eat' exhibits a different distribution, in that it can be scrambled either before the accusative object as in (13b) or before the clausal subject as in (13c).

(13) a. *Talo nun ku mwulkoki lul masiss-key mek-ess-ta.*
Talo TOP that fish ACC delicious-*key* eat-PST-DEC
'Talo ate the fish and found it delicious.'
b. *Talo nun masiss-key ku mwulkoki lul mek-ess-ta.*
Talo TOP delicious-*key* that fish ACC eat-PST-DEC
c. *Masiss-key Talo nun ku mwulkoki lul mek-ess-ta.*
delicious-*key* Talo TOP that fish ACC eat-PST-DEC

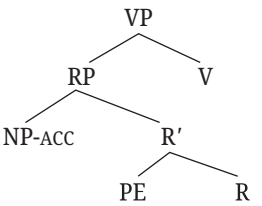
The table in (14) is the summary of the discussion so far. PEs appear rather freely in the non-epistemic verb construction in both Japanese and Korean: they can precede either the accusative argument or the clausal subject. The PEs show a limited distribution in clauses with epistemic verbs in both languages, in that they cannot scramble over the local accusative arguments.

(14) Distribution of PEs in Japanese and Korean

| | epistemic verb (J) | epistemic verb (K) | non-epistemic verb (J) | non-epistemic verb (K) |
|---|---|---|---|---|
| PE > Obj | * | * | ✓ | ✓ |
| PE > Subj | * | * | ✓ | ✓ |

The question to be addressed at this point is why severe restrictions are imposed on movement of PEs in the epistemic verb constructions. In answer to this question, we suggest that their limited distribution can be deduced from the matrix object forming a small clause with the PE, both dominated by RP, as in (15) (den Dikken 2006, 2007).

(15)




In the epistemic verb construction, the RP is not pronounced but there is evidence that allows us to posit this projection. To make this point, observe that when a PE is used as a tensed predicate, the copula verb *aru* can be assumed to intervene between *-ku* and the tense *-ta* in simplex sentences like those in (16).

(16) a. *Gakusei wa sono hon ga omosiro-kat-ta.*
student TOP that book NOM interesting-COP-PST
'For the student, that book was interesting.'
b. *Kodomo wa sono gohan ga oisi-kat-ta.*
child TOP that meal NOM tasty-COP-PST
'For children, that meal was tasty.'

The tensed adjectival PE predicate in (16a) has the sequence of *omosiro-kat-ta*, which can be assumed to a reduced form of *omosiro-ku at-ta* consisting of the AP-*ku* + the copular verb *ar*(*u*) (cf. Martin 1975). Given that *-a-*, which is originated from *ar*(*u*), appears between *-ku* and the tense, it is reasonable to assume that vP containing the copular verb *aru* is projected over the AP in (16).

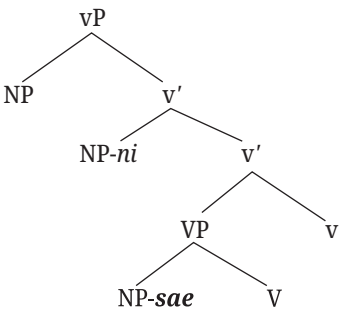
In the epistemic verb construction, the nominal adjective ends with *-ku,* and the copular verb fragment *-a-* does not occur. At first sight, this seems to indicate that the PE with the epistemic verb does not have a projection over it. Nevertheless, there is evidence that the accusative argument and the PE form a constituent with the mediation of a projection which we refer to as RP.

Observe first that the adverbial particle *sae* 'even' in (17) takes its scope only over the argument to which it is attached.

(17) *John wa tannin ni okasi-sae kubat-ta.*
John TOP tutor to sweet-even hand-PST
'John handed even sweets to his tutor.'

As the structure (18) illustrates, the particle *sae* does not c-command the dative argument and hence the former does not extend its scope over the latter.

(18)



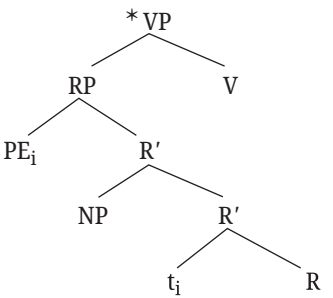

In the epistemic clause in (19), *sae* attached to the adjective can be associated with the object *sono hon* 'the book', which indicates that the scope of *sae* extends to the phrase containing the adjective and the accusative NP.

(19) *John wa sono hon o omosiroku-sae kanzi-ta.*
John TOP that book ACC interesting-even feel-PST
'John felt that even the book was interesting.'

If the PE has the small clause structure given in (15), it is expected that the particle *sae* adjoined to the RR can take scope over the accusative NP.

Note that the PE is scrambled across the accusative NP in the epistemic clause, it incurs a violation of the Anti-Locality Principle demanding that a complement cannot be moved to a position in the projection of its own head (cf. Abels 2003).

(20)




In (20), RP represents a complete proposition, so it can be assumed to serve as a phase (Chomsky 2000, 2001). If the predicate is to be moved across the argument in the specifier position, it is first moved to the edge of RP, as in (20). This movement is too short a distance and as such violates the Anti-Locality Principle. Thus, the sentence in (1b) is not legitimate.

In the proposed analysis, the PE cannot be moved to the left of the accusative NP within RP, and thus, the PE contained in RP follows the accusative NP to which it is related. Theoretically, a "PE-$NP_{ACC}$" order can be created if the accusative NP is displaced from RP and then RP is moved to a higher position than the moved accusative NP. Nevertheless, the ordering restriction is still effective. This is shown in (21a).

(21) a. **Omosiroku sono hon o John wa kanzi-ta.*
interesting that book ACC John TOP feel-PST
'Interesting that book, John felt.'
b. ?*Sono hon o (sono toki) omosiroku John wa kanzi-ta.*
that book ACC that time interesting John TOP feel-PST
'That book to be interesting, John felt (at that time).'

In (21a), remnant movement is implemented after the accusative NP is scrambled out of RP as illustrated in (22a).

(22) a. [ [$_{RP}$ $t_i$ omosiroku ]$_j$ [sono hon]$_i$ . . . . . $t_j$ . . . . . kanzi-ta]
b. [ [sono hon]$_i$ [$_{RP}$ $t_i$ omosiroku ]$_j$ . . . . . $t_j$ . . . . . kanzi-ta]

(22a) represents a case of illicit remnant movement (see Müller 1998). The remnant movement and its preceding antecedent movement are of the same type, both involving scrambling. The configuration in (22a) is not legitimate, since RP includes a trace of the object movement, which is not bound by the accusative argument *sono hon* 'that book'.[5] By contrast, in (22b), the extracted accusative NP precedes RP, i.e., it appears in a higher structural position than RP. In this case, the trace in RP is bound by the accusative NP, and (22b) has a legitimate structure. Thus, the sentence in (21b) is acceptable although it sounds somewhat less than perfect.

The derivation in (22a) shows that what undergoes scrambling in (21a) is the RP containing the adjective phrase *omosiroku*, but not the AP *omosiroku* by itself

5 This analysis makes the prediction that if the remnant movement and the preceding movement extracting the subject from RP do not belong to the same type, a well-formed sentence can be constructed upon remnant movement. This prediction is in fact true, as shown in (i).

(i) ?*Totemo omorisoku sono hon ga kanzi-rare-ta.*
very interesting that book NOM feel-PASS-PST
'That book was felt to be very interesting.'

Although (i) is not perfect, it is much better than (21a). In (i), the theme argument undergoes A-movement to the clause subject position. Since the remnant movement of RP is scrambling, the two instances of movement are not the same type. Accordingly, the passive sentence turns out to be fairly acceptable even if the trace contained in the RP is not bound by its antecedent.

even though RP is not visible superficially. If the AP rather than the RP were moved in (21a), no ordering restriction would be observed. The unacceptability of (21a) shows that the Anti-Locality Principle applies to RP, so the AP cannot be extracted from the RP and placed to the right of the accusative NP. The ordering restriction observed for the scrambling of the accusative NP (with or without the movement of RP) shows that the PE with the epistemic verb forms a small clause constituent with accusative NP.

In a nutshell, PEs occurring with epistemic verbs form a small clause with the preceding accusative NPs. They are prevented from undergoing movement across the accusative NP due to the Anti-Locality Principle dictating that such a movement cannot be too short a distance. This principle applies to the PE since both the PE and the accusative NP are included in RP. The impossibility of scrambling the PE across the accusative NP indicates that a direct predication relation is established between the PE and the preceding argument via RP.

## 2.2 PEs with non-epistemic verbs

In this section, we will discuss the structure of the PE construction with non-epistemic verbs. The PE can be used as a matrix predicate with the copulative verb *aru*; the predicator can be R(elator) (den Dikken 2007), Pred(icate) (Bowers 1993), or vP projected over CopP (Kishimoto 2021, 2022). When the PE is used as a verbal modifier or a depictive predicate, the inflection *-ku*, *-ni* or *-de* appears with the stem (Nishiyama 1999). We suggest that these inflections signal the status of the PE as a modifier in the non-epistemic construction. It is argued that when the PE appears with the non-epistemic verb, it functions as a verbal modifier, and does not comprise any projection for its own (invisible) subject.

First of all, recall that the sentences in (8), repeated here as (23), show a contrast in acceptability between epistemic and non-epistemic clauses with regard to the PE's scrambling across the accusative argument.

(23) a. **Oisiku John wa sono sasimi o kanzi-ta.*
delicious John TOP that raw.fish ACC feel-PST
'John felt the raw fish to be delicious.'

b. *Oisiku John wa sono sasimi o tabe-ta.*
delicious John TOP that raw.fish ACC eat-PST
'John ate the raw fish and found it delicious.'

As discussed in section 2.1, the movement of the PE in an epistemic sentence like (23a) is barred by the Anti-Locality Principle. By contrast, the PE in the non-epis-

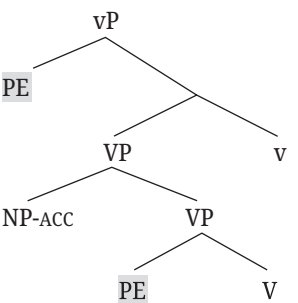
temic clause in (23b) can be scrambled across the accusative NP. This fact suggests that the PE appearing in the non-epistemic clause does not form a small clause with the accusative NP. There is in fact evidence indicating that it does not. To be concrete, consider the sentences in (24).

(24) a. *John wa sono hon o omosiroku-sae kanzi-ta.*
John TOP that book ACC interesting-even feel-PST
'John felt that even that book was interesting.'
b. **John wa sono hon o omosiroku-sae yon-da.*
John TOP that book ACC interesting-even read-PST
'John read a book and he felt even it was interesting.' (*on the intended sense)

In (24a), the focus marker *sae* on the PE with the epistemic verb can take scope over the accusative NP and hence, the sentence can mean that John felt *even that book was interesting*. In (24b), *sae* cannot be associated with the accusative NP *sono hon*, so the same scope interpretation is not obtained in the non-epistemic clause in (24b). This fact indicates that the accusative NP lies outside the scope of PE with *sae* in (24b), and thus, it is fair to state that the PE and the preceding accusative argument are not contained in the small clause projection of RP.

Given that PEs can appear rather freely in non-epistemic clauses, we suggest that PEs appear as adverbial modifiers, adjoined to either vP or VP, as illustrated in (25).

(25)




PEs in non-epistemic clauses are adjuncts syntactically, just like depictives and resultatives, which are secondary predicates, and behave in much the same way as depictives and resultatives in regard to scrambling. Then, one might suspect that the PEs appearing in non-epistemic clauses also serve as secondary predicates (Matsuoka 2021, 2023). On the contrary, we claim that PEs function not as secondary predicates, but as verbal modifiers. To make this point, we will first review

Kishimoto's arguments that adjuncts serving as secondary predicates have predicate structures, while adverbial modifiers do not. Then, we will show that PEs pattern with adverbial modifiers.

Kishimoto (2021) claims that depictive predicates can project vP the specifier of which is occupied by PRO, and that PRO is controlled by either the subject or the object of the matrix verb. The crucial evidence for this proposal comes from the distribution and the interpretation of subject honorific expressions.

Broadly speaking, the target of subject honorification is restricted to subjects. This is called the subject condition of subject honorification. Japanese subject honorific marker *o-* or *go-* attaches to an adjective predicate like *o-yasasi-i* 'HON-nice-PRS' or *go-kyoomibuka-i* 'HON-interesting-PRS', and the target of deference in (26a) is the clausal subject.

(26) a. *Tanaka-sensei ga gakusei ni o-yasasi-i.*
Tanaka-teacher NOM student DAT HON-nice-PRS
'Professor Tanaka is nice to the students.'
b. **Gakusei ga Tanaka-sensei ni o-yasai-i.*
student NOM Tanaka-teacher DAT HON-nice-PRS
'The students are nice to Professor Tanaka.'
(Kishimoto 2021: 55, (46a) & (46b))

Since the subject *Tanaka-sensei* 'Professor Tanaka' qualifies as a subject-honorific target, (26a) is properly understood as a subject honorification sentence. On the other hand, subject honorification fails in (26b), since the subject *gakusei* 'student' does not qualify as a target of deference.

In addition, a locality condition is imposed on the target of subject honorification. In (27a), the subject honorific target of the embedded predicate *o-utukusiku* 'beautiful' carrying the honorific marker is the ECM subject *Ito-sensei* 'Professor Ito'. (27c) shows that the matrix subject cannot be targeted for subject honorification when the embedded predicate bears a subject honorific marker, illustrating that subject honorification cannot target a non-local subject.

(27) a. *Sono gakusei wa* [*Ito-sensei o o-utukusiku*]
that student TOP Ito-teacher ACC HON-beautiful
*omot-te i-ru.*
consider-GER be-PRS
'That student considers Professor Ito to be beautiful.'

b. **Sono gakusei wa [Ito-sensei o utukusiku]*
that student TOP Ito-teacher ACC beautiful
*o-omoi-ni-nat-te i-ru.*
HON-consider-COP-become-GER be-PRS
'That student considers Professor Ito to be beautiful.'

c. **Ito-sensei wa [sono gakusei o o-utukusiku]*
Ito-teacher TOP that student ACC HON-beautiful
*omot-te i-ru.*
consider-GER be-PRS
'Professor Ito considers that student to be beautiful.'

The example in (27b), where the honorific morpheme *o-* is attached to the matrix predicate, cannot be interpreted as a legitimate subject honorific sentence, since the target of honorification is the matrix subject *sono gakusei* 'that student', to which deference cannot be directed. The lower ECM subject cannot be a candidate for subject honorification in (27b) either, since its predicate does not bear the subject honorific marker. The examples in (27) illustrate that subject honorification is properly established when the target of honorification is a local subject that refers to an individual who is worthy of respect.

Kishimoto further shows that a similar subject honorification relation can be established with an object control relation. In (28), the subject honorific predicate *o-hanasi-ni-nar-u* 'HON-tell-COP-become-PRS' is contained in the *yoo*-clause containing PRO. This PRO is controlled by the matrix object *Ito-sensei*, and hence this argument is understood to be a proper target of subject honorification with a control relation.

(28) [PRO *Sinzitu o o-hanasi-ni-nar-u yoo*] *karera wa*
truth ACC HON-tell-COP-become-PRS COMP they TOP
*Ito-sensei o settoku-si-ta.*
Ito-teacher ACC persuade-do-PST
'They persuaded Professor Ito that she should tell the truth.'
(Kishimoto 2021: 56, (49))

Kishimoto argues that the depictive serves as a predicate which includes an invisible subject PRO and can be predicated of an object if it controls PRO inside the depictive, just like the object control construction. The depictive phrase *isikihumei no go-zyootai-de* 'in the state of lost consciousness' in (29) is marked with the honorific marker *go-* and then can take the matrix object *Sato-sensei* 'Professor Sato' as a target of subject honorification.

(29) *Kyuukyuusya ga Sato-sensei o isikihumei no*
ambulance NOM Sato-teacher ACC unconsciousness GEN
*go-zyootai-de hakon-de i-ru.*
HON-condition-COP carry-GER be-PRS
'The ambulance is taking Professor Sato unconscious.'
(Kishimoto 2021: 58, (51a))

This shows that an object can be a target of subject honorification when the depictive carries a subject honorific marker.

Turning to the case of PEs with non-epistemic verbs, both sentences with non-epistemic verbs in (30) are not understood as legitimate subject honorific sentences if the honorific marker *go-* appears on the PE.

(30) a. *Ano hito wa Saito-sensei o (*go)-insyoobukaku*
that man TOP Saito-teacher ACC HON-impressive
*syookai-si-te i-ta.*
introduction-do-GER be-PST
'That man introduced Professor Saito impressively.'
b. *Ano hito wa Saito-sensei o (*go)-insyoobukaku*
that man TOP Saito-teacher ACC HON-impressive
*mi-te i-ta.*
look-GER be-PST
'That man was looking at Professor Saito with interest.'
(Kishimoto 2021: 61, (57a) & (57b))

In (30a) and (30b), the intended target of deference is the accusative-marked NP *Saito-sensei* 'Professor Saito'. If the accusative argument controlled PRO appearing in the PE *go-insyoobukaku* 'HON-impressive' with the honorific marker, the whole sentence would be expected to be interpreted as a legitimate subject honorific sentence. But the fact is not in keeping with the expectation. Given that the subject honorification can be a yardstick for assessing whether a given adjunct is equipped with a subject within its projection, the data show that there is no PRO in the PE structure, which in turn suggests that the PEs appearing in non-epistemic clauses do not function as secondary predicates.

Furthermore, according to Kishimoto (2022), secondary predicates may appear in a clause separated from the matrix clause but a verb modifier may not.

(31) a. *Ken wa hadasi-de hasit-ta.*
Ken TOP barefoot-COP run-PST
'Ken ran barefoot.'
b. *Ken wa kibin-ni hasit-ta.*
Ken TOP quick-COP run-PST
'Ken ran quickly.'

The depictive predicate *hadasi-de* 'barefoot', which functions as a secondary predicate in (31a), can appear in a clause separate from the one with the verb *hasit-ta* 'run-PST', as shown in (32a). By contrast, the verb modifier *kibin-ni* 'quickly' in (31b) cannot occur in a clause independent of the main clause, as in (32b).

(32) a. *Ken wa hadasi-de at-ta-ga, hasit-ta.*
Ken TOP barefoot-COP be-PST-but run-PST
'Ken was barefoot, but ran.'
b. *#Ken wa kibin-de at-ta-ga, hasit-ta.*
Ken TOP quick-COP be-PST-but eat-PST
'Ken was quick, but ran.'

(Kishimoto 2022: 13, (21))

The semantic anomaly of (32b) indicates that the phrase *kibin-ni* modifies the event being described by the matrix predicate (e.g. a manner of running) rather than functioning as a secondary predicate.

The PEs *omosiroku* and *oisiku* appearing in the non-epistemic clauses in (33) pattern with the adverbial modifier *kibin-ni*.

(33) a. *Taroo wa omosiroku hon o yon-da.*
Taro TOP interesting book ACC read-PST
'Taro read a book and found it interesting.'
b. *Taroo wa oisiku ryoori o tabe-ta.*
Taro TOP tasty dish ACC run-PST
'Taro ate the dish and found it tasty.'

The examples in (34) show that these PEs are not allowed to occur separately from the predicates *yon-da* 'read' and *tabe-ta* 'ate'.

(34) a. *#Taroo wa omosirokat-ta-ga, sono hon o yon-da.*
Taro TOP interesting-PST-but that book ACC read-PST
'Taro was interested, but read that book.'

b. *#Taroo wa oisikat-ta-ga, sono ryoori o tabe-ta.*
Taro TOP tasty-PST-but that dish ACC eat-PST
'Taro felt tasty, but ate that dish.'

The fact that the PEs *omosiroku* and *oisiku* cannot appear in a clause separated from the predicates *yon-da* and *tabe-ta*, respectively, illustrates that they are adverbial modifiers to the predicates, which in turn show that they cannot serve as secondary predicates here.

With regard to the structural positions of PEs, which serve as verbal modifiers, we argue that they can be merged in two distinct constituent positions depending on their orientation. An object-oriented PE is merged with VP, and a subject-oriented PE, with vP. Pseudo-clefting provides evidence for the structural position of PEs.

First, Kishimoto (2022) suggests that object-oriented depictive SPs are merged inside VP, while subject-oriented depictive SPs are adjoined to vP, drawing the contrast in their distribution found in pseudo-clefts with vP focusing.[6] In this type of pseudo-cleft construction, the presuppositional clause includes the verb *suru* 'do', which expresses an agentive meaning. The subject-oriented SP *hadasi-de* can appear in the focus position, as in (35a), as well as in the presuppositional clause of the vP-focus pseudo-cleft, as in (35b).

(35) a. [*Kodomo ga si-ta*] *no-wa* [*hadasi-de hasiru*] *koto-da.*
child NOM do-PST NOML-TOP barefoot-COP run that-COP
'What the child did was run barefoot.'
b. [*Kodomo ga hadasi-de si-ta*] *no-wa* [*hasiru*] *koto-da.*
child NOM barefoot-COP do-PST NOML-TOP run that-COP
'What the child did barefoot was run.'
(Kishimoto, this volume)

On the other hand, as shown in (36), the object-oriented *nama-de* 'raw' can appear in the focus position, but not in the presuppositional clause of the vP pseudo-cleft construction.

**6** Kishimoto (this volume) suggests that object-oriented secondary predicates are merged with a projection lower than VP. For the sake of brevity, we assume the two layered verbal structures consisting of vP and VP, setting aside the issue of whether the verbal structure has an additional layer or not.

(36) a. [*Ano hito ga si-ta*] *no-wa* [*nama-de sakana o*
that man NOM do-PST NOML-TOP raw-COP fish ACC
*taberu*] *koto-da.*
eat that-COP
'What that man did was eat the fish raw.'

b. *[*Ano hito ga nama-de si-ta*] *no-wa* [*sakana o*
that man NOM raw-COP do-PST NOML-TOP fish ACC
*taberu*] *koto-da.*
eat that-COP
'What that man did raw was eat the fish.'

(Kishimoto, this volume)

The uppermost constituent that can constitute the focus of this type of pseudo-cleft construction is vP (Shibagaki 2013; Kishimoto 2016). The presuppositional clause, on the other hand, contains projections from vP up to TP.

(37) [$_{TP}$ . . . ] no-wa . . . [$_{vP}$ ] koto-da.

The structure in (37) suggests that any element contained in both vP and VP can be included in the focus component of the vP pseudo-cleft construction, while an element located above VP can appear only in the presuppositional clause. This being the case, the data suggest that the subject-oriented depictive is adjoined to vP, while the object-oriented depictive appears within VP.

To proceed, let us consider whether a PE can appear only in the focus position or may appear in both the focus and the presupposition components. The examples in (38) show that *oisiku* can appear in the focus position of the pseudo-cleft with vP focus, whereas it cannot appear in the presuppositional clause. Thus, (38) indicates that the PE appears in the projection of VP located below vP.

(38) a. ?[*Taroo ga si-ta*] *no-wa* [*ryoori o oisiku*
Taro NOM do-PST NOML-TOP dish ACC delicious
*taberu*] *koto-da.*
eat that-COP
'What Taro did was eat the dish and find it delicious.'

b. *[*Taroo ga oisiku si-ta*] *no-wa* [*ryoori o*
Taro NOM delicious do-PST NOML-TOP dish ACC
*taberu*] *koto-da.*
eat that-COP
'What Taro did deliciously was eat the dish.'

The same result is obtained with other PEs. The PE *kyoomibukaku* 'interesting' may occur in the focus position of the cleft in question, whereas it cannot be included in the presuppositional clause.

(39) a. ?[*Taroo ga si-ta*] *no-wa* [*hon o kyoomibukaku*
Taro NOM do-PST NOML-TOP book ACC interesting
*yomu*] *koto-da.*
read that-COP
'What Taro did was read the book and find it interesting.'
b. *[*Taroo ga kyoomibukaku si-ta*] *no-wa* [*hon o*
Taro NOM interesting do-PST NOML-TOP book ACC
*yomu*] *koto-da.*
read that-COP
'What Taro did interestingly was read that book.'

If compared to (35a) and (36a), which involves the depictive SPs *hadasi-de* and *nama-de*, the sentences in (38a) and (39a) are a little degraded owing to the fact that the psychological states described by the adverbials are not readily controlled by the individuals. Thus, these sentences have a single question mark on them.

We now observe the distribution of PEs of the subject-oriented type, such as *sabisiku* 'lonely' (Matsuoka 2017). As shown in (40), this type of PE is interpretively associated only with the subject, and can appear in the focus position as well as in the presuppositional clause of the pseudo-cleft construction with vP-focusing, which indicates that the subject-oriented PE merges with vP.

(40) a. ?[*Taroo ga si-ta*] *no-wa* [*sabisiku syokuzi o*
Taro NOM do-PST NOML-TOP lonely meal ACC
*suru*] *koto-da.*
do that-COP
'What Taro did was have a meal in loneliness.'
b. [*Taroo ga sabisiku si-ta*] *no-wa* [*syokuzi o*
Taro NOM lonely do-PST NOML-TOP meal ACC
*suru*] *koto-da.*
do that-COP
'What Taro did in loneliness was have a meal.'

The data in (38) through (40) show that subject-oriented PEs are adjoined to vP, while object-oriented PEs are adjoined to VP, projected lower than vP.

## 2.3 Matsuoka (2021, 2023)

In regard to the PEs appearing in the non-epistemic clauses, Matsuoka (2021, 2023) stipulates that they are secondary predicates just like depictives and resultatives. He claims that the PE is formed based on the two-place adjective whose subject is the experiencer PP and the object is the theme, and that in Japanese, but not English, the PE has a CP structure, where the experiencer raises to Spec of TP projected inside. This structural difference is claimed to account for the contrast in grammaticality between the Japanese PE clause with a non-epistemic verb and its English counterpart as (41) illustrates.

(41) a. *Mary ga otya o oisi-ku ire-ta.*
Mary NOM tea ACC tasty-COP brew-PST
'Mary brewed tea [and someone drank it considered it] tasty.'
b. **Mary brewed tea tasty/delicious.*
(Matsuoka 2023: 274–275, (1c) & (3c))

Under Matsuoka's analysis, the difference between English and Japanese about the realization of the PE is accounted for on the assumption that a tense node requires a verbal category in a clause. According to Matsuoka, English SPs do not project a TP (and CP) in the absence of a verbal element, while those in Japanese do with a mediation of the copula verb *-de-aru*. For the experiencer PP in English, as in (42b), the only landing site for it under the quirky PE raising is the matrix TP, which causes a violation of adjunct condition by virtue of the PP's extraction from the AP. The result is that a sentence like **Mary brewed tea tasty/delicious* cannot be constructed in English, as seen in (41b).

(42) a. $[_{TP}$ DP-Nom DP-Acc $[_{CP}$ $[_{TP}$ PPExp $[_{AP}$ t A]]] V] (Japanese)

b. $[_{TP}$ PPExp $[_{TP}$ DP-Nom V DP-Acc $[_{AP}$ t A]]] (English)
*
(Matsuoka 2023: 276, (6))

Matsuoka further argues that in Japanese, the experiencer PP can be expressed either overtly or covertly. When it is overtly expressed, *nitotte* 'for' appears in the Spec of TP to theta-mark the overt experiencer. When it is not overtly expressed, PRO appears in the same position and is controlled by the matrix subject.

(43) $[_{TP}$ DP-Nom DP$_j$-Acc $[_{CP}$ OP$_j$ $[_{TP}$ $[_{PP}$ PRO $\phi$ p Exp$]_i$ $[_{AP}$ t$_i$ t$_j$ A]]] V]

(Matsuoka 2023: 277, (7))

Matsuoka argues that the theme argument of the PE is realized as the null operator (OP) that moves to the edge of the inner CP. The null operator is controlled by the matrix object, thus holding a predicational relation between the object and the PE.[7] This is illustrated in (43).

At first sight, it looks as if the structures given in (42) and (43) could capture the difference in the behavior of PEs between English and Japanese. Nevertheless, there are a number of empirical phenomena suggesting that the PEs with non-epistemic clauses in Japanese do not have a large structure involving TP/CP, such as those represented in (42) and (43).

The most straightforward evidence comes from subject honorification. If a subject position is included in the structure for the null subject, the dative argument of *kataru* 'tell' in (44) will be a target of subject honorification for the PE with the subject honorific marker. This expectation is not fulfilled.

(44) *Taroo wa sensei ni sono koto o*
Taro TOP teacher DAT that matter ACC
(**go*-)*kyoomibukaku katar-e-nakat-ta.*
(HON-)interesting tell-POTEN-NEG-PST
'Taro was not able to tell that matter for his teacher to be interested.'

(44) behaves on a par with (30), in that the subject honorific PE fails to target the matrix object of verbs of telling. The example clearly shows that the PE does not take the dative object as its antecedent via control. Since the target of subject honorification and the thematic target of the PE do not pattern together, it is apparent that the PE does not contain PRO controlled by an argument outside.

Secondly, if the PE has a TP structure, a negative operator *-nai* is expected to appear inside the projection according to the generalization that negation involves TP (Zanuttini 1996). The total unacceptability of (45b) illustrates that TP, which

7 Matsuoka assumes that PEs form a predicate structure with the matrix object, since their base adjectives have the following properties. First, the suffix *-ku* is the predicative copula, which can be associated with an epistemic verb *omou* 'think' (Nishiyama 1999). Second, *ku*-marked PEs cannot modify the noun in an attributive manner (e.g. **omosiro-ku hon* 'interestingly book' or **otya oisi-ku* 'tea deliciously'). Third, they do not have the order restriction (e.g. *omosiro-ku hon-o yonda* 'to have read a book and found it interesting' vs. *hon-o omosiro-ku yonda*) compared to their adjective forms (e.g. *omosiro-i hon-o yonda* 'to have read an interesting book' vs **hon-o omosiro-i yonda*).

should accommodate the PP experiencer under Matsuoka's analysis, is not projected in the PE.[8]

(45) a. ?*Gakusei wa sono hon o omosiroku-naku omot-ta.*
student TOP that book ACC interesting-NEG consider-PST
'The student considered the book was not interesting.'
b. **Gakusei wa sono hon o omosiroku-naku yon-da.*
student TOP that book ACC interesting-NEG read-PST
'The student read a book and found it not interesting.'

More importantly, the structure in (43), which Matsuoka posits for PEs, makes the prediction that (46b) will be ungrammatical on the grounds that the experiencer PP (accompanied by *nitotte*) has been extracted from the PE, which has a clausal projection. However, as (46b) shows, this expectation is not met.

(46) a. *Mary ga* [$_{CP}$ *otya o John nitotte oisiku*] *ire-ta.*
Mary NOM tea ACC John for tasty brew-PST
'Mary made tea for John to have it tasty.'
b. *Mary ga John nitotte*$_i$ [$_{CP}$ *otya o* t$_i$ *oisiku*] *ire-ta.*
Mary NOM John for tea ACC tasty brew-PST
'Mary made tea for John to have it tasty.'

Under Matsuoka's analysis, the extraction of the experiencer from the PE causes a violation of the adjunct condition, so that English does not make the PE construction in (41b) unavailable. In (46b), the experiencer appears to the left of the accusative argument *otya*. This indicates that the experiencer has been extracted from the PE in (46b). If so, (46b) is expected to be ungrammatical in violation of the adjunct condition, just like the English PE in (41b). Nevertheless, (46b) is acceptable, which illustrates that Matsuoka's account for the difference between the English and Japanese PE constructions confronts a serious internal contradiction.

The degree modifier *totemo* 'very' also provides definite evidence for the lack of a clausal projection in the PE. As shown in (47a), *totemo* cannot be placed right to the PE *oisiku*. This shows that *totemo* does not modify the matrix predicate *ireru* 'brew'.

**8** Matsuoka's original example in (45a) is not perfect for us. (45b) has the same grammatical status as (45a).

(47) a. **Mary ga* [$_{CP}$ *otya o oisiku*] *totemo ire-ta.*
Mary NOM tea ACC tasty very brew-PST
'Mary brewed tea (for anyone) to drink it very tasty.'
b. *Mary ga totemo* [$_{CP}$ *otya o oisiku*] *ire-ta.*
Mary NOM very tea ACC tasty brew-PST
'Mary brewed tea (for anyone) to drink it very tasty.'

Since *totemo* cannot modify the verb *ireru*, it must be the case that *totemo* modifies the PE *oisiku* in (47b). In this connection, it is important to see that *totemo* cannot modify into an adverbial across a clause-boundary, which is illustrated by the unacceptability of (48).

(48) *Mary wa* (**totemo*) *John*$_i$ *o* [PRO$_i$ *nessin-ni hanasu-yoo*]
Mary TOP very John ACC passionate-COP speak-COMP
*settoku-si-ta.*
persuade-do-PST
'Mary persuaded John to speak (very) passionately.'

(48) shows that the degree modifier *totemo* appearing in the matrix clause cannot be associated with the downstair adverb *nessin-ni* 'passionately'. In (47), if the accusative argument *otya* is located outside the CP that includes the PE, *totemo* appearing to the left of it is also placed outside the CP. If this is the case, it would not be possible for *totemo* to modify the PE in (47b). Then the acceptability of (47b) shows that the PE does not possess a CP structure.

The data on subject honorification illustrates that PEs do not pattern with depictives and resultatives, which suggests that the PEs do not contain PRO to be controlled by an argument outside. Furthermore, the facts of negation suggest that the PE does not have a TP projection which should accommodate PRO controlled by the experiencer under Matsuoka's analysis. The facts of scrambling the experiencer across the accusative argument in (46) as well as modification by *totemo* in (47) show that no clausal projection exists in the PE despite Matsuoka's claim to the contrary. In view of these facts, it is crystal clear that Matsuoka's analysis, which crucially draws on the erroneous assumption on the CP structure of Japanese PEs, is untenable. In any event, the data discussed so far clearly point to the conclusion that PEs with non-epistemic verbs are verbal modifiers that do not include a subject position inside them, as opposed to depictives and resultatives which include a PRO subject.

## 3 LF movement of PEs

In this section, we suggest that the PEs with non-epistemic verbs undergo Psych-Movement to the associated experiencer argument at LF, and that the arguments to which the PEs are adjoined are identified as their experiencers via adnominal modification. Crucial evidence for this claim comes from the fact of negative focus in PE clauses. We claim that the presence of LF Psych-Movement is another reflection of the fact that the PEs function not as secondary predicates, but as modifiers.

One notable property of the PEs with non-epistemic verbs is that they are semantically related to the subject, as well as the object (Matsuoka 2016). For instance, in (49), the subject is interpretively taken to be the experiencer to the PE *omosiroku* 'interesting', while the object represents an entity that causes an interest.

(49) *John wa sono hon o omosiroku yon-da.*
John TOP that book ACC interesting read-PST
'John read that book and found it interesting.'

What is special about the PEs with non-epistemic verbs is the fact that they need to identify the experiencer. Since the PE is a verbal modifier to the verb, we claim that its semantic relation to the subject in (49) is determined via an additional process of modification.

For concreteness, consider how (49) is interpreted. When the PE modifies the predicate *yomu* 'read', the entity to be read is designated as its object. Since the object refers to an entity to which the act of reading is directed, it can be easily inferred that what causes an interest is the object *sono hon* 'that book'. Then the PE in (49) is understood to be linked to the object as representing an entity that causes an interest by the act of reading.[9] This gives the PE an object-oriented character interpretively, and owing to this semantic property, the PE is adjoined to VP (see section 2.2). Nevertheless, the PE *omosiroku* also needs to have an experiencer that is taken to undergo the mental state in question. In (49), it is the subject that is identified as the individual who experiences the mental state.

Given this peculiarity of the PE with non-epistemic verbs, the question to be raised is how the subject in (49) is identified as the experiencer to the PE. As discussed in section 2, PEs with non-epistemic verbs are predicate modifiers that do not contain invisible subjects in them. Thus, the control relation cannot be a

**9** In a sentence like *John runs quickly*, *John* is identified as an individual whose running is quick via metonymy triggered by adverbial modification, which adds a property (i.e. quickness) to its modifying head. We assume that the same inference process applies to the PE case. See Kishimoto (2022, this volume).

candidate for the PE's association with the subject. Moreover, the PE can be merged either with VP or vP, according to its distribution in the pseudo-cleft sentence. Obviously, the PE adjoined to VP cannot be associated with the experiencer argument in the subject position. In light of this consideration, we suggest that the experiencer interpretation for the subject is derived via the PE's Psych-Movement to the experiencer at LF. Evidence in support of LF Psych-Movement may be adduced from the facts of association with focus of negation, as we will discuss below.

Negative sentences in Japanese are formed by attaching a negative operator *-nai* 'not' to the verb infinitive as in *tabe-nai* 'eat-NEG'. In a simple negative sentence like (50) *-nai* can in principle take the entire clause as its scope (Kishimoto 2007, 2008).

(50) *Taroo ga hon o yoma-nakat-ta.*
Taro NOM book ACC read-NEG-PST
'Taro did not read a book.'

The subject *Taroo* in (50) cannot be a focus of negation, however. This is due to the fact that the subject signifies what is talked about in the sentence, which represents the information shared by the speaker and the hearer, i.e. old information. (By virtue of its old information status, the ordinary subject is often topicalized marked with *wa*. Nevertheless, the subject does not count as a focus of negation, whether it is marked with *wa* or not.) The object *sono hon*, on the other hand, constitutes the content of what is talked about and represents new information, which is not familiar to the hearer. Accordingly, when the sentence is negated as in (50), the object can be a focus of negation, and the sentence can have the interpretation that Taro read something but it was *not a book* (but what Taro read could be a newspaper or a magazine).

When the sentence has a manner adverb such as *teinei-ni* 'carefully', as in (51a), the negative focus can fall on this adverb. Thus, (51a) can mean that Taro read a book but that act was done in a *not careful manner*. The subject-oriented adverb *sizuka-ni* 'quietly' can also be a focus of negation. Thus, (51b) means that Taro read a book but that was *not in a quiet manner*.

(51) a. *Taroo ga teinei-ni hon o yoma-nakat-ta.*
Taro NOM carefully book ACC read-NEG-PST
'Taro did not read the book carefully.'
b. *Taroo ga sizuka-ni hon o yoma-nakat-ta.*
Taro NOM quietly book ACC read-NEG-PST
'Taro did not read the book quietly.'

Both adverbial modifiers in (51a) and (51b) are based on nominal adjectives *teinei-da* and *sizuka-da*. The adjective-based adverbial *hagesiku* 'strongly' in (52a) can also be a focus of negation.

(52) a. *Kantoku ga sono handan ni hagesiku kougisi-ta.*
manager NOM that judgment DIR strongly object-PST
'The manager strongly objected to the judgement.'
b. *Kantoku ga sono handan ni hagesiku kougisi-nakat-ta.*
manager NOM that judgment DIR strongly object-NEG-PST
'The manager did not strongly object to the judgement.'

In (52b) the focus of negation can fall on the adverb *hagesiku*, and thus the sentence can have the interpretation that the manager objected to the decision but the way he/she complained was in *not a fierce manner*.

The depictive SP *nama-de* can be interpreted as a focus of negation as well. Thus, (53) can have the interpretation that Taro ate fish but the fish was *not raw*.

(53) *Taroo ga sakana o nama-de tabe-nakat-ta.*
Taro NOM fish ACC raw-COP eat-NEG-PST
'Taro did not eat fish raw.'

If PEs functioned as secondary predicates, we would expect that the sentence involving the PE *omosiroku* in (54) could have the interpretation that Taro ate fish but he found it *not tasty*. Nevertheless, the PE in (54) cannot be a focus of negation and the expected interpretation is not available.

(54) **Taroo ga sakana o oisiku tabe-nakat-ta.*
Taro NOM fish ACC tasty eat-NEG-PST
'Taro ate the fish and did not find it tasty.'

The same holds true for other PEs such as *omosiroku* or even subject-oriented PEs such as *sabisiku* as in (55).

(55) a. **Taroo ga hon o omosiroku yoma-nakat-ta.*
Taro NOM book ACC interesting read-NEG-PST
'Taro read the book and found it not interesting.'
b. **Taroo ga sabisiku syokuzi o si-nakat-ta.*
Taro NOM lonely meal ACC do-NEG-PST
'Taro had the meal but that was not in loneliness.'

Since the negative focus does not fall on the PE, (55a) lacks the interpretation that Taro read the book but found it *not interesting*. Similarly, (55b) cannot mean that Taro had a meal but he was *not in loneliness* while eating.[10]

As we have seen above, the subject-oriented depictive *hadasi-de*, the object-oriented depictive *nama-de*, and the adjective-based manner adverbial *hagesiku* can be interpreted in a negative focus, while they are adjoined to either vP or VP. By contrast, in both sentences in (55), the negative focus does not fall over the PEs, which is somewhat surprising from the discussion about the pseudo-cleft sentences indicating that they are merged with vP or VP. This fact also makes us wonder why negative focus cannot fall on PEs.[11]

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**10** The possibility of placing a negative focus on the subject correlates with the division of old and new information in the sentences. This partition can be neutralized in an embedded clause. Thus, the PE in (i), which is associated with the embedded subject, can readily receive a negative focus interpretation.

(i) *Taroo wa* [*Ziroo ga hon o omosirokuku yoma-naka-ta*
Taro TOP Ziro NOM book ACC interesting read-NEG-PST
*to*] *omot-te i-ru.*
COMP think-GER be-PRS
'Taro thinks [that it was not Ziro that read the book and found it interesting].'

**11** The morpheme *-soo* 'look like' turns the PE into a non-PE carrying the meaning of an objective statement of the adjective (Nakau 1980). The adjective + *soo* such as *omosiro-soo-ni* can be interpreted as the focus of negation, and thus (ia) can mean that Taro read the book without showing interest.

(i) a. *Taroo ga hon o omosiro-soo-ni yoma-nakat-ta.*
Taro NOM book ACC interesting-looking-COP read-NEG-PST
'Taro read the book but he did not do so in an interesting manner.'
b. *Taroo ga sabisi-soo-ni syokuzi o si-nakat-ta.*
Taro NOM lonely-looking-COP meal ACC do-NEG-PST
'Taro had a meal but he did not do so in a lonely-looking manner.'

In the same vein, *sabisi-soo-ni* in (ib) can be the focus of the negation. The sentence can mean that Taro had a meal but he did so as if he was lonely (but we are not sure he actually felt alone or not). Furthermore, when the verb obtains the potential morpheme *-e*, the PE can be interpreted to be in negative focus.

(ii) a. *Taroo ga sono hon o omosiroku yom-e-nakat-ta.*
Taro NOM that book ACC interesting read-POTEN-NEG-PST
'Taro read the book and could not find it interesting.'
b. *Taroo ga uresiku purezento o uketor-e-nakat-ta.*
Taro NOM happily gift ACC accept-POTEN-NEG-PST
'Taro found it impossible to accept the gift happily.'

Thus far, we have featured adjective-based *ku*-PEs. The same pattern of interpretation is observed for nominal-based and nominal adjective-based PEs. For instance, *kyoomisinsin* can be either *ni*-marked (*kyoomisinsin-ni*) or *de*-marked (*kyoomisinsin-de*) (see Kishimoto 2021 for a more formal account of the issue). Both forms can describe the inner thought/feeling of the experiencer when they are combined with non-epistemic verbs, as illustrated in (56).

(56) a. *Hanako ga kaiga o kyoomisinsin-ni mi-ta.*
Hanako NOM painting ACC curiosity-COP look-PST
'Hanako looked at the painting with much curiosity.'
b. *Hanako ga kaiga o kyoomisinsin-de mi-ta.*
Hanako NOM painting ACC curiosity-COP look-PST

*Kyoomisinsin* can be either object-oriented or subject-oriented, depending on its inflection, as shown in (57).

(57) a. [*Taroo ga kyoomisinsin-de si-ta*] *no-wa* [*sono kaiga*
Taro NOM curiosity-COP do-PST NOML-TOP that picture
*o miru*] *koto-da.*
ACC look that-COP
'What Taro did with much curiosity was look at the painting.'
b. *[*Taroo ga kyoomisinsin-ni si-ta*] *no-wa* [*sono kaiga*
Taro NOM curiosity-COP do-PST NOML-TOP that picture
*o miru*] *koto-da.*
ACC look that-COP
'What Taro did with much curiosity was look at the painting.'

What is remarkable here is the fact that neither *ni*-marked nor *de*-marked PE can receive the negative focus, as the data in (58) illustrate.

c. **Taroo ga uresiku purezento o uketora-nakat-ta.*
Taro NOM happily gift ACC accept-NEG-PST
'Taro did not accept the gift happily.'

In (iia), the possibility that Taro read the book with interest is denied. In (iib), the possibility of Taro's accepting the gift happily is denied. In both cases, the sentences have a broad negative focus, i.e. the entire clause constitutes the focus domain of negation. Accordingly, (iia) can be interpreted to mean that Taro read the book but he was not interested, and (iib) can be taken to mean that Taro accepted the gift, but he was not happy. (Note that (iic) does not have the interpretation on which *uresiku* is the focus of negation.)

(58) a. ?*Hanako ga kaiga o kyoomisinsi-ni mi-nakat-ta.
Hanako NOM painting ACC curiosity-COP look-NEG-PST
'Hanako did not look at the painting with much curiosity.'
b. *Hanako ga kaiga o kyoomisisin-de mi-nakat-ta.
Hanako NOM painting ACC curiosity-COP look-NEG-PST

The PE *kyoomisinsin-ni* in (58a) cannot have the interpretation that Hanako looked at the painting but she did so *with no great curiosity*. In the same vein, the same PE in the *de*-form cannot fall in the negative focus as in (58b). These results are exactly the same as we have gained for adjective-based PEs in the *ku*-form. The data show then that PEs cannot constitute a negative focus regardless of the base positions where they occur superficially.

The question is why PEs cannot undergo association with the focus of negation when their experiencer is the subject. As we will see below, whether or not PEs fall under the focus of negation is correlated with the question of whether the subject can be in the negative focus. Thus, we propose that the PE is subject to LF Psych-Movement given in (59), which makes the PE to adjoin to the subject NP, and that this movement is motivated by the need to identify the PE's experiencer (via adnominal modification).

(59) LF Psych-Movement
The PE in non-epistemic verb constructions adjoins to the specifier of an NP to identify the NP as its experiencer via adnominal modification.

When the experiencer subject is taken as representing old information, it cannot be negated, and thus, the focus of negation does not fall on it. Given this, it is naturally expected that the PE adjoined to the subject as well cannot receive the negative focus.[12]

The PE and its experiencer must be clause-mates. In (60), the PE *omosiroku* can be associated with only the most embedded subject *Taroo*. Neither the matrix subject *Hanako* nor the intermediate subject *Ziroo* is a candidate of the experiencer of the PE.

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**12** In Japanese, locality is required for adnominal modification. (ia) is grammatical since the adjective *takai* 'pricy' modifies the NP *hon* locally, whereas (ib) is ungrammatical since the time adverb *kinoo* 'yesterday' interrupts this local relation.

(i) a. *Taroo wa kinoo [takai hon o] kat-ta.*
Taro TOP yesterday pricy book ACC buy-PST
'Taro bought a pricy book yesterday.'
b. *Taroo wa [takai kinoo hon o] kat-ta.*
Taro TOP pricy yesterday book ACC buy-PST

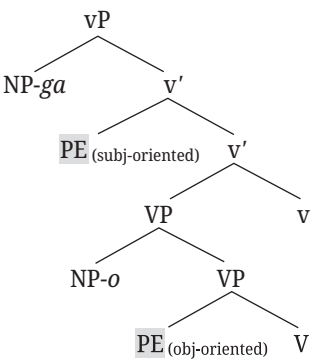
(60) *Hanako wa [[Taroo ga sono hon o omosiroku yon-da*
Hanako TOP Taro NOM that book ACC interesting read-PST
*to] Ziroo ga it-te i-ru to] omot-te i-ru].*
COMP Ziro NOM say-GER be-PRS COMP think-GER be-PRS
'Hanako thinks that Ziro says that Taro read the book and found it interesting.'

The example illustrates that the PE must be bound to a clause in which its experiencer subject is contained.

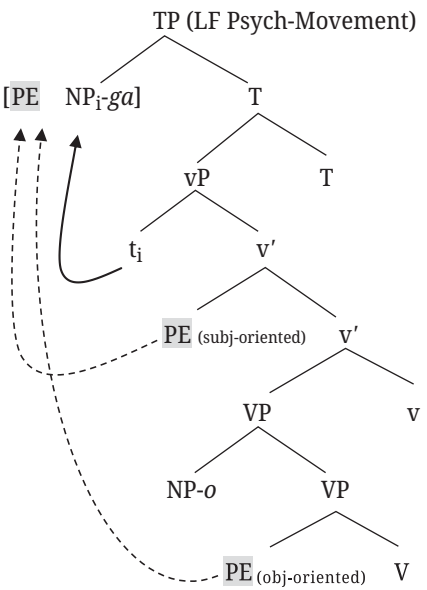
With the clause-mate condition in mind, let us now proceed to consider the interpretation of the PE in the grammatical contexts including Negative Polarity Items (NPIs). The indeterminate word and the morpheme *-mo* (e.g. *dare-mo* 'who-*mo*' and *nani-mo* 'what-*mo*') in Japanese can create an NPI. One important feature of the NPI is that NPI subjects receive a negative focus, unlike the subjects of the ordinary clauses that we have just observed. The subject NPI *dare-mo* can be understood to receive a negative focus, which leads us to the expectation that in such cases, the PE modifying it can be focused. This expectation is indeed borne out.

PEs may appear in the focus domain of negation on the surface. There are two initial positions for the PE to merge in overt syntax. Object-oriented PEs such as *oisiku* and *omosiroku* adjoin to VP, and subject-oriented PEs such as *sabisiku* adjoin to vP as (61a) shows. Both types of PEs further adjoin to the subject NP at LF to form an adnominal modification, as the dotted lines in (61b) illustrate.

(61) a.




b.



We suggest that Psych-Movement of the PE to the subject is induced by the requirement that the PE needs to identify its experiencer by adnominal modification. The relevant Psych-Movement to the subject takes place only when the subject is the experiencer.

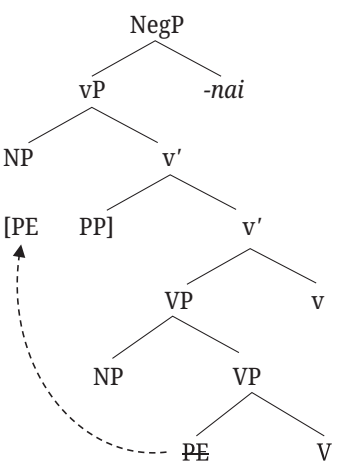
The present analysis makes two predictions. One prediction is that PEs can be a focus of negation if they do not describe the inner thought or judgment of the subject in a declarative clause. In other words, if the subject is not the experiencer, PEs can have a negative focus. Another prediction is that when the negative focus can fall over the subject, the negative focus can be placed on the PE due to the LF movement proposed in (59). These predictions are indeed borne out.

To be concrete, the experiencer is marked by *nitaisite* 'to/toward' in (62), in which case the PE *omosiroku* can be a focus of negation. Thus, (62) can have the interpretation that Taro told a fairy tale to the children but he did so in a *not interesting manner* (e.g., his way of telling was boring).

(62) *Taroo ga kodomo nitaisite doowa o omosiroku*
Taro NOM child toward fairy.tale ACC interesting
*katara-nakat-ta.*
tell-NEG-PST
'Taro told the children the fairy tale but he did not do so for them to be interested.'

In (62) the experiencer in question is a non-subject, and thus can readily receive the negative focus. In our analysis, LF Psych-Movement is instantiated to identify an argument as the experiencer of the PE. In (63), the PE is moved to the PP *kodomo nitaisite* and adjoined to it.

(63)



If the PE is moved to the experiencer PP at LF, it is naturally expected that it can be the focus of negation.

In the same vein, the PE can readily be interpreted to be the focus of negation in a clause of the verb *kaku* 'write' like (64).

(64) (*Wazato-daroo-ga*) *kono sakka wa sono essei o*
(on.purpose-*will-but*) this writer TOP that essay ACC
*omosiroku kaka-nakat-ta.*
interesting write-NEG-PST
'(It is probably on purpose but) this writer did not write the essay (for the readers) to be interested.'

(64) means that the writer wrote an essay in order to get his/her readers to get bord (this rarely happens in the real world but it is a possible interpretation). In (64), the experiencer of the mental state where the PE describes is not pronounced in the sentence (i.e., *pro*). Since *pro* in question is a goal argument, it is located in the focus domain of negation. Thus, the PE can easily receive a negative focus even if it undergoes Psych-Movement to the unpronounced *pro*. The PE fails to be in the negation focus when the matrix subject is identified as the experiencer of the mental state that the PE describes.

Note that the depictive predicate *nama-de* in (65a) is understood as the focus of negation independently of whether or not the subject is an NPI. In (65a), the object-oriented depictive is understood as the negative focus, so the sentence means that there was not [*anyone who ate the fish raw*] (probably because everything was cooked, not raw).[13]

(65) a. *Dare-mo sakana o nama-de tabe-nakat-ta.*
who-*mo* fish ACC raw-COP eat-NEG-PST
'No one ate the fish raw.'
b. *Dare-mo hadasi-de hasira-nakat-ta.*
who-*mo* barefoot-COP run-NEG-PST
'No one ran barefoot.'

**13** The negative focus can be placed on the depictive secondary predicate even if the object with which it is associated is an NPI, as in (i).

(i) *Taroo wa nani-mo nama-de tabe-nakat-ta.*
Taro TOP what-*mo* raw-COP eat-NEG-PST
'Taro did not eat anything raw.'

(i) can have the interpretation that Taro did *not eat anything raw*.

In (65b), the subject-oriented depictive *hadasi-de* is interpreted as the negative focus. (65b) can mean that there was not [*anyone who ran barefoot*], i.e. people ran *with their shoes on*.

Manner adverbs (e.g. *teinei-ni*) and subject-oriented adverbs (e.g. *sizuka-ni*) can be the foci of negation regardless of whether or not the subject is an NPI. Thus, the sentences in (66), where the subjects are NPIs, can have the intended interpretations.[14]

(66) a. *Dare-mo hon o teinei-ni atukawa-nakat-ta.*
who-*mo* book ACC carefully treat-NEG-PST
'No one treated books carefully.'
b. *Dare-mo sizukani syokuzi o si-nakat-ta.*
who-*mo* quietly meal ACC do-NEG-PST
'No one had a meal quietly.'

In (66), when the manner adverb is in the negative focus, the sentence has the interpretation that there is not [*anyone who treated books carefully*], i.e., people handled books, but they did so *not in a careful manner*. Likewise, (66b) can mean that people have a meal, but they did so *not in a quiet manner*.

The examples in (67) illustrate that the SPs and the adverbials can be in the negative focus even when the subjects are not NPIs.

(67) a. *Taroo ga hon o teinei-ni atukawa-nakat-ta.*
Taro NOM book ACC carefully-COP treat-NEG-PST
'Taro did not treat the books carefully.'
b. *Taroo* ga *sizuka-ni syokuzi o si-nakat-ta.*
Taro NOM quietly-COP meal ACC do-NEG-PST
'Taro did not have a meal quietly.'
c. *Taroo ga maguro o nama-de tabe-nakat-ta.*
Taro NOM tuna ACC raw-COP eat-NEG-PST
'Taro did not eat the tuna raw.'
d. *Taroo ga hadasi-de hasira-nakat-ta.*
Taro NOM barefoot run-NEG-PST
'Taro did not run barefoot.'

**14** (i) shows that the negative focus can be placed on the manner adverb *teinei-ni* even if the object is an NPI.

(i) *Taroo ga nani-mo teinei-ni atukawa-nakat-ta.*
Taro NOM what-*mo* carefully-COP treat-NEG-PST
'Taro did not treat anything carefully.'

PEs do not pattern with depictive SPs and manner adverbs. The PEs in the clauses with NPI subjects in (68) can be interpreted as receiving the negative focus regardless of their semantic orientation (i.e., *omosiroku* is object-oriented while *sabisiku* is subject-oriented).

(68) a. *Dare-mo kono hon o omosiroku yoma-nakat-ta.*
who-*mo* this book ACC interesting read-NEG-PST
'No one read this book with interest.'
b. *Dare-mo sabisiku syokuzi o si-nakat-ta.*
who-*mo* lonely meal ACC do-NEG-PST
'No one had a meal in loneliness.'

Both sentences in (68) can have the interpretation where the focus of negation falls over the PEs. (68a) can mean that there is not [*anyone who read this book and found it interesting*]. (68b) can mean that there is not [*anyone who found this fish tasty by eating it*].

On the other hand, ordinary subjects fall out of the focus domain of negation. In such cases, both *omosiroku* and *sabisiku* cannot be understood as receiving the negative focus. The sentences in (69a) and (69b) are not acceptable on the intended interpretations where the PEs are focused.

(69) a. **Taroo wa hon o omosiroku yoma-nakat-ta.*
Taro TOP book ACC interesting read-NEG-PST
'Taro did not read books with interest.'
b. **Taroo wa sabisiku syokuzi o si-nakat-ta.*
Taro TOP lonely meal ACC do-NEG-PST
'Taro did not have a meal in loneliness.'
c. *Taroo wa nessin-ni hon o yoma-nakat-ta.*
Taro TOP diligent-COP book ACC read-NEG-PST
'Taro did not read books diligently.'

The sentences can mean that Taro did not do the act of reading or having a meal, although Taro's emotional states are aroused by these actions. The interpretations that can be assigned to the sentences in (69a) and (69b) turn out to be non-sensical. By contrast, (69c) involving a subject-oriented adverb *nessin-ni* can be interpreted as the negative focus and can mean that Taro read a book but *he did so not in a diligent manner*.

As we have already shown, the object-oriented PE *omosiroku* is base-generated within VP as it cannot compose the presupposition clause of the pseudo-cleft construction with vP-focus (see section 2.2). The fact suggests that the PE should

be moved to the subject position in order to identify its experiencer under LF Psych-Movement. In this connection, it is worth noting that the subject-oriented PE *sabisiku* superficially appears in a vP-internal position in which it can be linked to the subject via adverbial modification.

(70) a. [*Taroo ga sabisiku si-ta*] *no-wa* [*syokuzi o*
Taro NOM lonely do-PST NOML-TOP meal ACC
*suru*] *koto-da.*
do that-COP
'What Taro did in loneliness was have a meal.'

b. [*Taroo ga si-ta*] *no-wa* [*sabisiku syokuzi o*
Taro NOM do-PST NOML-TOP lonely meal ACC
*suru*] *koto-da.*
do that-COP
'What Taro did was have a meal in loneliness.'

The PE *sabisiku* can appear in either the presupposition clause of the pseudo-cleft with vP-focus, as in (70a), or the focus clause of the same cleft as in (70b). The same holds true of the adverb *nessin-ni*.

(71) a. [*Taroo ga nessin-ni si-ta*] *no-wa* [*sono hon*
Taro NOM diligent-COP do-PST NOML-TOP that book
*o yomu*] *koto-da.*
ACC read that-COP
'What Taro did diligently was read the book.'

b. [*Taroo ga si-ta*] *no-wa* [*nessin-ni sono hon*
Taro NOM do-PST NOML-TOP diligent-COP that book
*o yomu*] *koto-da.*
ACC read that-COP
'What Taro did was read the book diligently.'

The facts of pseudo-clefting observed in (70) and (71) indicate that both the PE *sabisiku* and the adverb *nessin-ni* superficially appear in vP on which the negative focus can potentially fall.

Nevertheless, the subject-oriented PE *sabisiku*, as opposed to *nessin-ni*, cannot be under the negative-focus, and thus, (69b) lacks the interpretation that Taro had a meal, but *he did so not in loneliness*. This fact suggests that the PE *sabisiku* lies out of the negative focus domain when its interpretation is determined at LF. We then claim that the subject-oriented PE *sabisiku* is necessarily moved to its subject position via Psych-Movement at LF in order for the subject to be identified as its

experiencer via adnominal modification. Evidently, the subject-oriented adverb *nessin-ni*, which does not describe an internal mental state, is not subject to this LF Psych-Movement.

Let us next consider cases in which the indeterminate *dare* plus *-ka* is marked with the nominative case. The complex form in the nominative case acts as a Positive Polarity Item (PPI), which necessarily takes wider scope than a clause-mate negation in simple negative sentences (Yoshimoto 2023). In such cases, PEs cannot fall under the focus of negation, as shown in (72).

(72) a. **Dare-ka ga kono hon o omosiroku yoma-nakat-ta.*
who-*ka* NOM this book ACC interesting read-NEG-PST
'Someone did not read this book with interest.'

b. **Dare-ka ga sabisiku syokuzi o si-nakat-ta.*
who-*ka* NOM lonely meal ACC do-NEG-PST
'Someone did not have a lonely meal.'

Notably, negation does not take scope over the PPI subject *dare-ka ga* (some > neg, *neg> some), so the subject cannot be a focus of negation. This fact suggests that in a clause where the subject is a PPI, the PE that undergoes LF movement to the subject appears in the domain where negative focusing is not possible. As a consequence, (72a) cannot obtain the interpretation that someone read the book, but he did not find it interesting, nor can (72b) have the interpretation that someone had a meal but he did not find himself lonely.

The data confirm again that PEs can be in the focus of negation only when their experiencer subjects are in the focus domain of negation. Put differently, if a negative focus does not fall on the subjects, the PEs, which undergo movement to the subjects, cannot be in the negative focus, either. Thus, the PEs, regardless of their semantic orientation, are not interpreted as negative foci when the subjects count as experiencers. In this respect, the PEs stand in sharp contrast with manner adverbs and depictive SPs, which can receive focus independently of whether or not the subject can receive a negative focus.

Finally, when the PE has a non-subject as its experiencer, it can easily fall under the focus of negation. Accordingly, the PE can receive a negative focus whether or not the experiencer is an ordinary NP or an NPI.

(73) a. *Taroo ga dare nitaisite-mo doowa o omosiroku katara-nakat-ta.*
Taro NOM who toward-*mo* fairy.tale ACC interesting tell-NEG-PST
'Taro did not tell the fairy tale for anyone to be interested.'

b. *Taroo ga kodomo nitaisite doowa o omosiroku*
Taro NOM child toward fairy.tale ACC interesting
*katara-nakat-ta.*
tell-NEG-PST
'Taro did not tell the fairy tale for the children to be interested.'

(73a) can have the interpretation that there is not [*anyone who heard Taro's fairy tale with interest*]. (73b) can mean that Taro told a fairy tale to the children, which was carried out *in a not interesting way*. The data show that when the PE has the experiencer appearing in a non-subject position, it can receive a negative focus regardless of the type of the experiencer argument.

As a summary, we have a table in (74) on the distribution of PEs, depictive SPs and regular adverbs in negative sentences.

(74) Summary of the distribution of the PE, the Depictive SP and the adverb in negative context

| | Regular adverbs | | Depictive SPs | | PEs | |
|---|---|---|---|---|---|---|
| | Subj-oriented *sizuka-ni* | VP-attached *teinei-ni* | Subj-oriented *hadasi-de* | Obj-oriented *nama-de* | Subj-oriented *sabisiku* | Obj-oriented *omosiroku* |
| Negative sentences with ordinary subjects | ✓ | ✓ | ✓ | ✓ | * | * |
| Negative sentences with NPI subjects | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Negative sentences with PPI subjects | ✓ | ✓ | ✓ | ✓ | * | * |

We can see from (74) that (i) PEs cannot receive a negative focus in negative sentences with ordinary subjects, and (ii) PEs are interpreted under a negative focus when the matrix subject can be focused.[15] These properties are observed in a cat-

**15** Kuno (1982) suggests that for a non-predicative element to receive a negative focus, it needs to have a "multiple choice" interpretation. This is independent of the issue on the negative focus in adjectival expressions, which are normally gradable.

egory-neutral manner, namely the same facts are observed for all types of PEs, regardless of whether they are based on nominals, nominal adjectives or adjectives. Overall, PEs appearing in non-epistemic clauses function as modifiers but not as secondary predicates. The PEs include no subject position to accommodate a subject including PRO. The PE is raised to the experiencer subject by LF Psych-Movement so as to identify the subject as its experiencer via adnominal modification. Subject-oriented PEs and object-oriented PEs share this property, regardless of the base position in which they merged.[16]

Matsuoka (2021, 2023) argues that the relation between the PE and the experiencer is established by control with the mediation of PRO, which is included in the

(i) (*Nanzan-de*) *ko'usi-wa* {??*mikka-mae-ni/genki-ni*} *umare-nakat-ta.*
hard.labor-with calf-TOP {three.days-ago-at/healthy} be.born-NEG-PST
'Owing to the hard labor, the calf was not born {three days ago/healthy}.'

In (i), the predicate does not serve as a focus of negation, as every calf is borne in one time or another. Therefore, a negative focus needs to fall over a non-predicative constituent. The PP *mikka-mae-ni* 'three days ago' invokes a "fill-in-the-blank" interpretation, so that the sentence turns out to be odd (unless a specific context is provided to invoke a multiple-choice interpretation). By contrast, the negative focus can readily fall on the adjective without a multiple-choice interpretation on it.

The irrelevance of a multiple-choice interpretation for negative focus to fall over PEs can be discerned by the fact that (ii) is anomalous even if uttered in a context where the speaker tries to pick out a person who read the book with no interest from a group of people that read the book.

(ii) **Ano hito-wa sono hon-o omosiroku yoma-nakat-ta.*
that person-TOP that book-ACC interesting read-NEG-PST
'That man did not read that book with interest.'

One the other hand, (iii) is felicitous if uttered in a situation where the speaker tries to identify a person who was not born in Paris among a group of people who were born in some other places including Paris.

(iii) *Ano hito-wa Pari-de umare-nakat-ta.*
that person-TOP Paris-LOC be.born-NEG-PST
'That man was not born in Paris (but born in somewhere else).'

The sentence is an assertion about the place where that man was born. Thus, the negative focus easily falls on the PP *Pari-de* 'in Paris' in this case, since a multiple-choice interpretation is available contextually. PEs differ from the PPs in that they fall under the negative focus only when they are associated with subjects which are understood to be under the negative focus, and do not fall under the negative focus even if a multiple-choice interpretation is available contextually.

**16** Korean sentential negation is well-known for its two variants. One is called short-form negation which is formed by placing the negative word *an(i)-* 'not' immediately before the matrix verb as *an ka-sy-e* 'NEG go-SH-INT' in (ia). The other form is called long-form negation where the nominalizer *ci* is attached to the matrix verb and negative word *an-* appears before the light verb *h* 'do' as in *ka-ci an-h-usy-e* 'go-NS NEG-do-SH-INT' in (ib).

PE, on the assumption that the PE is a predicate and projects a subject position. In his analysis, the experiencer is associated with the PE with a long-distance control relation via PRO. Nevertheless, as we have shown, the PEs in non-epistemic clauses have a structure without PRO. On top of that, his analysis positing a clause structure containing PRO predicts that PEs will behave in the same way as depictive predicates with regard to negative focus, contrary to fact. It should be apparent then that Matsuoka's analysis does not work out to account for the distribution and interpretation of the PE; hence our analysis utilizing movement of the PE itself is chosen over Matsuoka's analysis.

Finally, in the epistemic construction discussed in section 2, the PE can describe the mental state of the surface subject. Given this interpretive fact, one might be tempted to think that the PE in the epistemic verb construction could move out of the original position to search for the experiencer subject. If the moved position scopes over the Neg head, it would be expected that the PE in question cannot obtain the focus of negation. However, this expectation is not met, as shown in (75).

(i) a. *Ape nim un an ka-sy-e.*
father HT TC NEG go-SH-INT
'Father is not going.' (HT = honorific title, TC = topic-contrast particle, SH = subject honorific suffix, INT = intransitive)

b. *Ape nim un ka-ci (lul/to) an-h-usy-e.*
father HT TC go-NS ACC NEG-do-SH-INT
'Father is not (even) going.' (NS = nominalizer suffix) (Sohn 1999: 390, (216a) & (216b))

We consulted several Korean informants as to whether a negative focus reading of PEs in both the short-form and the long-form negation is acceptable. Some of our informants find that a PE *masiss-key* in the long-form negation in (iib) can obtain a negative focus interpretation, but that when it appears in the short-form negation as in (iia), it is difficult to maintain this negative focus interpretation.

(ii) a. **Talo nun ku sayngsen ul masiss-key an mek-ess-ta.*
Talo TOP that fish ACC tasty NEG eat-PST-DEC
'Talo ate that fish and found it tasty.'

b. *Talo nun ku sayngsen ul masiss-key mek-ci anh-ass-ta.*
Talo TOP that fish ACC tasty eat-NS NEG-PST-DEC

For the informants who did not accept the negative focus reading in the short-form negation but accepted such a reading in the long-form negation, it might be the case that they implement LF Psych-movement just like Japanese. However, other informants can obtain an interpretation where negative focus falls on PEs both in a short-form and a long-form negative sentences. Thus, currently we have a split result in our survey and the issue of whether LF Psych-movement applies on PEs in Korean is left open for future research.

(75) a. *Taroo wa sono hon o omosiroku omowa-nakat-ta.*
Taro TOP that book ACC interesting think-NEG-PST
'Taro did not think the book was interesting (to him).'
b. *Taroo wa sono ryoori o oisiku kanzi-nakat-ta.*
Taro TOP that dish ACC tasty feel-NEG-PST
'Taro did not feel the dish tasty (to him).'

The sentence (75a) allows a negative focus reading of the PE *omosiroku*, which means that Taro found that the book was *not interesting*. The same holds true with (75b) as well. In this sentence, the negative focus falls on the PE *oisiku*, that is, it has the interpretation that Taro felt that the dish was *not tasty*.

Note that the PE is not a modifier but a predicate contained in an epistemic verb clause. The PE in the small clause is used intransitively, and the PE is predicated of the accusative argument, and is not a modifier. The experiencer perceives that that book is interesting in (75a) and feels the dish delicious in (75b). Syntactically, as we have proposed in section 2, the PE of the epistemic construction appears as a sister to the R-head, which projects to a small clause RP. The small clause falls under the focus domain of the negator, and importantly, the predicate does not move out of the RP (and this movement is in fact barred by the Anti-Locality Principle). Consequently, it is naturally expected that the negative focus can fall on the PE in question.

## 4 Conclusion

In this chapter, we have compared Psychological Expressions (PEs) appearing in two different types of clauses. The order of PEs with respect to the matrix object is fixed in the epistemic clause in opposition to the one in the non-epistemic clause. In the former clause the PE and the matrix object compose a small clause constituent embedded in the matrix predicate. In the latter clause, the PE adjoins to the verbal component of the structure to modify the primary predicate. The crucial evidence for this proposal comes from the fact that the matrix object cannot be an antecedent of the subject honorification relation with the PE. The fact shows that the PEs with non-epistemic verbs serve in no way as predicates; they are modifiers that do not contain a subject inside. The distribution and interpretation of the PE against the negative operator *-nai* indicate that the PE in the non-epistemic clause undergoes LF Psych-Movement to the argument to identify as the experiencer to the PE through adnominal modification. Overall, the discussion reveals that while PEs

embedded under epistemic verbs are construed as predicates, PEs with non-epistemic verbs are construed as modifiers, but not secondary predicates.

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Éva Kardos and Andrea Szávó

# Chapter 4
# Event lexicalization in Hungarian

**Abstract:** This chapter is concerned with event lexicalization strategies across languages with a special focus on Hungarian. We argue for the need for a more nuanced analysis of languages that lexicalize the result component in a change-of-state/location event outside the primary verbal predicate. Building on Kardos and Farkas (2022), we discuss a syntactic constraint in Hungarian that ensures that the result component be expressed outside the VP and also motivate this constraint by further proposing that result-encoding elements such as verbal particles and resultative predicates must take scope over the domain that they c-command in visible syntax. In this way, we draw a parallel between the grammar of quantifiers and adverbs on the left periphery of the sentence and quantificational verbal particles and resultative predicates in the event domain by arguing that the structure of both the left periphery and that of the event domain is determined by scope. Contra previous claims in the literature (Acedo-Matellán 2016; Hegedűs 2019), we argue that Hungarian exhibits similarities with Slavic languages rather than English when it comes to the location of results in the sentence.

**Keywords:** event lexicalization, resultatives, verbal particles, scope, Talmy's typology, Hungarian

## 1 Introduction

As argued extensively in the literature on event lexicalization (see, for example, Talmy 1985, 1991, 2000; Beavers, Levin, and Tham 2010; Acedo-Matellán 2016; Folli and Harley 2020; Hopperdietzel 2022), languages use two main strategies to express change-of-state and change-of-location events: One strategy is that the manner in which an event is carried out is expressed by the primary verbal predicate, whereas the result state that is attained at the termination of the event expressed by the primary

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verb is encoded in a secondary predicate in the sentence.[1] The second strategy is different from the first one in that the result component is expressed in the primary verbal predicate and the manner is encoded outside this predicate in an adjunct. Many languages use both strategies, but there is generally a tendency for the use of one of the two strategies in a given language (Beavers, Levin, and Tham 2010; Hopperdietzel 2022). For example, English primarily uses the first strategy, as shown in (1a) and (2a), but we can also find examples illustrating the second strategy, as in (1b) and (2b).

(1) a. *John hammered the metal flat.*
b. *John flattened the metal by hammering it.*

(2) a. *Bill wiped the table clean.*
b. *Bill cleaned the table by wiping it.*

In (1a) and (2a), the primary verbal predicates *hammer* and *wipe* are manner-encoding, whereas the secondary adjectival predicates *flat* and *clean* express the result state that the referent of the theme attains at the end of the hammering and wiping events, respectively. By contrast, in the (b) examples, the primary verbs *flatten* and *clean* encode the result states, derivable from the underlying adjectives *flat* and *clean*, that the referents of the themes *the metal* and *the table* acquire at the end of the flattening and cleaning events in the respective examples. The *by*-phrases contribute the manner in which the flattening and the cleaning events are carried out.

In languages such as Romance, the first strategy has been argued to be generally unavailable (Talmy 2000; Acedo-Matellán 2016). For example, in Spanish, structures illustrated by the (a) examples above are deemed ungrammatical. Consider (3).

(3) Spanish
**María martilleó el metal plano.*
María hammered the metal flat
Intended: 'María hammered the metal flat.'
(adapted from Mateu 2012: 258)

The example above shows that Spanish does not tolerate that the manner component be encoded in the primary verb and that the result component appear only

**1** The following abbreviations are used in the chapter: 1SG = first person singular, 3SG = third person singular, ABS = absolutive, ACC = accusative, ART = article, CAUS = causative, COMP = complementizer, DAT = dative, ERG = ergative, GEN = genitive, ILL = illative, INF = infinitive, PF/PFV = perfective, POSS = possessive, PRT = particle, PST = past, SUBJ = subjunctive, SUBL = sublative, SUP = superessive, TRANSL = translative

in a secondary predicate in the description of change-of-state events. Instead, the result state is expressed by the verb and the manner is described by an adjunct, as in (4).

(4) Spanish
*María aplanó el metal martilleándolo.*
María flattened the metal hammering.it
'María flattened the metal by hammering it.'
(adapted from Mateu 2012: 258)

The primary verbal predicate *aplanar* 'to flatten' encodes the result state that the metal obtains at the end of the hammering event. The meaning that the event is of the hammering type is contributed by the adjunct *martilleándolo* 'hammering it'.

As pointed out by Mateu (2002: 165–166), Romance languages such as Catalan also allow simple resultatives, which contrast with complex resultatives such as *hammer the metal flat* in English in that in the former the primary verb is associated with a causative verb and Path incorporation and the state-denoting adjectival complement remains stranded in the sentence. This is illustrated in (5) below.

(5) Catalan
*La Paquita va deixar la porta oberta.*
the Paquita cause+Path the door open
'Paquita left the door open.'
(adapted from Mateu 2002: 166)

Mateu (2002) argues that the AP *oberta* 'open' in the example above represents only an abstract Place, unlike, for example, English *awake* in *bark the chickens awake*, which corresponds to the entire abstract Path, ultimately giving rise to a telic structure. In Catalan, by contrast, "the telic Path relation is conflated into the verb" (Mateu 2002: 165).

Since Talmy's (1985, 1991, 2000) seminal works on how languages differ with respect to their use of the event lexicalization strategies briefly illustrated above, languages such as English, German, Dutch and Icelandic have been referred to as satellite-framed languages, whereas Romance, Japanese, Hebrew and other similar languages have been described as verb-framed. In the former, result states are generally expressed by a satellite element outside the verb (e.g. a resultative secondary predicate like *flat* in *hammer the metal flat* or a verbal particle like *up* in *eat the sandwich up*), whereas in the latter result states are encoded in the verb.

Event lexicalization strategies in Finno-Ugric languages such as Finnish and Hungarian have also been discussed in the literature to some extent: these languages

have been classified as satellite-framed for their apparent similarities with English-type languages. Just like English, Finnish and Hungarian like to express result states in satellite expressions morphologically independent from the verb. Acedo-Matellán (2016) describes these languages as strong satellite-framed and contrasts them with weak satellite-framed languages such as Latin and Slavic languages, where results must be expressed in elements that are syntactically independent but are also prefixed to the verb. Strong satellite-framed English and Hungarian allow complex resultative structures, whereas weak satellite-framed Latin does not. However, the latter allows simple resultative structures similarly to Catalan (Mateu 2002: 212).

In this chapter, we argue for the need for a more nuanced analysis of satellite-framed constructions by examining possible and impossible change-of-state and change-of-location structures in Hungarian. While assuming a layered structure for the Hungarian VP following Surányi (2014) and Kardos and Farkas (2022) inspired by MacDonald (2008) and Travis (2010), we demonstrate that Hungarian exhibits significant differences with English regarding event lexicalization and propose a syntactic constraint that ensures that Hungarian result components be expressed outside the VP. We motivate this by further arguing that result-encoding elements such as verbal particles and resultative predicates must take scope over the domain that they c-command in visible syntax. In this way, Hungarian verbal particles and resultative predicates, which have been argued to be event-maximizing elements (Kardos 2012, 2016; Kardos and Farkas 2022), are shown to be similar to quantifiers and adverbs on the left periphery of the sentence in that these elements are all arranged on the syntactic surface according to scopal considerations (É. Kiss 1984, 2009). By contrast, English-type result-denoting elements are simply responsible for the expression of result states without quantifying over events and also without directly determining quantized reference and therefore telicity.

This chapter is structured as follows: Section 2 provides a brief overview of some recent analyses of verb-framed and satellite-framed structures across languages. Then, in Section 3 we discuss some well-known and lesser-known data illustrating possible and impossible event lexicalization strategies in Hungarian before accounting for these data in Sections 4 and 5. Section 6 concludes.

## 2 Recent analyses of verb-framed and satellite-framed structures

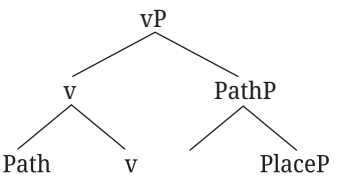
In this section we discuss three recent analyses regarding how different languages lexicalize various components of change-of-state and change-of-location events in an effort to set the stage for our discussion of event lexicalization strat-

egies in Hungarian in the sections that follow. First, we provide a brief summary of the main tenets of Acedo-Matellán's (2016) morphological and Folli and Harley's (2020) syntactic analysis as to how the meaning components of path/result and manner are encoded in non-serializing verb-framed and satellite-framed languages. Then, we briefly present Hopperdietzel's (2022) analysis of the split between verb-framed and satellite-framed structures in both non-serializing and serializing languages.

## 2.1 Acedo-Matellán's (2016) morphological analysis

Acedo-Matellán (2016: 55) proposes that "although all syntactic representations are available universally, particular languages may not have the means to interpret some of these representations at PF, which gives rise to cross-linguistic variation". While taking a syntactic approach to argument structure and drawing on insights from Hale and Keyser (1993), Mateu (2002), Borer (2005) and the framework of Distributed Morphology, this author argues that in verb-framed languages such as Spanish and Italian the Path head responsible for a transition interpretation, by virtue of being exponent-defective, only has Vocabulary Items that ensure strict linear adjacency between Path and *v*. This arises as a result of complex head formation by Raising of Path to *v*, as shown in (6).

(6)




(Acedo-Matellán 2016: 65)

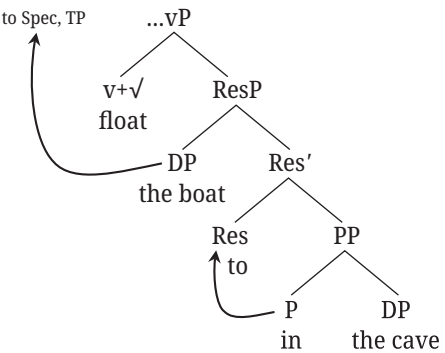
Latin and Slavic languages are argued to be similar to Spanish in that the Path head is exponent-defective, but there is no requirement ensuring strict adjacency of Path and *v*. As a result, unlike Spanish and Italian, Latin and Slavic languages allow directed motion constructions provided the verb has a prefix (see also Section 4). By contrast, in English there is no requirement for Path and *v* to be packaged in the same complex head. Here only the root adjoins *v*, which is interpreted as a manner Co-Event. According to an alternative analysis by Folli and Harley (2020), the split between verb-famed and satellite-framed structures arises due to a purely syntactic parameter. This is what we discuss next.

## 2.2 Folli and Harley's (2020) syntactic analysis

The central claim that Folli and Harley (2020: 429) argue for is that verb-framed languages such as Italian have a Res-to-v head movement requirement, "requiring the result of a change-of-state to be expressed in the verb, while English permits Res to remain *in situ*", as a result of which Res appears as a satellite expression independent from the verb. They propose the following representations for the satellite-framed pattern and the verb-framed pattern.

(7) a. *The boat floated into the cave.*

b.

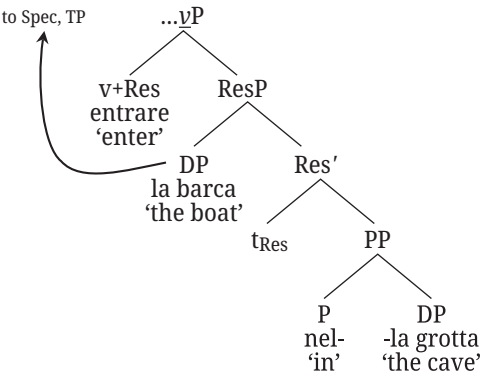



(Folli and Harley 2020: 430)

(8) Italian

a. *La barca entrò nella grotta.*
the boat entered in.the cave
'The boat entered the cave.'

b.




(Folli and Harley 2020: 430)

On this view, that English *v* is not required to combine with Res via head movement gives rise to a sizeable class of manner verbs such as *float* associated with just *v* and an adverbial root √, whereas in Italian obligatory Res-to-v movement results in v+Res complex heads.[2] An important consequence of this parametric variation in the syntax is that English allows Res to be expressed low in the structure in a satellite expression such as *into the cave*, whereas in Italian this is not possible.

Folli and Harley (2020) also adopt Embick's (2010) root categorization restriction, according to which "uncategorized roots are ill-formed" and a *v* head may only categorize via m(orphological)-merger an i(nternally)-Merged Res element or an e(xternally)-Merged manner root (Folli and Harley 2020: 456). This way, the authors also derive manner-result complementarity as a syntactic phenomenon (see Rappaport Hovav and Levin 2010 and also Section 5). Embick's categorization restriction also features in Hopperdietzel's (2022) analysis of satellite-framed and verb-framed structures in both non-serializing and serializing languages, which is the topic of the next section.

## 2.3 Hopperdietzel's (2022) account of non-serializing and serializing structures

Building on previous work by Mateu and Acedo-Matellán (2012) and Folli and Harley (2020), among others, Hopperdietzel (2022) also argues that manner and result meanings are tied to specific syntactic positions defined relative to a verbalizer *v*: manner interpretations are associated with manner roots analyzed as modifiers of *v*, whereas result interpretations follow from result roots represented as complements of *v*. In complex resultative structures, found in English-type languages, the result appears as a pre-categorized constituent (see, for example, *flat* in *hammer the metal flat*), whereas manner modification becomes possible given that there is no Res-to-v movement (Folli and Harley 2020) and that an eventive root such as √*hammer* in *hammer the metal flat* "gets categorized by lowering to *v* via m-merger" (Hopperdietzel 2022: 9). By contrast, in verb-framed structures, found in English-type languages and Romance, a pre-categorized constituent is merged in a modifier position relative to *v*, whereas the result component merged as a complement of *v* "incorporates into *v* to satisfy the categorization requirement" (Hopperdietzel 2022: 12) discussed above in Subsection 2.2. Since the latter process is

**2** According to Folli and Harley (2020: 430), who follow Matushansky (2006), "the adverbial root (√) enters the structure via external Merge (e-Merge) to a projection *v*, and then m-merges with *v* to produce the same head adjunction structure as head movement".

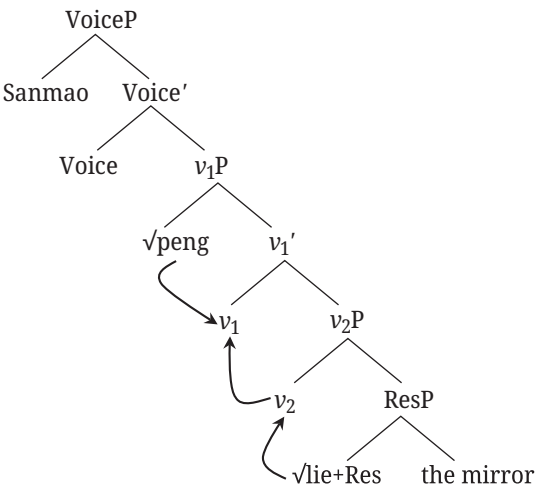
obligatory in verb-framed languages, as also proposed by Folli and Harley (2020), complex resultative structures are not possible.

Serializing languages such as Mandarin and Samoan are also argued to illustrate the same split between verb-framed and satellite-framed languages, contra the previous claim that they form a different class featuring equipollently-framed resultatives (Slobin 2004; Zlatev and Yansklang 2004). Providing evidence from the transitivity of the result predicate and repetitive modification, Hopperdietzel argues that Mandarin resultative serial verb constructions illustrated in (9) are to be analyzed as instances of resultative secondary predication observable in English-type languages, where the result component is a complement of a causative $v_2$ that forms an anticausative verb with $v_2$, whereas an additional causative $v_1$ is modified by a manner root m-merged with $v_1$.

(9) Mandarin

a. *Sanmao peng$_v$-lie$_v$-le jingzi.*
Sanmao bang-crack-PFV mirror
'Sanmao banged the mirror, cracking it.'
(Tham 2012: 602)

b.




(adapted from Hopperdietzel 2022: 22)

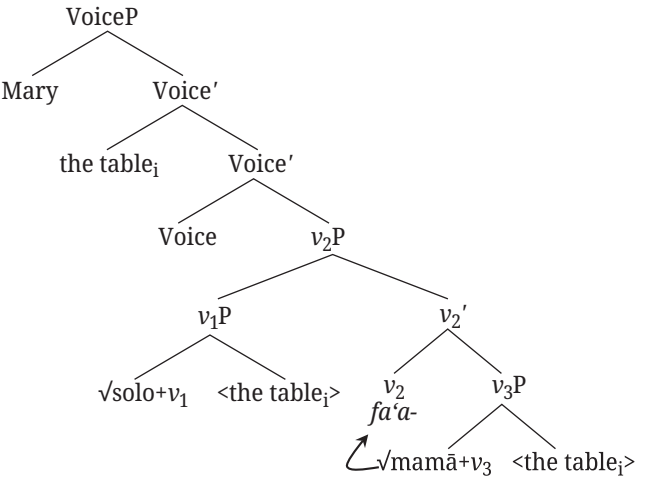
Hopperdietzel (2022: 22) further argues that Mandarin resultatives like that above also differ from resultatives in non-serializing languages in that the former is associated with a tri-eventive structure instead of a bi-eventive structure characterizing English resultatives such as *hammer the metal flat*. This follows from the verbal secondary predicate's (i.e. *lie* in example (9)) denoting a change-of-state involving a causative relation between a process event and a state instead of just a state.

In Samoan, by contrast, *fa'a*-causatives are analyzed as verb-framed constructions, where a causative result verb is the primary predicate in the clause and the manner component is expressed in an initial manner verb, as in (10).

(10) Samoan

a. *Sā* *solo*$_v$ *fa'a-mamā*$_v$ *e* *Malia* *le* *laulau.*
PST wipe CAUS-clean ERG Mary ART table.ABS
'Mary cleaned the table by wiping it.'
(Hopperdietzel 2022: 23)

b.




(Hopperdietzel 2022: 26)

For *fa'a*-causatives, Hopperdietzel proposes three *v*Ps. In the example above, the result meaning is associated with the result root √*mamā*, which forms a complex head with the lowest $v_3$. This complex head then moves to $v_2$ to join the obligatory causative marker *fa'a*, whereas the manner component is expressed by the phrasal manner adjunct $v_1$P.[3]

A crucial conclusion drawn by the author is that "the underlying syntactic configuration of meaning components within the verbal domain is most likely constant

**3** Mateu (2012: 268–269) also likens Mandarin V-V compounds such as *Lisi ba shoujuan ku-shi-le* 'Lisi cried the handkerchief wet' to English resultatives like *The boy danced his feet sore* and analyzes both structures as instances of manner conflation, whereas verb-framed structures represented by Japanese V-V compounds such as *John-wa zaisan-o nomi-tubusi-ta* 'John drank his fortune away' are treated as instances of incorporation. In the case of the Mandarin example, the null main causative verb is argued to be conflated with a manner root, whereas in the Japanese example the result is claimed to be incorporated into the null main verb. For more on this, see Section 10.3 in Mateu (2012).

across languages" (Hopperdietzel 2022: 35). However, cross-linguistic differences arise due to the fact that manner and result are realized by elements representing different morphosyntactic categories (PPs, APs, VPs, etc.).

In the following sections we wish to contribute to this literature by examining event lexicalization strategies in Hungarian and showing that a more nuanced analysis of satellite-framed structures is required in light of our data. While assuming that results associated with resultative predicates are merged as complements in the event domain in line with much prior literature, we also argue for an additional constraint in Hungarian requiring such predicates to exert their event aspectual functions in a VP-external position due to scope considerations. This constraint will also be shown to be obeyed by verbal particles associated with quantification over events.

## 3 Hungarian classified as a strong satellite-framed language

As mentioned above, Hungarian has been characterized as a strong satellite-framed language by Acedo-Matellán (2016) (see also Hegedűs 2019), similarly to Finnish and Germanic languages, as result-denoting elements can be morphologically independent from the verb. This is shown in (11).

(11) Hungarian

a. *Evelin meg-vert egy szomszédot.*
Evelin PRT-beat.PST.3SG a neighbor.ACC
'Evelin beat up a neighbor.'

b. *Evelin nem vert meg egy szomszédot.*
Evelin no beat.PST.3SG PRT a neighbor.ACC
'Evelin did not beat up a neighbor.'

c. *Evelin meg akart verni egy szomszédot.*
Evelin PRT want.PST.3SG beat.INF a neighbor.ACC
'Evelin wanted to beat up a neighbor.'

d. *Evelin véresre vert egy szomszédot.*
Evelin bloody.SUBL beat.PST.3SG a neighbor.ACC
'Evelin beat a neighbor bloody.'

The verbal particle *meg* is in an immediately preverbal position in (11a), follows the verb in (11b) with negation in the sentence, and is again morphologically separated from the infinitive verb *verni* 'to beat' by the verb *akart* 'wanted' in (11c).

In (11d) the result state of the referent of the theme *egy szomszédot* 'a neighbor' is expressed in the resultative constituent *véresre* 'lit. onto bloody' preceding the primary verbal predicate *vert* 'beat'.

That particles and resultative PPs such as *laposra* 'lit. onto flat' in (12c) encode a result component in Hungarian is evidenced by the fact that they are often directly responsible for making their verbal predicates telic, as has been discussed by a number of scholars including É. Kiss (2008), Csirmaz (2008), Kardos (2012, 2016), Hegedűs and Dékány (2017), and Kardos and Farkas (2022) in recent years. Consider (12).

(12) Hungarian

a. *Sára 10 perc-ig/ *10 perc alatt kalapált egy*
Sára 10 minute-for/ 10 minute under hammer.PST.3SG an
*vaslemezt.*
iron_plate.ACC
'Sára hammered an iron plate for 10 minutes.'

b. *Sára 10 perc alatt/ *10 perc-ig ki-kalapált egy*
Sára 10 minute under/ 10 minute-for PRT-hammer.PST.3SG an
*vaslemezt.*
iron_plate.ACC
'Sára hammered an iron plate in 10 minutes.'

c. *Sára 10 perc alatt/ *10 perc-ig laposra kalapált*
Sára 10 minute under/ 10 minute-for flat.SUBL hammered.PST.3SG
*egy vaslemezt.*
an iron_plate.ACC
'Sára hammered an iron plate flat in 10 minutes.'

In (12a) compatibility with the durative adverbial *10 percig* 'for 10 minutes' and incompatibility with the time frame adverbial *10 perc alatt* 'in 10 minutes' diagnose a strictly atelic predicate in the absence of a verbal particle or resultative predicate, whereas in (12b) and (12c) the acceptability of the time frame adverbial and the unacceptability of the durative adverbial show that the verbal predicates are strictly telic in the presence of the particle *ki* 'out' or the resultative predicate *laposra* 'lit. onto flat'.

Another property of verbal particles like *ki* 'out' and resultative predicates like *laposra* 'lit. onto flat' that is relevant in the context of this chapter is that they are associated with quantificational information, similarly to some perfective prefixes in Slavic languages (Filip 1996; Ramchand 2004; Svenonius 2004; Di Sciullo and Slabakova 2005). As for the latter, it has been proposed that a subset of perfective prefixes is responsible for A-quantification (as opposed to D-quantification) (Partee,

Bach and Kratzer 1987) by imposing specific semantic constraints on the VP both in Slavic languages with determinerless DPs (e.g. Russian, Czech, and Polish) and also in those with "overtly unspecified cardinality DPs" (e.g. Bulgarian) (Di Sciullo and Slabakova 2005: 61). Telicizing verbal particles and resultative predicates in Hungarian have been argued to encode an event-maximizing operator that gives rise to maximal events with quantized reference associated with themes whose quantity is known (Kardos 2012, 2016; Kardos and Farkas 2022). This is shown in (13).

(13) Hungarian

a. ?? *Sára* *ki-kalapált* *vaslemezeket.*
Sára PRT-hammer.PST.3SG iron_plates.ACC
'Sára hammered iron plates.'

b. ?? *Sára* *laposra* *kalapált* *vaslemezeket.*
Sára flat.SUBL hammer.PST.3SG iron_plates.ACC
'Sára hammered iron plates flat.'

c. *Sára* *{ki-kalapált/* *laposra* *kalapált}* *három*
Sára PRT-hammer.PST.3SG / flat.SUBL hammer.PST.3SG three
*vaslemezt.*
iron_plate.ACC
'Sára hammered three iron plates (flat).'

The examples in (13a) and (13b), where there is an event-maximizing particle or resultative predicate in the sentence, sound quite unnatural with the bare plural *vaslemezeket* 'iron plates', which has cumulative reference. By contrast, in (13c), the theme *három vaslemezt* 'three iron plates' with quantized reference gives rise to an acceptable sentence with either the particle *ki* 'out' or the resultative predicate *laposra* 'lit. onto flat'.

Halm (2015) also argues for the quantificational force of verbal particles in Hungarian. In particular, he proposes that verbal particles can carry a generic operator which allows them to license free choice items (FCIs) like *bármi* 'anything' in examples such as (14) and (15).

(14) Hungarian

a. ?*A* *sertések* *esznek* *bármit.*
the pigs eat anything.ACC
Intended: 'Pigs eat anything.' (generic)

b. *A* *sertések* *meg-esznek* *bármit.*
the pigs PRT-eat anything.ACC
'Pigs eat anything.' (generic)

(15) Hungarian
a. ???*A vendégek nyírnak bármit.*
the guests shear/mow anything.ACC
Intended: 'Guests mow anything.' (generic)
b. *A vendégek meg-nyírnak bármit.*
the guests PRT-shear/mow anything.ACC
'Guests mow anything.' (generic)
(Halm 2015: 177–178)

As shown above, the (a) examples, which are intended to be generic statements about pigs and guests, are degraded with the particleless verbs *esznek* 'eat' and *nyírnak* 'shear/mow'. According to Halm, the difference in acceptability between (14a) and (15a) lies in the fact that "pigs are known for their indiscriminate feeding habits", whereas "guests as a kind have no known propensity for indiscriminate mowing/shearing of things" (Halm 2015: 178). In the presence of the particle *meg*, however, these examples become fully acceptable with the FCI *bármit* 'anything' in them, as is clear from (14b) and (15b).

Cross-linguistically, similarly to Hungarian resultative expressions, Finnish expressions like *litteäksi* 'lit. onto flat' are also responsible for encoding the result component outside the primary verb in the sentence. This is shown in (16), taken from Levinson (2010).

(16) Finnish
*Mari hakkasi metallin litteäksi.*
Mari hammered metal.ACC flat.TRANSL
'Mari hammered the metal flat.'
(Levinson 2010: 144)

A rarely noted but important property with respect to which Hungarian is different from Finnish and also from English is that the resultative predicate may not exert its aspectual functions in a postverbal position in neutral sentences, but must precede the verb, as in (17)–(19).

(17) Hungarian
a. *Evelin véresre vert egy szomszédot.*
Evelin bloody.SUBL beat.PST.3SG a neighbor.ACC
'Evelin beat a neighbor bloody.'
b. **Evelin vert egy szomszédot véresre.*
Evelin beat.PST.3SG a neighbor.ACC bloody.SUBL
Intended: 'Evelin beat a neighbor bloody.'

(18) Hungarian
a. *Kati laposra kalapált egy vaslemezt.*
Kati flat.SUBL hammer.PST.3SG an iron_plate.ACC
'Kati hammered an iron plate flat.'
b. **Kati kalapált egy vaslemezt laposra.*
Kati hammer.PST.3G an iron_plate.ACC flat.SUBL
Intended: 'Kati hammered an iron plate flat.'

(19) Hungarian
a. *Bálint simára fésülte Lilla haját.*
Bálint smooth.SUBL comb.PST.3SG Lilla hair.POSS.ACC
'Bálint combed Lilla's hair smooth.'
b. **Bálint fésülte Lilla haját simára.*
Bálint comb.PST.3SG Lilla hair.POSS.ACC smooth.SUBL
Intended: 'Bálint combed Lilla's hair smooth.'

The strings in (17b), (18b) and (19b) are rendered ungrammatical if the intended reading is a perfective reading and *Evelin*, *Kati* and *Bálint* are not focused. It is the postverbal position of *véresre* 'lit. onto bloody', *laposra* 'lit. onto flat' and *simára* 'lit. onto smooth' that causes ungrammaticality in these examples. As pointed out by Surányi and Hegedűs (2013), this constraint applies to strong resultatives such as *rekedtre kiabálta magát* 'shouted himself/herself hoarse', weak resultatives such as *pirosra festett egy kerítést* 'painted a fence red' and spurious resultatives like *vékonyra szeletelte a húst* 'sliced the meat thin', as well. For more on these classes of resultatives across languages, see Washio (1997) and Levinson (2010). For more on these classes in Hungarian, see Kardos (2023a).[4]

In this work we aim to provide an account of these and some other event lexicalization facts of Hungarian by arguing that in this language there is a syntactic requirement such that result-encoding elements occupy a VP-external position in the sentence. We wish to show that Hungarian is different from English and other similar languages, where result-denoting particles and resultative APs or PPs exert their event aspectual functions low in the VP as complements, and, at the same

**4** For more on Hungarian clause structure, see, for example, É. Kiss (2008) and É. Kiss (2009), among others. The former provides an analysis of the structure of result-denoting elements while focusing on verbal particles and arguing that particles move out of their base-generated postverbal position to [Spec, PredP] above VP, whereas the latter discusses the syntax of predicate and sentence adverbials, which also appear to the left of the predicate in the unmarked case.

time, it turns out to be similar to Slavic languages in that results must eventually be expressed in a functional projection above VP. This restriction is motivated by scope, as discussed below.

## 4 Revisiting the lexicalization of change of state/location events

In this section we wish to show that event lexicalization in the Hungarian sentence is determined by scopal factors. Although result components are expressed by pre-categorized constituents, as is often the case in English-type languages, such constituents in Hungarian function as event-maximizing elements, which must take scope over the domain they c-command in visible syntax, similarly to quantifiers and adverbs on the left periphery of the sentence (cf. É. Kiss 1984, 2009). This is demonstrated in (20), where the goal-denoting PPs *a kertbe* 'into the garden' and *ki* 'out' in (20a) and (20b) are in a preverbal position.

(20) Hungarian
  a. *János a kertbe rohant.*
     János the garden.ILL rush.PST.3SG
     'János rushed into the garden.'
  b. *János ki-rohant.*
     János PRT-rush.PST.3SG
     'János rushed out.'

An important consequence of the requirement above is that Hungarian complex resultative constructions are often built on particle verbs. Crucially, when the resultative PP occupies a postverbal position in neutral sentences, the particle is obligatory, as illustrated below.

(21) Hungarian
  a. *János *(ki-)rohant a kertbe.*
     János PRT-rush.PST.3SG the garden.ILL
     'János rushed (out) into the garden.'
  b. *Lilla *(be-)úszott a barlangba.*
     Lilla PRT-swim.PST.3SG the cave.ILL
     'Lilla swam into the cave.'

c. *A légy *(be-)repült a házba.*
the fly PRT-fly.PST.3SG the house.ILL
'The fly flew into the house.'
d. *Miklós *(meg-)sütött egy csirkét ropogósra.*
Miklós PRT-roast.PST.3SG a chicken.ACC crispy.SUBL
'Miklós roasted a chicken crispy.'
e. *Mari *(le-)festett egy kerítést pirosra.*
Mari PRT-paint.PST.3SG a fence.ACC red.SUBL
'Mari painted a fence red.'

In each example in (21), the absence of the verbal particle gives rise to ungrammaticality with the resultative predicate in a postverbal position. With a particle attached to the primary verbal predicate, however, each sentence becomes fully grammatical.

This constraint is also observable with surface contact verbs such as *seper* 'sweep' with the additional requirement that when this verb appears with the theme as direct object, as in (22), the endpoint to the denoted event must be expressed in the sentence.

(22) Hungarian
a. *Klára *(bele-)sepert néhány érmét az üvegbe.*
Klára PRT-sweep.PST.3SG some coin.ACC the jar.ILL
Klára swept some coints into the jar.
b. *Béla *(le-)sepert egy újságot a földre.*
Béla PRT-sweep.PST.3SG a newspaper the ground.SUBL
'Béla swept a newspaper onto the ground.'

(23) Hungarian
a. **Klára sepert néhány érmét.*
Klára sweep.PST.3SG some coin.ACC
b. **Béla sepert egy újságot.*
Béla sweep.PST.3SG a newspaper.ACC

As discussed by Levin and Rappaport Hovav (2022), English has a similar requirement with transitive *sweep*, which must appear with an endpoint-denoting PP secondary predicate in the presence of a theme direct object.

(24) a. *She swept the card *(through the electronic device).*
b. *She swept a net *(through the weeds).*

c. *She swept the coins *(off the counter).*
d. *She swept the crumbs *(into an empty jar).*
(adapted from Levin and Rappaport Hovav 2022: 14)

The data above show that transitive *sweep* requires the presence of a PP resultative with theme direct objects like *the card* and *the coins* and in each case an accomplishment structure arises.

The requirement that a prefix must appear on the primary verb in the presence of a postverbal resultative secondary predicate is also at work in Slavic languages and Latin, as discussed by Gehrke (2008) and Acedo-Matellán (2016: 175). Here we illustrate this with Gehrke's (2008) examples illustrating change-of-location verbs from Russian:

(25) Russian
a. *On pri-exal v Moskvu.*
he to-drove.PF in Moscow.ACC
'He arrived in Moscow.'
b. *On u-exal iz Moskvy*
he away-drove.PF out Moscow.GEN
'He left Moscow.'
c. *On pere-šel (čerez) ulicu.*
he across-went.PF (via) street.ACC
'He crossed the street.'
(Gehrke 2008: 202–203)

Gehrke (2008) argues that it is essential for the prefix to appear on the primary verbal predicate so that this predicate can combine with the secondary resultative predicate. She also suggests that instead of focusing on whether paths are encoded in the verb or elsewhere, as in Talmy's typology, we should examine whether or not accomplishment/achievement structures can be built from an activity-denoting primary verb and a non-verbal secondary resultative predicate in a given language. If there is such a shift in our perspective, we can conclude that Slavic languages such as Russian and Czech behave like verb-framed languages since "there seems to be some morphological requirement to express resultativity on the verb in these languages" (Gehrke 2008: 203). She further stresses that these languages lack English-type AP resultatives such as *hammer the metal flat*, since it is always an accomplishment/achievement verb carrying a prefix and co-occurring with a PP resultative that describes events expressed in English by *hammer the metal flat*-type resultatives. Crucially, Hungarian also lacks AP resultatives. Instead, it is always a case-marked PP resultative that appears in accomplish-

ment/achievement structures in a postverbal position with particle verbs or in a preverbal position with particleless verbs (see (20a)), which is a pattern not found in Slavic languages.

By contrast, English resultative expressions are productive in the environment of purely manner-denoting verbs, where the result-encoding expression (e.g. a resultative AP as in *hammer the metal flat*, or a verbal particle, as in *look the information up*) sits low in the VP in a complement position, as argued by Travis (2010) or advocates of small-clause analyses (Hoekstra 1988; Den Dikken 1995). See also the discussion about some more recent analyses of satellite-framed structures in Section 2.

Likewise, Finnish "also does not seem to require the appearance of a Path-signaling affix in resultative constructions based on PPs" (Acedo-Matellán 2016: 231). This is illustrated in (26), taken from Heinämäki (1983), where the translative case-marked expressions in (26b) and (26c) co-occur with the base verb *ampui* 'shot'.

(26) Finnish

a. *Metsästäjä ampui lehmän.*
hunter shot cow.ACC
'The hunter shot the cow.'

b. *Metsästäjä ampui lehmän kuoliaaksi.*
hunter shot cow.ACC dead.TRANSL
'The hunter shot the cow dead.'

c. *Metsästäjä ampui lehmän silmäpuoleksi.*
hunter shot cow.ACC eye-half.TRANSL
'The hunter shot and blinded the cow in one eye.'
(adapted from Heinämäki 1983: 157)

Heinämäki (1983) argues that the predicate in (26a) associated with the accusative-marked direct object *lehmän* 'cow' entails that the event description has an unspecified bound. A specific endpoint, e.g. the death of the cow, may only be inferred here. By contrast, the verbal predicates in (26b) and (26c) are supplied with specific endpoints due to the result phrases *kuoliaaksi* 'to death' and *silmäpuoleksi* 'lit. to half-eyed', respectively. In other words, although all three examples express bounded eventualities, only (26b) and (26c) are specific about the final state of the referent of the theme participant.

Hungarian shows a different behavior. That the change-of-state shooting event is associated with an inherent bound must be expressed with a particle verb, as shown in (27).

(27) Hungarian

a. *A vadász lőtt egy tehenet (valakinek).*
the hunter shoot.PST.3SG a cow.ACC (someone.DAT)
'The hunter shot a cow for someone'.
(available on a creation reading only)

b. *A vadász le-lőtt egy tehenet.*
the hunter PRT-shoot.PST.3SG a cow.ACC
'The hunter shot a cow and the cow became dead.'

Unlike in Finnish, the accusative-marked object in (27a) will not ensure event boundedness in the environment of the verb *lőtt* 'shot' if the sentence is meant to receive a change-of-state reading. The particle *le* must be attached to the verb so that a telic change-of-state reading can become available. Without a particle, telicity arises only on the (creation) reading that the cow becomes available for someone at the culmination of the shooting event. Interestingly, the result predicate *halálra* 'to death' seems somewhat unnatural to our ears with this verb, as shown by the question mark in (28a), despite the fact that it can be combined with at least some manner verbs such as *kínoz* 'torture' and *tapos* 'trample', as evidenced by (28b) and (28c).

(28) Hungarian

a. ?*A vadász halálra lőtt egy tehenet.*
the hunter death.SUBL shoot.PST.3SG a cow.ACC
Intended: 'The hunter shot a cow to death.'

b. *János halálra kínozta Pétert.*
János death.SUBL torture.PST.3SG Peter.ACC
'János tortured Peter to death.'

c. *Az elefánt halálra taposta az orvvadászt.*
the elephant death.SUBL trample.PST.3SG the poacher.ACC
'The elephant trampled the poacher to death.'

For some reason, the appearance of the result predicate *halálra* 'to death' is more restricted than that of its counterparts in other languages such as English. Compare and contrast the following examples from Hungarian and English:

(29) Hungarian

?*János halálra ölte / fojtotta / mérgezte*
János death.SUBL kill.PST.3SG / strangle.PST.3SG / poison .PST.3SG
*Józsefet*
Joseph.ACC

(30) a. *John killed Joseph dead.*
b. *John strangled/poisoned Joseph to death.*

As will also be discussed in Section 5, Hungarian verbs of killing such as *fojt* 'strangle' and *mérgez* 'poison' must appear with a verbal particle in the sentence; the absence of a particle results in ungrammaticality. The presence of the resultative PP *halálra* 'to death' with these verbs also yields a somewhat unusual string, as shown by (29). The English counterparts of the examples in (29), where each verb appears with a result AP or PP, are all possible.

Returning to how Hungarian compares to Latin and Slavic languages, we must also note that, in addition to the similarities already discussed above, Latin and Slavic languages are also different from Hungarian in that in the former the verb stem and the prefix must form a word, whereas in Hungarian there is no such requirement. According to Acedo-Matellán (2016: 208), in Latin and Slavic languages, the Path head and *v* undergo univerbation, which is achieved through successive Raising from Compl-Place to *v*.

In Hungarian, telicizing particles like *fel* 'up' in (31) are separable from the verb, as shown below:

(31) Hungarian

| *Fel* | *kell,* | *hogy* | *hívjam* | *Marit* | *ma* | *este.* |
|---|---|---|---|---|---|---|
| PRT | have-to | COMP | call.SUBJ.1SG | Mari.ACC | today | evening |

'I have to call Mari tonight.'
(adapted from É. Kiss 2008: 46)

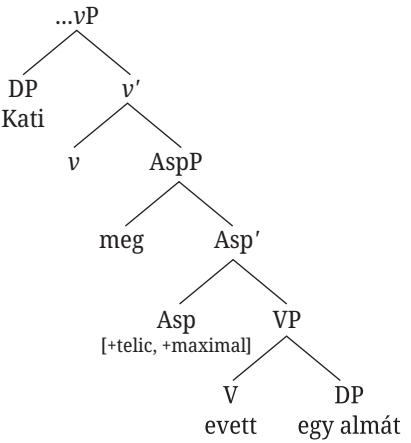
Such particles, which we assume are PPs following Hegedűs (2013), have recently been argued by Kardos and Farkas (2022) to exert an event-maximizing function in [Spec, AspP], along with resultative PPs, where AspP is sandwiched between VP and *v*P as follows (see also Surányi 2014):

(32) Hungarian
a.

| *Kati* | *meg-evett* | *egy* | *almát.* |
|---|---|---|---|
| Kati | PRT-ate | an | apple |

'Kati ate an apple.'

b.

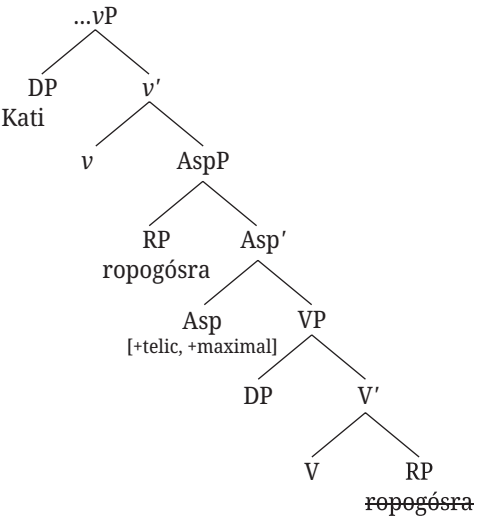



(Kardos and Farkas 2022: 822)

(33) Hungarian

a. *Kati ropogósra sütött egy csirkét.*
Kati crispy.SUBL roasted a chicken.ACC
'Kati roasted a chicken crispy.'

b.




(Kardos and Farkas 2022: 828)

As shown above, *meg*-type particles and resultative PPs like *ropogósra* 'lit. onto crispy' are similar in that they are assumed to be associated with a [+telic] and [+maximal] feature, thereby giving rise to telic and maximal events by virtue of

checking the relevant features of the Asp head above VP. Telicizing particles are argued to be base-generated in [Spec, AspP], whereas PPs like *ropogósra* 'lit. onto crispy' are merged as complements of V.[5]

As far as the semantics of these phrasal categories is concerned, it is assumed here that they encode an event maximalization operator, $MAX_E$, which is a monadic operator applying to predicates of events and yielding sets of maximal events (Filip 2008) given that specific homomorphic relations, so-called figure-path relations, hold between the referent of a theme DP that has quantized reference and that of a path/scale argument that is bounded (Beavers 2012a; Kardos 2012, 2016).

An important consequence of $MAX_E$ is that particle verbs like *fel-vág* 'PRT-cut' and *meg-talál* 'PRT-find' are not compatible with cumulative themes, as shown in (34) from É. Kiss (2008).

(34) Hungarian
a. **Éva fel-vágott tortát.*
Éva PRT-cut cake.ACC
b. **János meg-talált gyűrűket.*
János PRT-found ring.PL.ACC
(É. Kiss 2008: 21)

The examples in (34a) and (34b) are ruled out since an event-measuring device cannot be identified in the presence of themes such as *tortát* 'cake' and *gyűrűket* 'rings' and thus the determination of maximal events becomes impossible. For more on how the interpretation of the theme is restricted in the presence of $MAX_E$, see Filip (2008).

Telicizing particles and resultative PPs are different from telicizing pseudo-objects like *egyet* 'one.ACC' in *futott egyet* 'went for a run' in that the latter are associated with the features [+telic] and [-maximal] and assumed to be base-generated in [Spec, AspP], thereby giving rise to telic predicates associated with a non-maximal interpretation, as demonstrated in (35).[6]

**5** A reviewer reminds us that we could also posit parallel structures for examples with telicizing particles and those with resultative PPs. The main reason why Kardos and Farkas (2022: 828) assume different base-generation sites for particles and resultative PPs is that, in addition to the examples discussed in this chapter, it is also possible to create structures that contain both a particle and a resultative PP. This is illustrated by the string *Kati megsütött egy csirkét ropogósra* 'Kati roasted a chicken crispy', where telicizing *meg* occupies a preverbal position, whereas *ropogósra* 'lit. onto crispy' is postverbal. The authors further argue that given that the two constituents are associated with information about the same endpoint, they do not pose a challenge for the constraint that events can be delimited only once (Tenny 1994).

**6** A reviewer asks why pseudo-objects like *egyet* 'one.ACC' appear in a postverbal position in examples like (35) despite having a telicizing effect with respect to the verbal predicate in the sentence. We

(35) Hungarian
*Anna szárított egyet a haján, de még lehet rajta szárítani*
Anna dried one.ACC the hair.POSS.SUP but still possible it.SUP dry.INF
'Anna dried her hair a bit, but it could still use some drying.'
(Kardos and Farkas 2022: 831)

As discussed by Kardos and Farkas (2022), another important consequence of the hypotheses above is that where there is AspP (i.e. the grammar signals telicity), telicity is an entailment. By contrast, in the absence of AspP, there is atelicity (i.e. atelicity is lack of telicity as in Borer (2005)) or telicity that arises as an implicature, as with creation/consumption predicates. Consider (36) from Kardos (2019).

(36) Hungarian
a. *Péter egy év alatt épített egy házat.*
Péter a year under built a house.ACC
'Peter built a house in a year.'

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respond to this question as follows: As discussed in more detail in Section 4.2 in Kardos and Farkas (2022), the quantificational effects of *egyet*-type pseudo-objects are different from those of telicizing verbal particles and resultative PPs in that *egyet* 'one.ACC' and other similar pseudo-objects give rise to non-maximal events in the denotation of verbal predicates. This is, for example, evidenced by the fact that strings such as *szárított egyet a haján* 'dried his/her hair a bit' are not compatible with adverbials such as *teljesen*/*egészen* 'completely' or *maximálisan* 'maximally'. Further, it is also important to note that, unlike structures with verbal particles and resultative PPs, predicates with *egyet*-type pseudo-objects are not associated with a prominent result state despite the fact they give rise to telicity. This is shown by the fact that strings like *János futott egyett anélkül, hogy elért volna valahova* 'János went for a run without getting anywhere' are felicitious (Kardos and Farkas 2022: 832). We believe these differences may give rise to the fact that, although the telicity of predicates is arguably achieved in the event domain in a way that particles, resultative PPs and pseudo-objects exert their aspectual functions in [Spec, AspP] above VP, the predicates will eventually have different word order properties depending on whether they are associated with maximalizing particles or resultative PPs, on the one hand, or *egyet*-type pseudo-objects, on the other. In the first case, we derive the surface word order by positing that the verb raises to T via head-movement, whereas particles and resultative PPs move to the specifier of TP to check the EPP feature of T (for more on this, see Surányi 2009). With pseudo-objects, the assumption that *egyet* 'one.ACC' moves to a position in a *v*P-external functional projection cannot be upheld when it comes to examples like that in (35). Finally, as also discussed in footnote 14 in Kardos and Farkas (2022), it must also be noted that native speaker judgments vary when it comes to structures with *egyet* 'one.ACC'. Whereas speakers within Hungary have a clear preference for the word order V-*egyet*, speakers of the székely dialect in Transylvania prefer the word order *egyet*-V. Such differences are also observable when sentences with *egyet* 'one.ACC' are examined diachronically (Kardos and Farkas 2022: 834). We leave a more in-depth analysis of these word-order variations for further research.

b. *Péter egy év-ig épített egy házat.*
Péter a year-for built a house.ACC
(lit.) 'Péter built a house for a year.'
(Kardos 2019: 493–494)

The telicity of *épített egy házat* 'built a house' is argued to be available due to the unique homomorphic relation that holds between the referent of the scalar argument of the verb and that of the theme, where the structure of the scale is specifically determined by the structure of the theme. This is also assumed to characterize English creation/consumption predicates. The logical representation of *eat two pears* is given in (37).

(37) a. *Peter ate two pears.*
b. $\exists s \exists x \exists e[eat'(\mathbf{peter},x,s,e) \wedge SOURCE(s_0,s,e) \wedge GOAL(f'(x),s,e) \wedge 2pears'(x)]$
(Kardos 2019: 515)

The goal point on consumption scale *s* can be specifically identified in the presence of a theme DP with quantized reference, i.e. *two pears*, with function *f'* picking out the final subpart of the scale associated with the predicate and so telicity arises. This is not possible with non-creation/non-consumption predicates in Hungarian, as further discussed in the next section.

## 5 Some further consequences

Here we consider more empirical consequences of the hypothesis that result-encoding elements must be VP-external as dictated by scopal considerations, by further discussing possible and impossible structures from the domain of change-of-state and change-of-location verbal predicates. First, we demonstrate that situations inherently associated with an endpoint are typically obligatorily expressed by particle verbs or base verbs preceded by a resultative predicate, as in (38) (for more examples, see É. Kiss 2008: 21). Put differently, Hungarian does not seem to have path-encoding verbs of the English type similarly to Russian.[7]

7 For some exceptions to this generalization and a brief discussion about these exceptions, see Hegedűs (2018) and Kardos and Farkas (2022).

(38) Hungarian

a. *János {el-tört/ darabokra tört} egy vázát.*
János {PRT-break.PST.3SG / pieces.SUBL break.PST.3SG} a vase.ACC
'János {broke a vase / broke a vase into pieces}.'

a'. **János tört egy vázát*
János break.PST.3SG a vase.ACC
Intended: 'János broke a vase.'

b. *Róbert meg-halt.*
Róbert PRT-die.PST.3SG
'Róbert died.'

b'. **Róbert halt.*
Róbert die.PST.3SG
Intended: 'Róbert died.'

c. *Sára át-szelt egy folyót.*
Sára PRT-cross.PST.3SG a river.ACC
'Sara crossed a river.'

c'. **Sára szelt egy folyót.*
Sára cross.PST.3SG a river.ACC
Intended: 'Sára crossed a river.'

d. *Juli át-hágott egy szabályt.*
Juli PRT-violate.PST.3SG a rule.ACC
'Juli violated a rule.'

d'. **Juli hágott egy szabályt*
Juli violate.PST.3SG a rule.ACC
Intended: 'Juli violated a rule.'

The English counterparts of the verbs in (38a)–(38d) are all base verbs, whereas the Hungarian verbs expressing inherently bounded situations are not available on their own. Verb stems such as *tör* in *eltör* 'break' and *hal* in *meghal* 'die' are presumably responsible for the expression of a specific result, but that the referent of the theme ends up in that result state at the culmination of the denoted event is attributed to the particles co-occurring with these stems.

Furthermore, activities typically carried out in some manner and also associated with some result state are obligatorily expressed by a combination of a base verb and a result-denoting element. This is different in English, where, for example, some verb stems expressing killing events can easily describe how the killing activity is carried out and also that some result obtains at the termination of the eventuality (Husband 2018; Ausensi 2021). Compare and contrast the English and Hungarian examples below:

(39) *Joseph strangled/hanged/crucified/beheaded/poisoned/quartered Tom.*

(40) Hungarian
*József* **(meg-)fojtotta/* **(fel-)akasztotta/* **(meg-)feszítette/*
József PRT-strangle.PST.3SG PRT-hang.PST.3SG PRT-stretch.PST.3SG
**(le-)fejezte/* **(meg-)mérgezte/* **(fel-)négyelte* *Tamást.*
PRT-behead.PST.3SG PRT-poison.PST.3SG PRT-quarter.PST.3SG Tamás.ACC
'József strangled / hanged / crucified / beheaded / poisoned / quartered Tamás.'

As argued by Beavers and Koontz-Garboden (2020), English manner of killing verbs form a special class in that they can encode both a manner and a result component, thereby posing a challenge to the Manner/Result Complementarity Hypothesis advocated by Rappaport Hovav and Levin (2010), at least in a truth-conditional sense. As shown in (40), the Hungarian counterparts of the English manner of killing verbs in (39) are all particle verbs; the absence of a particle with these verbs results in ungrammaticality. In other words, Hungarian manner of killing verbs quite transparently seem to show manner/result complementarity: the verb stem is associated with the manner component, whereas the particle in its preverbal position ensures that the referent of the theme ends up in a specific result state.[8]

Also, if result-encoding constituents such as verbal particles and resultative predicates are directly responsible for telicity in Hungarian and they must take scope over their domain in visible syntax, activity-denoting predicates other than creation/consumption predicates should not express telic eventualities in the presence of theme DPs with quantized reference (see Kardos 2019; Kardos and Farkas 2022), which is contra what we often see in English and other languages (both satellite-framed and verb-framed languages). Compare and contrast (41) and (42).

(41) Hungarian
a. *Sára* *kalapált* *egy* *vaslemezt.* (strictly atelic)
Sára hammer.PST.3SG an iron_plate.ACC
'Sára hammered an iron plate.'
b. *Péter* *takarított* *egy* *szobát.* (strictly atelic)
Péter clean.PST.3SG a room.ACC
'Péter cleaned a room.'

**8** It is worth pointing out, as noted by a reviewer, that the data in (39) do not pose a challenge for the Manner/Result Complementarity Hypothesis understood as a structural constraint, as proposed by Mateu and Acedo-Matellán (2012), whereas the data in (40) seem to exhibit manner/result complementarity both in a truth-conditional and a structural sense. For more on how verb meanings are constrained in Hungarian, see Kardos (2023b).

c. *Richárd festett egy kerítést.*
Richárd paint.PST.3SG a fence.ACC
'Richárd painted a fence.' (strictly atelic on a non-creation reading)

(42) a. *Sara hammered an iron plate.* (telic or atelic)
b. *Peter cleaned a room.* (telic)
c. *Richard painted a room.* (telic or atelic)

The Hungarian examples above are all strictly atelic in the absence of a result-encoding element, whereas the English counterparts of the verb stems can clearly give rise to telic eventualities with bounded objects in the sentence (Beavers 2012b).

With English manner of motion verbs such as *climb*, *walk* and *swim* in (43), which can take a path as direct object, there is also "a strong inference that the entire understood path of motion is traversed" (Levin and Rappaport Hovav 2022: 20), which means that an endpoint can easily be identified. In other words, the object DP serves as an incremental theme in these examples, as well.

(43) a. *Claire climbed the hill.*
b. *Jason walked the South West Coast Path.*
c. *Susan swam the full length of the river.*

In Hungarian, when appearing with a measuring-out path object, the counterparts of *climb the hill*-type predicates must appear with an independent result-encoding element before the verb such as a verbal particle in the neutral sentence.

(44) Hungarian
a. *Bálint *(meg)-mászta a hegyet.*
Bálint PRT-climb.PST.3SG the hill.ACC
'Bálint climbed the hill.'
b. *Ili *(be)-járta az erdőt/ a tanösvényt.*[9]
Ili PRT-walk.PST.3SG the forest.ACC the trail.ACC
'Ili walked {all over the forest / the trail}.'
c. *Jácint *(be)-gyalogolta a várost.*
Jácint PRT-walk.PST.3SG the city.ACC
'Jácint walked all over the city.'

9 This example illustrates synechdoche with the forest being interpreted as the path of the walking event.

d. *Gabi* **(be)-táncolta* *a* *színpadot.*
Gabi PRT-dance.PST.3SG the stage.ACC
'Gabi danced all over the stage.'

The predicates above are all obligatorily associated with a particle and that the path has been traversed in its entirety is entailed by each example, as shown by the anomaly caused by the second clause in (45a), (45b) and (45c).

(45) Hungarian
a. *Bálint* *meg-mászta* *a* *hegyet,* *#de* *a* *hegy* *tetejére*
Bálint PRT-climb.PST.3SG the hill.ACC but the hill top.POSS.SUBL
*nem* *ért* *el.*
not reach.PST.3SG PRT
#'Bálint climbed the hill but did not reach the hilltop.'
b. *Gabi* *be-táncolta* *a* *színpadot,* *#de* *nem* *minden*
Gabi PRT-dance.PST.3SG the stage.ACC but not every
*részén* *táncolt* *a* *színpadnak.*
part.POSS.SUP dance.PST.3SG the stage.DAT
#'Gabi danced all over the stage but did not dance on every part of the stage.'
c. *Gergely* *be-járta* *a* *tanösvényt,* *#de* *nem* *jutott*
Gergely PRT-walk.PST.3SG the trail.ACC, but not reach.PST.3SG
*a* *végére.*
the end.POSS.SUBL
#'Gergely walked the trail but didn't get to the end of it'.

Whereas in English the complete traversal of the path is argued in the literature to be only an inference (see, for example, the quote from Levin and Rappaport Hovav (2022) above), in Hungarian it is not cancellable due to the presence of the verbal particle.[10] We believe that this has to do with the fact that English and Hungarian have vastly different result-encoding elements. Results in Hungarian are expressed by verbal particles and resultative predicates, which, by virtue of having a quantificational force, impose specific semantic restrictions on the VP from their VP-external aspectual position. The English counterparts of these elements seem to simply express the final state of an entity in a VP-internal complement position without being associated with an operator quantifying over events.

**10** For more on cancellable and non-cancellable telicity in Hungarian, see Kardos and Farkas (2022).

# 6 Conclusion

We conclude that the typology of languages in terms of how they lexicalize different components of change-of-state and change-of-location events appears to be more complex than previously thought. English and Hungarian, which have both been argued to belong to the same Talmyan class, seem to have quite different event lexicalization strategies. Result-denoting elements such as result APs, PPs and verbal particles in English tend to exert their aspectual functions *in situ* in the VP as complements, while in Hungarian this is not allowed. Result-denoting elements in this latter language, similarly to languages such as Latin and Slavic languages and even Romance, must merge/re-merge in the functional domain above VP to make their verbal predicates telic. Further variation may also be found across languages regarding where exactly result-encoding elements exert their endpoint-denoting functions in the functional domain. There is evidence that in Hungarian it is [Spec, AspP] above VP that hosts result-denoting expressions, whereas in Spanish results form a complex head with *v*. This has the consequence that the great majority of Hungarian verbs are pure manner verbs, whereas verbs in Spanish-like languages are mainly path verbs. English is also known to have a sizeable class of manner verbs similarly to Hungarian, but the two languages have been argued here to ultimately employ quite different strategies when it comes to the expression of events associated with some result given the different means they have to express results.

It is also possible according to some scholars that language variation may arise due to the absence or presence of AspP encoding inner aspect. This is the position taken by MacDonald (2010), who argues that while English has AspP in the event domain, Russian does not, which is why there is no object-to-event mapping in the latter and PPs on their own cannot turn atelic predicates into telic ones. A larger question, of course, is why languages use different positions in the event domain to express results and what specific consequences the location of Path/Res has with respect to which structures are possible and which ones are impossible in a given language. In this chapter, we have proposed that the structure of the event domain in Hungarian is determined by scope. Result-encoding elements associated with a quantificational force must take scope over their domain in their VP-external position in visible syntax, similarly to quantifiers, adverbs and adverbial adjuncts in the higher functional domain in the sentence.

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Cass Kramer

# Chapter 5
# Precise standards license adjectives in the English resultative construction

**Abstract:** This chapter discusses restrictions on the types of adjectives that occur as resultative secondary predicates in English. I examine resultatives with adjectives that have unbounded ("open") property scales, along with other challenges to Wechsler's *Maximal Endpoint Hypothesis* (2005), which states that adjectives must have a scale with a maximal bound to be licensed in the resultative construction. Motivated by these exceptional examples, I argue that while an event-argument homomorphism model of resultatives should be maintained, the endpoint of the "abstract path" along which a resultative event proceeds is determined by the adjective's standard of comparison, not a bound on its associated property scale. As a consequence of this revised model, resultatives require adjectives with a standard that is precise, rather than vague. Maximal endpoint adjectives have inherently precise standards and are thus predicted to occur frequently in resultatives, thereby subsuming the Maximal Endpoint Hypothesis. In contrast, minimal endpoint adjectives and open-scale adjectives are expected to occur in resultatives in limited environments. A corpus study of adjectival resultatives provides support for these predictions and uncovers potential additional constraints on resultative adjectives, which are consistent with the event-argument homomorphism model as well as the notion that the standard of comparison provides the endpoint for a resultative.

**Keywords:** resultatives, adjectives, scale structure, standard of comparison, lexical aspect, event-argument homomorphism

## 1 Introduction

The English adjectival resultative construction involves a secondary predicate that expresses an end state which comes about for some participant in the event, due to the action described by the primary predicate. These constructions have long

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sparked discussion about why they disallow certain adjectives – a distributional puzzle typically exemplified by sentences like (1) and (2).

(1) a. *He hammered it flat/smooth/shiny.*
b. *He wiped it clean/dry/smooth.*

(2) a. **He hammered it beautiful/safe/tubular.*
b. **He wiped it damp/dirty/stained.* (Green 1972: 83–84)

Wechsler's prominent *Maximal Endpoint Hypothesis* (2005a; henceforth MEPH) provides an account of this behavior that is motivated by the aspectual features of the resultative construction, as well as the scalar structures of gradable adjectives. He analyzes resultatives under the event-argument homomorphism model of telicity, according to which a telic event progresses along some "abstract path," with each part of this path corresponding to parts of the event (Krifka 1998, Tenny 1994). Wechsler proposes that, with resultatives that involve gradable adjectives, this abstract path is simply the property scale that is associated with the result adjective. For an event to be telic under this model, the abstract path must have a set endpoint, so resultatives – which are always telic – then require adjectives that have maximally bounded scales, such as *flat*, *smooth*, or *clean*.

The MEPH readily predicts the difference in acceptability between the examples in (1), which involve adjectives that have maximally bounded scales ("maximal endpoint adjectives"), and those in (2), which involve adjectives that either have minimally bounded scales ("minimal endpoint adjectives") or unbounded scales ("open-scale adjectives"). However, corpus evidence showing the existence of resultatives with open-scale adjectives in particular, as in (3) and (4), challenge this account:

(3) *He rose from the sofa, lit a cigarette, waved the match* cold*, brought her a drink.*

(4) *Jacob pulls his mouth* wide *with his fingers and squinches his eyes shut. . .* (COCA)

Wechsler does acknowledge such counter-examples and suggests they may be due to contextual factors: "The grammar 'leaks'. Clearly pragmatic context plays a role, but the appeal to the role of pragmatic context is not the end of the story, but the beginning. . .The challenge is to explain why the leaks occur where they do" (2005b: 471). Taking up this challenge, I will examine many of these exceptional examples, including open-scale adjectival resultatives, along with other phenomena that challenge the MEPH. In doing so, however, it will become clear that an analysis based

solely on the structure of an adjective's property scale – with context playing only a marginal role – is not quite adequate to capture the full range of 'leaks'. In several examples, it is clear that a scalar bound is not what provides the temporal endpoint for an adjectival resultative, even if such a bound could be supplied by context. But in spite of these challenges, Wechsler's homomorphism model remains accurate and intuitive in many regards, so it should not be abandoned entirely.

Motivated by these observations, I will propose that the event-argument homomorphism model should be maintained, but that the endpoint of a resultative's "abstract path" must be the adjective's standard of comparison, rather than a scalar bound. Since the end of a telic event is always an exact moment in time, there is a restriction on the types of adjective standards that can supply such an endpoint – they must correspond to a precise point on the property scale. The standards of maximal endpoint adjectives default to a scalar maximum, which is a precise point, so like the MEPH account, this precise standard hypothesis predicts that these adjectives will freely license resultatives. Likewise, the standards of minimal endpoint adjectives are also precise, as they default to the scalar minimum – but though possible, these adjectives form resultatives less commonly, perhaps because the event that such constructions describe is necessarily punctual and therefore less readily described by a resultative. In contrast to minimal and maximal endpoint adjectives, open-scale gradable adjectives have vague standards by default; however, this vagueness can be significantly reduced in certain environments, thereby allowing a resultative to be formed. A corpus investigation confirms that maximal endpoint adjectival resultatives occur in varied contexts, and while open-scale adjectival and minimal endpoint adjectival resultatives can be found, they seem to be limited to those environments predicted by a precise standard account.

## 2 The Maximal Endpoint Hypothesis

Wechsler (2005a) begins with the observation that resultatives are always telic, and that this telicity should thus be inherent in the composition of the resultative construction. Following the framework of Krifka (1989, 1998), he seeks to explain how this telicity arises in terms of a mereological homomorphism, where each part of an abstract path maps to parts of a telic event. The endpoint of the event must correspond to some endpoint on this path, so an event's boundedness directly depends on the path's boundedness.

This abstract path is determined by some property of what Wechsler calls the "affected theme" argument, which is the event participant that undergoes a scalar change. In the case of a verb like *drink*, the affected theme is the direct object, and

the relevant scalar property is the physical volume of the liquid being consumed. Thus, a drinking event is only telic if the physical volume of the liquid is in some way bounded, leading to the classic paradigm observed in (5):

(5) a. *Mary drank beer (for ten minutes)/(*in ten minutes).*
b. *Mary drank a glass of beer (*for ten minutes)/(in ten minutes).*
(Krifka 1989: 76)

The core of Wechsler's proposal is that, in the resultative construction, the result predicate specifies the scalar property of the affected theme argument that determines the temporal structure of the event. Since resultatives must be telic, the result predicate must involve a property scale that has a bound. The event described by a resultative can then be characterized in the following way:

(6) Some property of the affected theme argument changes by degrees along a scale due to the action described by the verb, until it reaches a bound.
(Wechsler 2005a: 260)

Furthermore, Wechsler notes that this relation can only obtain if the affected theme is an argument of the event-denoting predicate, so in the resultative construction, it must be a subcategorized object of the verb – the homomorphism analysis does not apply to "Exceptional Case Marking resultatives," such as (7) and (8), which involve non-selected objects.

(7) *Luke boiled the pot dry.*

(8) *Tim drank himself silly.*

Although this account extends to prepositional resultatives, I will limit my focus here to just adjectival resultatives, and further, to just those resultatives that involve gradable adjectives (Klein 1980, Kennedy 1999), since this is the subset that is captured by the MEPH, which is the part of Wechsler's analysis that has been subject to the most scrutiny. Within this domain, the selectional restrictions described by the MEPH arise from the observation that the property scales encoded by gradable adjectives are not always bounded.

Wechsler references Kennedy and McNally's (1999, 2005) typology of gradable adjectives, based on three different scale structure possibilities. "Maximal endpoint" adjectives like *clean, flat, straight*, and *smooth* intuitively describe properties that have real-world maximal limitations – there is a point at which something is so straight, for example, that it cannot become any straighter. These adjectives

thus have scales that have upper bounds, but not any lower bounds, as there is not any sort of point at which something becomes so unclean, it cannot become any less clean. On the opposite side, then, are "minimal endpoint" adjectives like *wet*, *dirty*, *crooked*, and *sick*, which do have lower bounds, but not upper bounds. The minimal degree of wetness, for example, is the point at which an entity becomes wet to even the slightest degree, but there is not any limit beyond which something cannot become any wetter. Lastly, "open-scale" adjectives involve scales that have neither upper nor lower bounds, such as *tall*, *cold*, *loud*, or *beautiful*.

One way of determining the scalar structure of an adjective is with certain degree modifiers, such as *slightly* and *a little*, which are typically taken to require a minimal scalar bound, or *completely* and *almost*, which are taken to require a maximal bound (Kennedy and McNally 1999; Rotstein and Winter 2004). This leads to contrasts such as the following:

(9) a. *The table is slightly wet/crooked/dirty.*
b. ?? *The table is slightly smooth/clean/straight.*

(10) a. ?? *The table is almost wet/crooked/dirty.*
b. *The table is almost smooth/clean/straight.*

Since, on the event-argument homomorphism model, the property scale expressed by the result adjective must have a bound, Wechsler predicts that only maximal endpoint adjectives will form felicitous resultatives. Open-scale adjectives do not have any scalar bounds, so there is no point that can map to the end of a resultative event, as required for telicity. Likewise, Wechsler predicts, minimal endpoint adjectives will not license resultatives, as "the endpoint is infinitesimally low. . .they behave in many respects as *de facto* open-scale adjectives" (2005a: 263). Thus, Wechsler's Maximal Endpoint Hypothesis, which offers a straightforward explanation of the puzzling contrasts observed in examples (1) and (2), seems to follow directly from an event-argument homomorphism model, as well as the proposed typology for scale structures of gradable adjectives.

The MEPH is not the only consequence of this model. Another important prediction inherent in this account is that the structure of the adjective's property scale is the only thing that matters in the calculation of telicity, and therefore in the well-formedness of a resultative. Any contextual information associated with an adjective phrase – such as degree modifiers, the standard of comparison, or the physical properties of the affected theme entity – are expected to have no effect on the formation of a resultative or the basic interpretation of the event it describes. Although these contextual factors are involved in the interpretation of gradable adjectives in general, on the standard approach to scalar adjective semantics –

which Wechsler assumes – none of these contextual factors are encoded in the structure of the property scale itself; rather, the scale remains constant across all uses of an adjective (Kennedy 1999, 2007, Heim 2000). Thus, since this homomorphism model takes the resultative's abstract path to involve solely this property scale, it predicts that none of these contextual factors will play a role in the composition of a resultative.

In the next section, however, we will see evidence that such contextual factors do play a significant role in the well-formedness and interpretation of resultatives, which will ultimately suggest that we ought to reformulate this event-argument homomorphism account in a way such that a resultative's abstract path integrates both the property scale and the contextual factors that are involved in the general interpretation of an adjective.

# 3 Challenges for the event-argument homomorphism model

Several authors have objected to the MEPH on the basis that adjectival resultatives can in fact be formed with open-scale and minimal endpoint adjectives (Boas 2003, Broccias 2003, Borer 2005, Iwata 2020).[1] The corpus examples below demonstrate that, indeed, resultatives can be found with both minimal endpoint adjectives, as in (11)–(12), and open-scale adjectives, as in (13)–(15).

**1** Some authors (e.g. Broccias 2003) have cited examples like *slice the bread thin* as counter-examples to the MEPH. It has become clear, however, that such examples are quite different from resultatives, and instead form a class of "pseudo-resultatives" (Levinson 2010; see also Kratzer 2005). The key difference is that in a true resultative, the direct object ends up in the state described by the secondary predicate, as in (i), whereas in a pseudo-resultative, this is not the case. Instead, the entity described by a pseudo-resultative secondary predicate is typically created through the action of the verb, as in (ii)–(iii).

(i) *Mary hammered the metal flat.* → *The metal is flat.*
(ii) *Mary sliced the bread thin.* ↛ *The bread is thin* (*cf.* the slices).
(iii) *Mary braided her hair tight.* ↛ *Her hair is tight* (*cf.* the braid).
(Levinson 2010: 137)

No event-argument homomorphism is posited for these pseudo-resultatives, and there seem to be different selectional restrictions on their adjectives than those of true resultatives. All of the examples discussed in this chapter, and that were examined in the corpus study, are true resultatives.

(11) *Should a rather large speck show, I take the brush and swipe it* damp*, then generally pick up the speck with the tip of the brush.* (Boas 2003: 136)

(12) *We're changing the oil and filter while the engine is still hot! Break the filter* loose *with a dedicated oil filter wrench.* (COCA)

(13) *They are a great cost saver because heavy traffic wears carpet* thin*.* (COCA)

(14) *One good gallop past clearings and outcroppings of rocks and boulders, and a man pulled the reins* short *to breathe in nature's leafy, verdant, abundant aroma. . .* (COCA)

(15) *From the moment winter froze the ice* thick *enough on the pond, the boy would go racing across the white expanse.* (COCA)

Wechsler (2005b, 2012) discusses such counter-examples, and suggests that ". . .context can sometimes provide a suitable maximum to a partial or open-scale gradable" (2005b: 471). Given the requirements of the homomorphism model, such coercion would require that pragmatic context alter the structure of the property scale itself, forcing it to have an endpoint. Such an explanation runs contrary to the theoretical commitment that the scale remains the same in all uses, and while this may be acceptable, it would also make the prediction that in examples like (11)–(15), we interpret the scale as maximally bounded, and the affected theme argument as achieving this bound on the altered scale.

But it seems difficult to imagine that, for instance, the thickness scale in (15) has some maximal bound. Unlike a resultative such as *hammer the metal flat*, where the metal ends up in a state in which it can get no flatter, it is perfectly reasonable to expect that the ice in (15) can still become thicker after the event – and indeed it likely will get thicker as the winter progresses. So it seems that in such counter-examples, the scale is not maximally bounded, even via contextual coercion. The endpoint for the resultative event, then, must come from elsewhere.

Similarly, under this model, a resultative event ends when the affected object attains the maximum value possible on the relevant property scale, but this prediction seems to be violated by examples of adjectival resultatives with degree modifiers such as *half-* or *almost* (see also Iwata 2020: 333).

(16) *It is not a dinner at which sits the aboriginal Australian, who gnaws his bone* half bare *and then flings it behind to his squaw.*

(17) *. . .she seems to try mightily to rise to the surface, forcing her eyes* half open. (COCA)

The adjectives in these examples do have maximally bounded scales, and thus the MEPH accurately predicts them to be well-formed – however, the issue here is that the affected theme never reaches the maximum bound on the scale, as required by the event-argument homomorphism model. If this were the case, then we would expect, for example, the bone in (16) to be totally bare at the end of the event, rather than only half-bare.

A similar challenge arises if we consider resultatives with adjectives in comparative form. Again, the affected theme argument does not reach the scalar bound, as demonstrated in examples (18)–(19), so in these cases, like (16)–(17), even though the adjective's scale does have an endpoint, it cannot be the point that maps to the end of the event.

(18) *Jamie bent the rod* straighter *than it was (but it still wasn't straight).*

(19) *Jamie scrubbed the tub* cleaner *than it was (but it still wasn't clean).*

Comparative context also seems to improve certain open-scale adjectival resultatives:

(20) a. ?? *Bobbie stretched the dough* wide.
b. *Bobbie stretched the dough* wider *(than the pan).*

(21) a. ?? *Frankie blew the balloon* big.
b. *Frankie blew the balloon* bigger *(than a watermelon).*

In these cases, there is no bound at all on the property scale, and furthermore, there is no sense in which, e.g., the dough in (20b) has achieved a maximal width – there is nothing that would prevent it from becoming even wider.

All of these challenging examples call into question the notion that it must be a maximal bound on the adjective's property scale that provides the endpoint for a resultative event. It seems that resultatives can still be formed in the absence of a scalar bound, as in examples (11)–(15) and (20)–(21), and even when there is a scalar bound, resultatives can be formed that do not use it for their temporal endpoint, as in (16)–(19). Each of these examples still describes a telic event, however, and all of their affected theme arguments do seem to undergo a scalar change specified by the result adjective – in (21b), for example, the balloon changes on a scale of size. Wechsler's event-argument homomorphism model accurately captures these

facts, and thus seems to be nearly adequate, but we are left with this central question: in these exceptional examples, where does the temporal endpoint come from?

In each of these cases, the endpoint seems to come from the adjective's standard of comparison. All of the events end at the point when the affected theme attains the specified property to a degree that surpasses that of the relevant contextual standard, so for example in (18), the bending event is over when the rod achieves a degree of straightness greater than the degree that it had before the event, not when it achieves the greatest degree of straightness possible. And even in canonical, maximal endpoint adjectival resultatives, the event likewise ends when the object reaches the standard of comparison, which in that case does happen to be the scalar maximum.

This observation suggests that the standard of comparison must be encoded somehow in the abstract path that maps to the events described by these resultatives. The homomorphism account established thus far, however – on which the path simply is the property scale – does not allow for this. To rectify this, I posit that a slightly modified path, which is still based on the property scale but which incorporates the contextual factors involved in setting an adjective standard, then uses this standard as its endpoint, is instead what determines the temporal structure of a resultative. This proposal makes intuitive sense – as Wechsler himself puts it: "after all, context plays a role in the interpretation of adjectives in other, nonresultative uses," (2005b: 471) so any analysis on which the abstract path established by the adjective is impervious to context seems destined to overlook some generalizations.[2]

In the next section, we will see that a consequence of this proposal is that well-formed resultatives require the standard of comparison to be precise, rather than vague. Such a requirement will allow this account to capture the same selectional restrictions as the MEPH, as well as predict the environments in which open-scale adjectives will occur.

**2** An anonymous reviewer proposes an alternative analysis in which the examples with open-scale adjectives discussed in this chapter are not true resultatives – they do not form a complex predicate with the verb and are thus more similar to lexical causatives like *He made the metal flat.* This allows the account to maintain, like Wechsler's, that the resultative construction is opaque to contextual factors involved in setting the standard of an adjective. However, without further exposition it would fail to capture the nuances in the distribution of these open-scale adjectival resultatives and would predict that they could occur in essentially the same environments as lexical causatives, which is not the case, as will be discussed in section 5.

# 4 The precise standard account

In the event-argument homomorphism account put forth by Wechsler, parts of an adjective's property scale map to parts of the event described by a resultative. The evidence in section 3 suggests that, at some point, this mapping must incorporate the contextual information that is involved in the interpretation of a gradable adjective in its general, non-resultative uses, thereby allowing the standard of comparison to serve as the endpoint for the resultative event. I propose that this is the case – that the standard of comparison defines the endpoint of the event – for all gradable adjectival resultatives, not just those "exceptional" examples discussed above. This section discusses the main predictions of this proposal.

It seems, at first, that an account in which the endpoint of a resultative is determined by the standard of comparison will significantly over-generate, since all gradable adjectives are evaluated with respect to some standard, but clearly not all gradable adjectives can form felicitous resultatives:

(22) *Charlie wiped the glass *hazy/*slick/*bright.*

However, this model does not predict that just any contextual standard can serve as the endpoint for a resultative. A telic event, by all accounts, ends at an exact instant in time – even if the specific moment is not known, it is known that a precise moment exists when the event ceased. So if there is an abstract path which maps to a telic event, it too must have an exact, precise bound. Then if we take the adjective's standard of comparison to define this bound, the standard must correspond to a precise point on the scale; if the contextual information responsible for setting the standard is vague, or otherwise insufficient to resolve it to a specific point, then the abstract path will not have any defined bound, and consequently, the resultative will be infelicitous.

This distinction between precise and vague standards corresponds somewhat to the scalar typology of gradable adjectives that Wechsler (2005a) draws upon. Following Kennedy's "Principle of Interpretive Economy" (2007), if an adjective references a scale with a maximal or minimal bound, its standard of comparison defaults to this bound, which by nature is a precise point on the scale, defined independently of any contextual information. But if an adjective's property scale has no bounds, then the standard's position on this scale is determined solely by the context, so in arbitrary or non-specific situations, the standard cannot be fixed to a precise point on the scale – it is vague by default.

Therefore, the hypothesis that resultatives require a precise standard automatically subsumes Wechsler's MEPH generalization – maximal endpoint adjectives are predicted to occur more freely in resultatives because their standards are

inherently precise. We will see in sections 5 and 6, however, that they are not totally free from restrictions.

What about minimal endpoint adjectives? Their contextual standards default to a lower bound on the scale, so they will be just as precise as those of maximal endpoint adjectives. However, under this model, the entire resultative event occurs up to the point when the affected object, as it changes along the dimension specified by the adjective's property scale, reaches the degree corresponding to the standard of comparison. When this standard corresponds to the scale's lower bound, it is instantaneously surpassed as soon as the object undergoes any positive change along the property scale. Thus, if a resultative is to be formed with a minimal endpoint adjective, the event must be punctual, rather than durative. For example, the minimal endpoint adjective *askew* seems acceptable with the punctual verbs in sentence (23), but unacceptable with the durative verbs in (24), in contrast to the maximal endpoint adjective *straight*, which is acceptable with either type of adjective.[3]

(23) a. *Freda bumped/knocked/kicked the mailbox straight.*
b. *Freda bumped/knocked/kicked the mailbox askew.*

(24) a. *Freda pushed/tugged/twisted the mailbox straight.*
b. ??*Freda pushed/tugged/twisted the mailbox askew.*

**3** Some authors do cite durative, minimal endpoint adjectival resultatives, but these do not seem to be truly productive counter-examples to this generalization. For instance, Boas (2003: 136), cites the following example, among a handful of others:

(i) *Dip a soft cloth in the solution, wring it* damp *and wipe furniture with it.*

As pointed out by Wechsler (2005b), the wringing action in this example is in fact making the cloth drier, rather than more damp. Thus, the affected theme entity is moving in the negative direction on this scale, i.e., toward the precise standard.

Another example is given by Borer (2005: 230):

(ii) *We sponged the table wet.*

In this case, it seems that the sponging event progresses along the physical extent of the table, rather than a *wetness* property scale; that is, the whole table is not becoming wetter, but rather each part of the table becomes wet during some part of the event.

In both of these cases, the path that maps to the resultative event does not involve a typical minimally bounded property scale – we might therefore expect a durative resultative in these exceptional situations, but more work will be needed to understand when and how they arise. Neither of these two types of resultatives were identified in the corpus study I conducted; minimal endpoint adjectival resultatives are rather uncommon in general, but they do seem to conform to the predictions of this account.

The precise standard account thus predicts that minimal endpoint adjectival resultatives will be possible only when the verb describes a punctual event.

Now we turn to open-scale adjectives, whose occasional occurrence in the resultative construction was one of the primary motivations for this precise standard account. The main idea here is that, although these adjectives are interpreted with a vague standard by default, there are many contexts that significantly reduce this vagueness, allowing the standard to have a much more precise interpretation.

This is one of the essential insights of Solt (2012), who uses the notion of a "functional standard" (Kagan and Alexyenko 2010, Bylinina 2012) to help explain the distribution of "low degree" modifiers like *slightly*, which are often taken to occur with only minimal endpoint adjectives, but sometimes modify open-scale adjectives, as in (25).

(25) *However, if you end up with a less-than-perfect joint, you can cope with this situation by recutting the joint (you did cut the board slightly* long*, right?).*
(Solt 2012: 558)

In this case, the adjective *long* references a functional standard, which is different from a typical vague open-scale adjective standard in that it corresponds to the "maximum degree compatible with the requirements of a given situation" (Solt 2012: 561). In (25), this is what gives the sense that the board is slightly longer than it needs to be. These functional standards are thus much more precise than a regular open-scale adjective standard, and Solt posits that this type of precision is required to license low degree modifiers. The distribution of *slightly* thus demonstrates one way in which sufficient context can reduce standard vagueness in a grammatically relevant way. This notion can help make sense of some of the open-scale adjectival resultatives cited earlier, such as (14), in which a functional standard is set as the shortness of the reins required to slow or stop a horse.

The functional standard is not the only way in which an open-scale adjective in positive form can have a precise standard. This interpretation can arise if there is some sort of salient physical limitation on the entity that the adjective describes, which restricts the possible values that the standard can take to a small subset on the relevant property scale. The examples in (26) demonstrate this; for instance in (26a), there is certainly a limit to how far someone can open their mouth – when the dentist tells you to *open wide*, they are not referring to some arbitrary width, they are referring to the maximum width of your mouth.[4] Such a limit also applies

**4** Note that I do not assume here that such physical limits place a maximal bound on the property scale itself. The *width* scale, for example, certainly continues far beyond the maximum width of a person's mouth. These limits simply make the standard's position on the scale much less arbitrary.

in examples like (26b), in which, given the situation, the temperature of the food will not fall below the ambient temperature.

(26) a. *His mouth was open* wide *for the dentist.*
b. *The food had been sitting out, and now it is* cold*.*

In both of these ways, the interpretation of a positive open-scale adjective can involve a much more precise standard than commonly assumed. A standard can also become more precise due to overt modifiers of sufficiency or excess, which presuppose that the standard has been fixed to some specific point on the scale (Meier 2003). The exact criterion can be expressed with a *to*-infinitive clause, as in (27) and (28), removing almost all vagueness from the standard:

(27) *The couch is too* wide *(to fit through the door).*

(28) *The pot is* cool *enough (to touch).*

Comparative context can serve a similar purpose, fixing the standard to the exact degree on the scale that corresponds with the entity that is being compared to, which likewise eliminates vagueness:

(29) *The deli ham was* thinner *than the roast beef.*

(30) *The Golden Gate Bridge is* longer *than the Brooklyn Bridge.*

The point of this discussion is that, although open-scale adjectives may typically have vague standards, there are several environments in which this vagueness is greatly reduced or entirely eliminated. The precise standard hypothesis then predicts that open-scale adjectives will occur in the resultative construction in exactly these contexts.

Thus, the precise standard account automatically subsumes Wechsler's MEPH, while at the same time predicting certain contexts in which open-scale and minimal endpoint adjectival resultatives will occur. Importantly, these predictions follow directly from the nature of adjective standards and the requirements of a model which allows the standard to provide a bound for the resultative event – there is no need to posit any exceptional contexts which force an open scale to become maximally bounded. In the next section, I will describe a corpus study of adjectival resultatives that supports these predictions.

# 5 Corpus investigation of adjectival resultatives

The precise standard account predicts that, while maximal endpoint adjectives will occur in resultatives more freely, open-scale adjectival resultatives will only be licensed in contexts that significantly reduce the vagueness of the adjective's standard of comparison, such as those described in section 4. Likewise, although the standards of minimal endpoint adjectives default to a precise point, they can only form resultatives in limited cases, such as when the verb describes a punctual event. To investigate the distribution of resultatives with these different types of adjectives, I conducted a study in COCA of twenty-nine adjectives – eight maximal endpoint, eight minimal endpoint, and thirteen open-scale. For each subset, adjectives were selected to include those that have been commonly cited as occurring in the resultative construction, like *clean* and *wide*, as well as those that are not often cited, such as *complete* or *comfortable*. For each adjective, a sample of up to 900 constructions of the form V + NP + A was extracted from the corpus, during the months of July and August 2020 (max. endpoint and open-scale), and June 2022 (min. endpoint).

In addition to examining the contexts surrounding the resultatives that occurred in each sample, the frequency of the resultative construction with each adjective was calculated. To provide an accurate measurement of the productivity of the resultative, I calculated these frequencies as the ratio of resultatives to the total number of causative constructions in the sample, which included both resultatives – which are a type of causative – and periphrastic causatives such as *make the metal flat*. This relativizing calculation is necessary to mitigate the effects that may arise due to certain adjectives being more or less likely to describe a caused state; for instance, it may be the case that, in the real world, things are more often caused to be hot than they are caused to be cold, which may mean that *hot* will be used more often in causative constructions – and thus in resultatives – for reasons independent of scale structure or standard type. Unlike the raw frequencies, these relative frequency ratios are not sensitive to these types of 'real world' effects.

Thus for each adjective sample, all the resultatives were compiled and coded, along with the periphrastic causatives. The resultative-to-causative frequency ratios for each adjective are reported in the tables on the next page.

First, it is clear from these frequency statistics that adjectives of all three types can productively combine with transitive verbs and form resultatives. It seems that minimal endpoint and open-scale adjectival resultatives may be somewhat less common overall, but some adjectives – in particular *wide* and *askew* – occur in resultatives with comparable frequency to prototypical maximal endpoint adjectives like *straight* and *clean*. These figures thus support an account which, rather than treating such constructions as exceptions to a generalization, predicts them

**Table 1:** Resultative-to-causative frequency ratios for maximal endpoint adjectives found in COCA.

| Maximal Endpoint Adjectives | Relative Frequency (%) |
|---|---|
| straight | 95.0 |
| clean | 84.2 |
| smooth | 54.1 |
| whole | 14.8 |
| perfect | 0.5 |
| safe | 0 |
| complete | 0 |
| functional | 0 |

**Table 2:** Resultative-to-causative frequency ratios for minimal endpoint adjectives found in COCA.

| Minimal Endpoint Adjectives | Relative Frequency (%) |
|---|---|
| askew | 94.7 |
| crooked | 30.0 |
| damp | 9.0 |
| wet | 0 |
| rough | 0 |
| dirty | 0 |
| sick | 0 |
| dangerous | 0 |

**Table 3:** Resultative-to-causative frequency ratios for open-scale adjectives found in COCA.

| Open-Scale Adjectives | Relative Frequency (%) |
|---|---|
| wide | 92.3 |
| long | 82.6 |
| hot | 40.0 |
| thin | 25.5 |
| thick | 21.1 |
| small | 14.3 |
| warm | 12.3 |
| cold | 11.5 |
| cozy | 0 |
| difficult | 0 |
| easy | 0 |
| drab | 0 |
| comfortable | 0 |

to be possible in general, though perhaps subjects them to some additional contextual licensing constraints. To confirm that our posited licensing constraints are in fact accurate – that minimal endpoint adjectives require punctual verbs, and open-scale adjectives require context that reduces standard vagueness – we will examine the environments that surround individual examples from the corpus study. Before proceeding, however, it should be acknowledged here that there are some conspicuous gaps in the data – almost half of the maximal endpoint and open-scale adjectives, and most of the minimal endpoint adjectives, do not occur at all in the resultative construction, despite the basic prediction that such constructions are possible. At this point, I will stress that the precise standard hypothesis, like the MEPH, posits a condition that is required, but not necessarily sufficient to form a resultative. Even with a precise standard, and the proper context, there may be other conditions which must be simultaneously satisfied for a resultative to be felicitous. This is the topic of the following section; first, we will confirm that the precise standard account does indeed make accurate predictions about open-scale and minimal endpoint adjectival resultatives.

Beginning with the open-scale adjectives that were found in the resultative construction – in order to test the precise standard hypothesis, the contexts surrounding these examples must be examined to determine whether the vagueness of the standard is truly reduced in the way required by this account. Here I will not pursue any quantitative analysis, as this type of judgement seems difficult to reliably quantify. However, I provide several examples below to help demonstrate that the precise standard account does accurately predict the contexts of these open-scale adjectival examples.

The open-scale adjectival resultatives in study exhibited two main methods of reducing standard vagueness. The first is exemplified by (31)–(35), in which there is a physical limitation on the affected theme entity; for instance in (31), the precise standard is the maximal length to which someone can stretch their ears. Overall, this was the most widely attested strategy of reducing vagueness. These examples frequently involve body parts and dimensional adjectives:

(31) *Ricardo backed away grudgingly, pulling his ears* long *like a hound's and barking.*

(32) *She found a roll of duct tape and tried to tape herself* thin.

(33) *Then she stretched her legs* long *and said, "move, I wanna lie down".*

(34) *All day I stretch my eyes* wide *trying to see clearly.*

(35) *Reed smoked his Parliament down to a shred, pinched it* cold *between his fingers.* (COCA)

The second method of reducing vagueness is demonstrated by (36)–(40), which all involve some overt modifier or explicit context that gives a more precise interpretation of the standard. For example in (36), a precise standard is provided by the criterion *so that it doesn't drag against her bruised cheek*, which specifies the exact width necessary, in this case, for the sweatshirt hole to be wide. Likewise, (39) and (40) involve the modifiers *paper* and *micron* which precisely define the standard of thinness that must be achieved.

(36) *I lift her arms up and pull the sweatshirt over her head, pulling the hole* wide *so that it doesn't drag against her bruised cheek.*

(37) *The microwave couldn't heat water* hot *enough to scald. . .*

(38) *Raise the shield, stretch it* wide *enough to protect a portion of the planet.*

(39) *It was a time-consuming business, for the chocolate had to be rolled paper* thin*, then warmed up and molded onto an inflated balloon.*

(40) *. . .the ancient sink, its porcelain worn micron* thin*, freshly scrubbed.*[5] (COCA)

All of these open-scale adjective examples thus occur in an environment that significantly reduces the vagueness of the standard of comparison, as expected from the precise standard account. In contrast, examples (41)–(45), which involve maximal endpoint adjectives, seem to occur in less restricted contexts. For instance in (41), the glass does not have any relevant physical restrictions, nor is there any explicit

**5** A reviewer notes the contrast between example (40), which includes a degree-specifying modifier, and (13) – repeated below – which lacks such context.

(13) *They are a great cost saver because heavy traffic wears carpet thin.*

Indeed, *wear-thin* is a relatively common open-scale adjectival resultative construction, typically occurring with objects like fabrics or coatings, and many of these examples, like (13), lack an overt modifier specifying a degree of thinness. In these cases, however, there is a physical limitation on how thin a coating or fabric can become, before it ceases to exist (becoming *worn through*), thus supplying a precise endpoint in the same way as examples (31)–(35).

context that would lead to a more precise interpretation of the standard; rather, the precise standard comes automatically from the upper bound on the *cleanliness* scale.

(41) *It looks like someone tried to rag the glass* clean.

(42) *As I finish drying and pulling my hair* straight, *I see him out the window.*

(43) *Snow fell, but always the wind blew the ice* clean.

(44) *Finish by brushing your hair* smooth *and using a strong-hold hairspray to secure the style.*

(45) *Phoebe set her embroidery aside and rose, brushing her skirts* straight.
(COCA)

Thus, the maximal endpoint adjectival resultatives also confirm the expectations of the precise standard account with regard to the contextual information involved in setting the standard of the adjective.

Now turning to the minimal endpoint adjectives – which were predicted only to occur in resultative constructions involving punctual, rather than durative, verbs – despite the high resultative ratio of e.g., *askew*, the study did not yield many minimal endpoint adjectives overall – only 21 total among the three attested adjectives.[6] However, all of these examples indeed involve punctual events (in particular *knock*), as in examples (46)–(48):

(46) *He raised his drink in a toast to land and computers and brought it to his lips and knocked the edge against his glasses, spilling a little, bumping the glasses* crooked.

**6** The prediction here about minimal endpoint adjectives is essentially the same that Wechsler (2005a) makes about non-gradable adjectives (e.g. *dead*, *pregnant*, *foreign*); when they occur in resultatives, the verb must denote a punctual event. This is wholly consistent with the account presented here, but it does raise the question of why non-gradable adjectives, by Wechsler's account, frequently form resultatives with punctual verbs, while minimal endpoint adjectival resultatives seem highly uncommon, although possible. It should be noted, though, that Wechsler primarily provides data involving the non-gradable adjective *dead*, which is used in a wide variety of resultative constructions (particularly *shoot dead*) and is indeed one of the most productive adjectives in the Boas (2003) corpus data. The behavior of other non-gradable adjectives has yet to be thoroughly investigated, though, so it remains to be seen whether non-gradable adjectives frequently form resultatives in general – in contrast to minimal endpoint adjectives – or whether there is something special about the adjective *dead*.

(47) *. . .as though he were deep under the blanket of sleep even though he always kicks his covers* askew.

(48) *The new town baker righted her straw bonnet after an elbow knocked it* askew. (COCA)

Thus, although minimal endpoint adjectives form resultatives less frequently overall than maximal endpoint or open-scale adjectives, the corpus study demonstrates that they are indeed possible, and that they generally conform to the expectations of the precise standard account.

In sum, then, the corpus study provides support for the notion that the mechanism which licenses the resultative construction should be available no matter what type of scalar structure an adjective references, and as especially evidenced by the open-scale examples, it seems that a precise standard is indeed required to form a resultative. But as mentioned above, a precise standard may not be sufficient to license a resultative if other conditions are not concurrently satisfied. In the next section, I discuss adjective dimensionality, an additional constraint which emerges from examining the "gaps" in the corpus data.

## 6 Further restrictions on resultatives: Adjective dimensionality

Maximal endpoint adjectives have precise standards by default, and so were predicted to occur relatively freely in the resultative construction. It may seem puzzling, then, why half of the maximal endpoint adjectives that were sampled – *perfect*, *safe*, *complete*, and *functional* – occurred either not at all, or almost not at all in resultatives, despite many causative uses. What sets these adjectives apart from the others, however, is that they are *multi-dimensional*.

Unlike uni-dimensional adjectives like *long*, which involve just one property scale (temperature), multi-dimensional adjectives like *identical* involve several different properties (e.g., color, shape, depth), which are subjectively composed into a single scale (Sassoon 2013, Kennedy 2013, Solt 2018). As a diagnostic for dimensionality, Sassoon (2013), points out that multi-dimensional adjectives, as in (49) and (50), can combine with phrases like *with respect to* or *in*, which serve to individuate the dimensions that compose the adjective's meaning. Uni-dimensional adjectives, as in (51) and (52), do not combine with such phrases, because they only reference one dimension at a time.

(49) *The boxes are identical with respect to size and weight.*

(50) *Sam is intelligent/good in mathematics.*

(51) **The wedding is long {with respect to, in} temporal duration (but not with respect to space).*

(52) **The table is long {with respect to, in} temporal duration (but not space).*
(Sassoon 2013: 337)

This dimensionality distinction cross-cuts the scale type distinction presented above, and like the multi-dimensional maximal endpoint adjectives, the multi-dimensional minimal endpoint adjectives – *sick* and *dangerous* – and open-scale adjectives – *cozy*, *difficult*, *easy*, *drab*, and *comfortable* – did not occur at all in the resultative construction. Thus, it seems that the "gaps" in the corpus data largely correspond with multi-dimensionality, but how can we understand this restriction on the present account? There are two primary rationales. First, because of the inherent vagueness involved in composing scales together, the standards that multi-dimensional adjectives reference are naturally less precise than those of uni-dimensional adjectives. Much more substantial contextual information may be required to resolve the standard to a specific point on the composite scale. For this reason, we may expect multi-dimensional adjectival resultatives to be far rarer than uni-dimensional adjectival resultatives, but perhaps possible in highly tailored contexts. Second, however, on the event-argument homomorphism model of resultatives, the composite scale of a multi-dimensional adjective is problematic, because it cannot straightforwardly map to a uni-dimensional time course – the homomorphic relation required to form a telic event fails. Given this, then, even under the most specific contexts, we still would not expect a multi-dimensional adjective to form a resultative, as it is simply incapable of supporting the right event structure.

Thus, adjective uni-dimensionality presents a further condition that must be satisfied in order to form the resultative construction, in addition to the precise standard requirement. Such a constraint may also help explain why, in sharp contrast to the results of the COCA corpus study, Wechsler (2005a, 2012) found almost no open-scale adjectival resultatives using the Boas (2003) corpus data. Indeed, the majority of the open-scale adjectives that Boas sampled – for instance *famous*, *insane*, and *stupid* – were multi-dimensional.

# 7 Conclusions

In the resultative construction, gradable adjectives do not seem to behave as expected by Wechsler's Maximal Endpoint Hypothesis. As I have shown, the data suggest that a scalar bound – even one coerced through context – is not actually what provides the endpoint for a resultative event. Motivated by these challenging data, I have proposed that we should maintain the event-argument homomorphism analysis, but that the end of the "abstract path" along which a resultative event progresses is set by the adjective's standard of comparison. This requires that this path involve all of those contextual factors involved in setting a standard, in addition to the adjective's property scale. This contextual information is crucial for the interpretation of gradable adjectives in general, so it makes sense to incorporate it directly into the composition of the adjectival resultative construction, rather than positing a homomorphism analysis that solely involves the property scale.

Since the end of an event is always an exact moment in time, the only adjective standards that suffice to bound a resultative are those that correspond to a precise point on the scale; vague standards cannot license the resultative construction. This precise standard account automatically subsumes the MEPH, as maximal endpoint adjectives inherently have precise standards. Minimal endpoint adjectives also have inherently precise standards, and while they do occur in the resultative construction, they are very uncommon, and seem to require verbs that describe punctual events. Lastly, although open-scale adjectives typically have vague standards, this vagueness can be greatly reduced or eliminated in certain contexts. A corpus study of adjectival resultatives confirms that open-scale and minimal endpoint adjectival resultatives occur in the predicted environments, while maximal endpoint adjectival resultatives occur in more varied contexts, thus lending support to the hypothesis that a precise standard is needed to license adjectives in the resultative construction.

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# Chapter 6
# The syntax of resultative V-V compounds in Chinese

**Abstract:** The present chapter discusses how the behavioral patterns of resultative verb compounds in Chinese are determined. We argue that the thematic relations of arguments and their syntactic positions are fixed according to how their $\theta$-roles are assigned in the syntax. In particular, with resultative verb compounds, the agent argument of the first verb, which receives an affected theme role from the second result verb, can be realized in what looks like an object position. This is shown to result from the theme argument of the first verb moving into the clause subject position across the agent argument. It is argued that this movement can be instantiated when the theme is identified as an argument closer to tense than the agent, relative to their $\theta$-positions.

**Keywords:** resultative verb compound, A-movement, locality, $\theta$-role assignment, case, Chinese syntax

## 1 Introduction

In Chinese, resultative verb compounds are formed quite productively. As Li (1995, 1999) discusses, resultative verb compounds apparently allow a violation of the thematic hierarchy where the agent is ranked the highest because an agent nominal can be realized as a non-subject argument, which is generally believed to be impossible unless certain syntactic operations such as passivization are implemented on the clause. Li (1995, 1999) attempts to account for the fact that the agent of a resultative verb compound is realized in a non-subject position by positing an additional mechanism of the causative hierarchy, alongside the regular thematic

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hierarchy (see also Her 2007). This chapter proposes an alternative syntactic analysis that dispenses with the assumptions about the double thematic hierarchies.

The major objective of the present chapter is to show that exactly how the resultative verb compound construction is interpreted is determined on the basis of its syntax rather than its argument structure, and that the thematic relations of arguments and their possible structural positions are determined according to how they are assigned thematic roles syntactically. We propose that with resultative verb compounds, the agent argument of the first verb, which receives an affected theme role from the second result verb, can be realized in a non-subject position on the basis that the theme argument of the first verb can be identified as an argument closer to T than the agent. It is shown that our proposed analysis not only captures the basic facts of resultative verb compounds, but also can treat some empirical facts which fall outside the purview of Li's previous lexical analysis.

The discussion in this chapter proceeds as follows. Section 2 reviews Li's (1995, 1999) analysis of resultative verb compounds, and discusses some problems with his analysis. In section 3, we propose an alternative syntactic account, and show that our approach has the advantage of accounting for some facts regarding transitive resultative verb compounds that do not directly follow from Li's (1995, 1999) analysis. In section 4, we discuss intransitive resultative verb compounds and resultative verb compounds that involve $\theta$-role suppressions. Section 5 is a conclusion.

## 2 The issue on resultative verb compounds

As Li and Thompson (1981) illustrates, a resultative verb compound (RVC, hereafter) is composed of two verbs $V_1$–$V_2$, in which $V_2$ signals some result of the action denoted by $V_1$. In the RVCs where $V_1$ is transitive, the agent or the theme argument of $V_1$ is a candidate for serving as the affected theme of $V_2$.

(1) *Taotao zhui-lei le Youyou.*
Taotao chase-tired ASP Youyou
(i) 'Taotao chased Youyou and as a result Youyou got tired'
(ii) 'Taotao chased Youyou and as a result Taotao got tired'
(iii) *'Youyou chased Taotao and as a result Taotao got tired'
(iv) 'Youyou chased Taotao and as a result Youyou got tired'
(Li 1995: 265 (translations added by the authors))

In (1), either the argument in subject position or the postverbal argument can be interpreted as the agent of $V_1$.[1] Furthermore, either the agent or the theme of $V_1$ can be identified as the affected theme of $V_2$. This leads us to expect that four interpretations will be available for the RVC in (1). This expectation is not fulfilled, however. In (1), the preverbal DP can be understood to be the agent of $V_1$ regardless of whether it is construed as an affected theme of $V_2$, but the postverbal DP can be understood to be the agent of $V_1$ only when it is identified as the affected theme of $V_2$ at the same time. This fact raises one important question of why (1iii), one of the conceivable interpretations, is missing.[2]

The existence of non-subject agent interpretations in RVC constructions has long been discussed in descriptive studies (see, e.g. Lü [1946] 1980: 530; Ren 2005); RVC constructions are taken to constitute one type of causative construction, where the postverbal DP can represent an agent (see also Cheng and Huang 1994; Cheng 1997; Huang 1997, 2006; Williams 2014; Tham 2015). Li (1995, 1999) suggests that the paradigms on the interpretations observed in (1) should be accounted for by appeal to a causative hierarchy, as well as the usual thematic hierarchy (following Grimshaw's (1990) analysis of English psych-verbs). See also Her (2007), which advances essentially the same solution within the LFG framework.

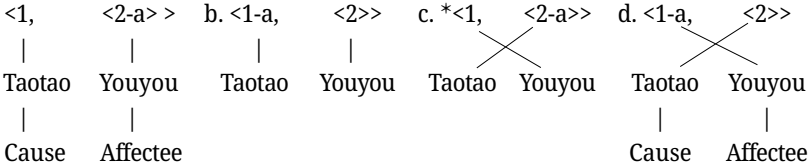
Specifically, in Li's (1995, 1999) analysis, the agent and the theme roles of $V_1$ and the affected theme role of $V_2$ are assigned freely to the two arguments in the clause, which gives rise to the four logical interpretations indicated in (1i--iv). Alongside these thematic roles, Cause and Affectee roles are assigned to the two arguments selectively. According to the rules of causative role assignment defined in Li (1999: 453), the preverbal argument *Taotao* receives the Cause role from the resultative compound if it receives a $\theta$-role only from $V_1$, and the postverbal argument *Youyou*,

**1** Abbreviations: ASP=Aspect marker; BA= marker of the *ba* construction; CL=classifer, DE=pre-nominal modification marker, marker of the V *de* construction or emphatic marker when used at the end of the sentence; POSS= possessive marker

**2** (1) does not have an interpretation in which the affected theme (Youyou or Taotao) is chased without noticing. The result expressed by the RVC can be either physical or mental. On the physical interpretation, the affectee is physically tired. On the mental interpretation, the affectee is not necessarily tired physically, but is mentally tired of being chased. Both are consonant with the definition of the RVC construction by Li and Thompson (1981), where the RVC is taken to include $V_2$ which signals some result of the action denoted by $V_1$. Although Liu (2021) argues that the reversal linking in transitive RVCs is not productive, we can easily find transitive RVCs that can have the three interpretations, including *qi-si* 'get.angry-dead', *da-lei* 'hit-tired', *ma-fan* 'scold-irritated', *xia-hun* 'frighten-dizzy', and *zhui-ni* 'chase-bored'. Note that *qi-si* can only carry the meaning that the result is mental, i.e. it expresses the figurative resultative meaning that the affecteee got angry to an extreme degree.

the Affectee role from the resultative compound if it receives a $\theta$-role from $V_2$(=R) (see Li 1999: 453 for the full descriptions of the rules).

(2) a. <1, <2-a> > b. <1-a, <2>> c. *<1, <2-a>> d. <1-a, <2>>




Crucially, the Cause and Affectee roles are assigned in (2a) and (2d) but not (2b) and (2c) (Li 1995: 270). When no Cause-Affectee role assignment is involved, the usual thematic hierarchy, in which the agent is ranked over the theme, is respected. But once the two arguments receive a Cause or Affectee role, the argument realization may violate the thematic hierarchy as long as the causative hierarchy (Cause > Affectee) is observed (see, e.g. Bresnan and Kanerva 1989; Jackendoff 1972; Levin and Rappaport Hovav 2005). This provides a lexical account for why (2a), (2b) and (2d) are available as possible interpretations for (1), but (2c) is not.

Li's (1995, 1999) analysis can account for the basic fact that three out of four logically possible interpretations are available for the RVC in (1). It is worth mentioning, however, that there is one (potential) conceptual problem with his analysis: The RVC construction in (1) expresses a caused change of state regardless of how the two arguments are interpreted, but under Li's analysis, the two interpretations in (2a) and (2d) involve Cause-Affectee role assignment, but (2b) does not. In Li's analysis, the device of the causative hierarchy is necessary to rule out the unwanted interpretation (2c), while ruling in (2a), (2b), and (2d).

Note, however, that the sentence expresses the same logical meaning in all possible interpretations (see section 3). If the sentence expresses the same logical meaning, we would not expect an asymmetry in Cause-Affectee role assignment, as Li (1995, 1999) postulates. If the causative/affected meaning is encoded via Cause-Affectee role assignment, (2b) should differ from (2a) and (2d) with regard to the presence or absence of a causative meaning, but no such semantic difference is detected. If, on the other hand, the logical meaning remains unvarying regardless of Cause-Affectee role assignment, there arises a question as to what part the Cause-Affectee role assignment plays in the interpretations of the RVC. Under Li's analysis, if Cause-Affectee role assignment is not available, it is not possible to derive all the possible interpretations, while excluding the impossible one. The hypothesized Cause-Affectee role assignment, by its nature, should affect the semantics of the RVC, but the fact of the matter is that no thematic difference arises between the interpretations (2b), on the one hand, and (2a) and (2d), on the other

hand. Given this, we can say, at the very least, that the Cause-Affectee role assignment rule is not well-motivated semantically.

On the empirical side, Li's (1995, 1999) analysis faces a problem in accounting for (3), where the RVC consists of the intransitive *ku* 'cry' and the resultative *xing* 'awake'.

(3) *Emeng* *ku-xing* *le* *mama.*
nightmare cry-awake ASP mother
'The mother cried and as a result she woke up by a nightmare'

In (3), the postverbal DP *mama* 'mother' is the agent of $V_1$ *ku* 'cry', and the preverbal DP *emeng* 'nightmare' is neither the argument of *ku* 'cry' nor the argument of *xing* 'awake'. In this construction, the agent appears postverbally. Li (1995) claims that this type of argument realization is permitted when the Cause role is assigned to the DP that is not assigned a $\theta$-role by $V_2$. But under his analysis, it remains a mystery why the first DP *emeng* 'nightmare' can be introduced, since both **Emeng ku le* 'Nightmare cried' and **Emeng xing le* 'Nightmare awoke' are not acceptable.

In this section, some problems which Li's analysis confronts have been briefly reviewed. In the next section, we shall offer an alternative analysis taking A-movement to be responsible for determining the possible interpretations of RVCs.

# 3 The syntax of RVC constructions

In this section, we argue that the arguments of the RVC in (1) are interpreted by way of the $\theta$-roles that are assigned to them, and that the agent interpretation on the postverbal DP is derived as a consequence of A-movement, motivated by the EPP requirement of T. We first show that the argument appearing to the left of the complex predicate in the RVC constructions represents the subject of the clause, and then argue that the theme argument can appear in the subject position of the clause (Spec-TP) when it counts as an argument closer to T than the agent.

## 3.1 The derivation of transitive RVCs

To begin, let us discuss the clause structure of RVCs. Under the split vP hypothesis, a single verb comprises two projections of vP and VP, but some researchers (e.g. Ritter and Rosen 1998, 2000; Ramchand 2008; Travis 2010) suggest that verbal structure should be a little more articulated, reflecting event structure more directly. We

assume, following the latter line of research, that a verb can potentially include three verbal projections that represent event structure: namely, vP accommodating an agent and VP which accommodates a theme (i.e. an argument to which the act of the agent is directed with no entailment of a change of state), as well as RP, which represents its resultant state while accommodating an affected theme. For clause structure in Chinese, we presume that aspect projections are projected over vP (cf. Huang, Li, and Li 2009), and thus we posit the predicate structure (4) for (1), where the first verb *zhui* 'chase' describes an activity, and the second verb *lei* 'tired' a resultant state.

(4) $[_{TP}$ ..... $\underbrace{[_{vP}\ DP_3\ v(zhui)_{<Ag>}\ [_{VP}\ DP_2\ V(\phi)_{<Th>}}_{V_1\text{ (=causing event)}}\ \underbrace{[_{RP}\ DP_1\ R(lei)_{<Th[+aff]>}]]}_{V_2\text{ (=caused event)}}$

In (4), the vP-VP structure representing a causing event (i.e. the "chasing" event described by *zhui* 'chase') is projected over RP, which represents a caused event (i.e. the resultant state described by *lei* 'tired'). As we will discuss below, arguments selected by $V_1$ can sometimes be suppressed, while the argument selected by $V_2$ is necessarily realized. Huang (1997) and Lin (2001) propose that lexical verbs are decomposed into several components (see also Huang, Li, and Li 2009). In particular, Lin (2001) argues that in Chinese, lexical verbs are associated with (invisible) light verbs, which allow them to take a variety of objects. In line with this analysis, we propose that when objects are present, they are selected by light verbs, and that $V_1$ like *zhui* (in *zhui-lei*) consists of a lexical predicate filling v plus an inaudible light verb $\phi$ appearing in V, which is selected by the lexical predicate, as illustrated in (4).[3] Additionally, it is possible to introduce an unselected causer by projecting CausP (above vP) if an argument slot is made open for it, e.g. by using intransitive $V_1$ instead of transitive $V_2$, or through $\theta$-role suppression (see section 4).

As for $\theta$-role assignment, we postulate that a single $\theta$-marking head assigns one kind of $\theta$-role only, i.e. the v head assigns an agent role (Ag), the V head a theme role (Th), and the R head an affected theme role ($Th_{[+aff]}$), and further, that a head with an argument structure assigns its $\theta$-role to an argument located in its specifier position; the derivation crashes if any of the $\theta$-roles available in the clause fails

**3** Ramchand (2008) suggests that an intransitive clause like *Karena jogged* is derived by filling *Karena* in both *init*P and *proc*P. At the first sight, the *init* and *proc* projections look like corresponding to vP and VP in the present analysis, but differ from them, in that the former determine the semantic class of verbs, while the latter are responsible for $\theta$-role assignment. If Ramchand's theory is to be incorporated into the present analysis, vP, which represents part of a causative event, would be decomposed into *init*P and *proc*P.

to be assigned to the arguments (unless they are suppressed in the syntax). We assume that a $\theta$-role is assigned to an argument appearing within the projection of the $\theta$-marking head, since an EPP requirement is imposed on a $\theta$-marking head, and that the EPP requirement can be fulfilled by either base-generating an argument in the projection of the relevant head or by attracting the closest argument to that projection (in a way similar to T with an EPP requirement).

We suggest that the possibility of the interpretations in RVC constructions like (1) can be characterized in structural terms, and that the possible interpretations given in (1i), (1ii), and (1iv) are determined according to how the initial argument in (1), which appears to the left of the verbal complex, is moved to Spec-TP by A-movement. It is shown that (1iii) is not generated as a possible interpretation due to the absence of legitimate A-movement.

Before proceeding, let us first confirm that in (1), the leftmost DP occurring to the left of the RVC counts as the subject, regardless of how it is interpreted. This fact is confirmed, for instance, by looking at reflexive binding, because, as Tan (1991) and Huang, Li, and Li (2009) argue, only subjects can be the antecedent of the reflexive *ziji* 'self'.

(5) *Mary*$_i$ *gaosu John*$_j$ *Tom*$_k$ *xihuan ziji*$_{i/*j/k}$.
Mary$_i$ tell John$_j$ Tom$_k$ like self$_{i/*j/k}$
'Mary$_i$ told John$_j$ that Tom$_k$ likes self$_{i/*j/k}$' (Tan 1991: 26)

(5) shows that the matrix subject and the embedded subject, but not the matrix object, can antecede the reflexive *ziji* 'self', showing that *ziji* can take a subject as its antecedent (under c-command).

In the RVC in (6), it is the leftmost DP *Taotao*, but not the other DP *Youyou,* that serves as the antecedent of the reflexive *ziji* 'self' in all the possible interpretations.

(6) *Taotao*$_i$ *zai ziji*$_{i/*j}$ *de yuanzi li zhui-lei le Youyou*$_j$.
Taotao at self POSS garden in chase-tired ASP Youyou
(i) 'Taotao chased Youyou and as a result Youyou got tired in Taotao's garden'
(ii) 'Taotao chased Youyou and as a result Taotao got tired in Taotao's garden'
(iii) *'Youyou chased Taotao and as a result Taotao got tired in Taotao's garden'
(iv) 'Youyou chased Taotao and as a result Youyou got tired in Taotao's garden'

Even when the postverbal *Youyou* is interpreted as the agent of $V_1$, *Taotao* in the sentence initial position, which counts as the theme of $V_1$, serves as the subject of the clause. Moreover, *Youyou* fronted by topicalization does not serve as the antecedent of the reflexive *ziji*.

(7) *Youyou*$_j$, *Taotao*$_i$ *zai* *ziji*$_{i/*j}$ *de* *yuanzi* *li* *zhui-lei* *le.*
Youyou Taotao at self POSS garden in chase-tired ASP
(i) 'Taotao chased Youyou and as a result Youyou got tired in Taotao's garden'
(ii) 'Taotao chased Youyou and as a result Taotao got tired in Taotao's garden'
(iii) *'Youyou chased Taotao and as a result Taotao got tired in Taotao's garden'
(iv) *'Youyou chased Taotao and as a result Youyou got tired in Taotao's garden'

The topicalized DP *Youyou* c-commands *ziji*, but cannot be the antecedent of *ziji*, because it does not serve as the subject of the clause. This fact suggests that in (1), even if the postverbal argument is interpreted as the agent of $V_1$, the preverbal argument behaves as the subject. This entails that (1) does not involve inversion instantiated by A′-movement, but the preverbal argument appears in TP via A-movement even when it does not count as an agent.

Now, given that an argument located in TP serves as the antecedent of the subject-oriented reflexive, it is fair to state that an argument acquires subject properties if it is raised to TP via A-movement to fulfill the EPP requirement imposed on T in RVC constructions. This assumption is feasible, for unacceptability results if arguments (subjects) do not appear to the left of the predicates.

(8) **Tiao-fan* *le* *Youyou.*
jump-bored ASP Youyou
'Youyou jumped and got bored/(Someone caused) Youyou to jump and got bored'

The unacceptability of (8) shows that the EPP requirement is imposed on T in RVC constructions, which entails that RVCs need to have subjects appearing to the left of the predicates.[4]

**4** Incidentally, there are cases where no argument appears to the left of the predicates, as in (i).

(i) a. *Yijing* *si* *le* *hen* *duo* *ren* *le.*
already die ASP very many person ASP
'Many people have already died'
b. *Xia* *yu* *le.*
fall rain ASP
'It has rained'

The examples in (i) are acceptable even if Spec-TP is not filled. Nevertheless, this fact does not show that the EPP requirement is lacking in all types of clauses, but rather suggests that the EPP requirement is imposed on clauses selectively, i.e. the EPP does not apply to Chinese as it does in English (see, e.g. Li and Thompson 1981; Chao 1968).

One peculiar property of RVCs is that, as noted by Li (1990, 1993, 1995), at most two arguments are allowed to appear in the clause. The reason why the number of arguments available in RVC constructions is limited to at most two has to do with the fact that they represent one type of construction denoting a change of state brought about by an agent or a causer, which is transitive in nature (see Lü [1946] 1980; Ren 2005). Observe that transitive verbs expressing a caused change of state lexically, such as *hua* 'paint' and *dong* 'freeze (trans.)', takes two arguments – one representing an agent and the other an affected theme. Likewise, since *zhui-lei* 'chase-tired' in (1) expresses a caused change of state, the RVC has one argument with an "agent" role and the other with an "affected theme" role.

We assume, with Cheng and Huang (1994: 192), that RVCs serve as two-place predicates for Case reasons. Specifically, we assume, in line with Chomsky (2000, 2001, 2004, 2008), that arguments are Case-licensed if Case features are valued by their Case-licensing head, and that T is the licenser of nominative Case, and v, the licenser of accusative Case (when v is selected by T). If RVCs are transitive in nature, the fact that they can have at most two arguments follows from RVCs possessing the ability of Case-licensing one argument with nominative Case and another with accusative Case. This suggests that when there is another way of Case-licensing an argument, RVCs would be able to have three arguments. This is in fact the case, as seen in the *ba*-construction in (9).

(9) *Taotao ba Youyou chang-wang le yao shuo-de hua.*
Taotao BA Youyou sing-forget ASP want say-DE words
'Taotao made Youyou forget what she wanted to say by singing'
(Li 1995: 272)

In the *ba*-construction in (9), *Taotao* is the agent of $V_1$ and *Youyou* occurring with *ba* counts as an affected theme (or to be more precise, an affected experiencer) of $V_2$ *wang* 'forget', which accompanies an additional argument *yao shuo-de hua* (see Li 1995; Williams 2014). The RVC possesses two Case features, nominative and accusative, and hence can Case-license up to two arguments, but in (9), three arguments are allowed on the grounds that *ba* additionally Case-licenses *Youyou,* perhaps by assigning inherent Case to it.

RVCs do not square with three-place verbs, which express a change of location with an achieved location or a change of possession with a recipient (or a "goal" in a broad sense; cf. Malchukov, Haspelmath, and Comrie 2010).

(10) *Zhangsan song le dajia shengri liwu.*
Zhangsan give ASP everyone birthday present
'Zhangsan gave everyone a birthday present'

In (10), *song* 'give' takes *dajia* 'everyone' as a recipient, *shengri liwu* 'birthday present' as a theme, and *Zhangsan* as an agent. A well-formed RVC sentence cannot be constructed from *song* taking three arguments, as (11) illustrates.

(11) **Zhangsan song-ni le dajia shengri liwu.*
Zhangsan give-bored ASP everyone birthday present
'Zhangsan gave everyone a birthday present and as a result everyone got bored'

This does not mean that *song* 'give' is inherently incompatible with RVCs. When the recipient *dajia* 'everyone' is not present, a well-formed RVC clause can be constructed, and it is also possible to have the reverse realization of agent and theme, as in (12).

(12) a. *Zhangsan song-ni le shengri liwu.*
Zhangsan give-bored ASP birthday present
'Zhangsan gave a birthday present and as a result he got bored'
b. *Shengri liwu song-ni le Zhangsan.*
birthday present give-bored ASP Zhangsan
'Zhangsan gave a birthday present and as a result he got bored'

In (12), *Zhangsan* counts as the agent of $V_1$ as well as the affected theme of $V_2$, and *shengri liwu* is the theme of $V_1$. On the other hand, when *dajia* 'everyone' instead of *shengri liwu* 'birthday present' appears in the clause, ungrammaticality results.

(13) **Zhangsan song-ni le dajia.*
Zhangsan give-bored ASP everyone
'Zhangsan gave everyone (something) and as a result everyone got bored'

In (12a), the postverbal argument *shengri liwu* counts as a theme argument of $V_1$. *Dajia* 'everyone' cannot be so construed, and thus (13) is unacceptable. The difference in acceptability between (12a) and (13) has to do with the fact that *song* can take *shengri liwu*, but not *dajia*, as its theme argument, as (14) illustrates.

(14) *Zhangsan song le shengri liwu/*dajia.*
Zhangsan give ASP birthday present/everyone
'Zhangsan gave a birthday present/*everyone'

Likewise, with *jiao-cuo* 'teach-wrong' the recipient can be realized if it occurs with a preposition, as the contrast in acceptability between (15a) and (15b) shows.

(15) a. **Laoshi jiao-cuo le xiaohai Yingyu.*
teacher teach-wrong ASP children English
'The teacher taught the children wrong English'
b. *Laoshi gei xiaohai jiao-cuo le Yingyu.*
teacher to children teach-wrong ASP English
'The teacher taught wrong English to the children'

The facts illustrate that recipients do not occur as the indirect objects of the transitive RVC constructions for Case reasons, but that RVCs can be formed on ditransitive verbs if they have alternants with two arguments. When recipients are obliquely marked, they can occur in RVCs with two other arguments. The facts follow from the assumption that the RVC can Case-license only up to two arguments.

In transitive RVCs, $V_1$ and $V_2$, furnish three arguments, but the RVCs can comprise at most two arguments in the clause (excluding oblique arguments). Given this fact, we suggest that transitive RVCs can be formed if two verbs share an argument by way of receiving two $\theta$-roles from two distinct verbs or if some $\theta$-roles that $V_1$ bears are suppressed syntactically (see section 4.2 for the discussion of the latter cases). To be concrete, we suggest that the RVC in (1) is formed by argument sharing, from which the three interpretations in (1) are derived. Here, we postulate, following Hornstein (1999, 2001) (see also Boeckx, Hornstein, and Nunes 2010), that an argument can receive more than one $\theta$-role by moving from one $\theta$-position to another $\theta$-position. The requirement for $\theta$-role assignment can be satisfied in (1) if one argument is base-generated in Spec-vP or Spec-VP, and the other argument merged in Spec-RP is moved into a $\theta$-position which has not been filled.[5] Given this, the two derivations in (16) are possible for the purpose of $\theta$-role assignment to arguments.

(16) a. $[_{TP}$ T ..... $[_{vP}$ $DP_2$ v $[_{VP}$ _____ V $[_{RP}$ $DP_1$ R ]]]]

b. $[_{TP}$ T ..... $[_{vP}$ _____ v $[_{VP}$ $DP_2$ V $[_{RP}$ $DP_1$ R ]]]]

In (16a), the $DP_2$ receives an agent role from v, and the $DP_1$ receives an affected theme role from R and a theme role from V. In (16b), the $DP_2$ receives a theme role from V, and the $DP_1$ obtains an agent role from v, and an affected theme role from R.

One question that arises is how the argument can move into Spec vP across $DP_1$, as in (16b), in apparent violation of the minimality constraint on movement.

5 Here, we adopt the commonly-held assumption that only upward movement is allowed.

It is often suggested (e.g. Baker 1988; Chomsky 1995; den Dikken 2007) that locality constraints are relaxed by virtue of head movement. In this light, we propose that head movement makes it possible for an argument to move from Spec-RP to either Spec-vP or Spec-VP for the purpose of $\theta$-role assignment. To make this point, first consider how the surface structure of an RVC like (17) is derived.

(17) *Wo (you) meitian ti-kai na ge men.*
I have every.day kick-open that CL door
'I (have) kicked the door open every day'

Assuming the split Aspect projections, we suggest that (17) has the structure where the aspectual verb *you* appears in the head position of aspP, acting as a light predicate, and that the verbal complex is moved into the head position of AspP, as in (18).

(18) [$_{TP}$ *wo* [$_{aspP}$ (*you*) [$_{AspP}$ *meitian* [$_{AspP}$ *ti-kai* [$_{vP}$ . . .*nage men* . . . .]]]]]

The adverb *meitian* 'every day' in (17) can be adjoined to the AspP, and thus can appear between *you* and *ti-kai* 'kick-open'. In a transitive RVC, the complex verb appears to the right of the initial argument and to left of the other argument. Arguments in the verbal structure, including one in Spec-vP, invariably appear to the right of the verbal complex unless they are moved out of vP. This fact suggests that the resultative verb complex resides in a higher position than vP as a consequence of verb raising (Huang, Li, and Li 2009). In the RVC construction, the expected word order, in which the second argument follows the VV complex (with or without *you* 'have'), is derived if R raises to Asp while picking up the upper verbal heads on the way.[6]

(19) [$_{TP}$ T [$_{aspP}$ (*you*) [$_{AspP}$ v-V-R-Asp [$_{vP}$ <u>v-V-R</u> [$_{VP}$ <u>V-R</u> [$_{RP}$ R ]]]]]]

Given this fact, we propose that v can attract either an argument in Spec-VP or an argument in Spec-RP for the purpose of $\theta$-role assignment on the grounds that Spec-VP and Spec-RP are rendered equidistant from v via R's head raising to v (cf.

**6** We assume that the surface order of the $V_1$-$V_2$ sequence of RVCs is derived via right adjunction of a moved head to a higher head through a "tuck-in" operation (see Richards 2001). We also assume that when the verbal complex is raised to Asp, it is left-adjoined to Asp, as in [$_{AspP}$ v-V-R-Asp(*le*) [. . . .]]. This adjunction yields the order of the verbal complex where $V_1$-$V_2$ is followed by the aspectual marker *le*. If Asp is exporated and is right-adjoined to TP, as in [$_{TP}$ [$_{AspP}$ v-V-R-~~Asp(*le*)~~ [. . . .] Asp(*le*)]], the aspecual marker *le* appears at the clause end.

Baker 1988; Miyagawa 2001). Since A-movement of one argument across another takes place only when *θ*-related movement is invoked within the projections of the verbal complex, we suggest that only *θ*-marking heads (forming a head complex with no intervening non-*θ*-marking head in the verbal structure) can participate in this domain extension process. Taken together, the relevant notion of equidistance for allowing argument reversal can be defined in (20) (cf. Chomsky 1995).

(20) a. XP and YP are in the extended minimal complement domain of α if (i) α and β contain a member of the chain CH γ = {$\gamma_1$, $\gamma_2$, . . .} and (ii) βP immediately dominates XP and γP immediately dominates YP, where α , β and γ are *θ*-marking heads and α > β > γ ('α > β' = 'α selects β').
b. βP and γP in the extended minimal complement domain of α are equidistant from α.

Head movement takes place from one head to another head up in a local manner in the clause. Since R's head-raising to v renders Spec-VP and Spec-RP equidistant from v, $DP_1$ in Spec-RP, which receives an affected theme role from R, can be moved into Spec-vP for receiving an agent role even if $DP_2$ occupies Spec-VP, as in (16b). On the other hand, $DP_1$ bearing an affected theta role is moved into Spec-VP for receiving a theme role if $DP_2$, which receives an agent role, occupies Spec-vP, as in (16a).

In RVC constructions, an EPP requirement is imposed on T. Note that T is not a *θ*-marking head, and that R does not raise to T. Thus no extension of its complement domain applies to T. This means that Spec-vP, and Spec-VP are not equidistant from T. Accordingly, T normally attracts the closest argument under c-command, i.e. the argument in Spec-vP. Nevertheless, T can attract a lower argument to TP when one argument crosses another argument below vP. In the face of this fact, we propose that the "closeness" pertaining to A-movement to T is assessed with reference to the argument's *θ*-position. In RVC constructions, the argument assigned an affected theme by R moves to either Spec-vP or Spec-VP via A-movement. When $DP_2$ is generated in Spec-VP, $DP_1$ in Spec-RP is moved to Spec-vP, as in (21).

(21) [ T [$_{vP}$ $DP_1$ [$_{VP}$ $DP_2$ [$_{RP}$ $DP_1$ ]]]]

In regard to the question of which argument T can attract when the structure in (21) is derived, observe first that $DP_2$ c-commands the lower copy of $DP_1$ in Spec-RP, but is c-commanded by the upper copy of $DP_1$. Importantly, while only the upper copy is pronounced overtly, the lower and the upper copies of $DP_1$, both of which appear in *θ*-positions, are nondistinct in syntactic terms – i.e. they are the same

syntactic entities because they form a chain. This suggests that $DP_2$ c-commands $DP_1$ and $DP_1$ c-commands $DP_2$ at the same time, and that ambiguity emerges for the assessment of the distance of the two arguments from T. Consequently, it is not possible to determine which argument T can attract. We submit that in such cases, grammar allows either the upper or the lower copy to be chosen as a potential goal to resolve this ambiguity (by making one copy invisible for the purpose of the locality calculation), and that the process of choosing a potential goal is made possible only when an argument receives more than one *θ*-role by A-movement, i.e. the chain of an argument includes more than one *θ*-marking position.[7]

(22) a. $[_{TP}$ ____ T $[_{vP}$ $DP_1$ $[_{VP}$ $DP_2$ $[_{RP}$ ~~$DP_1$~~ ]]]]

b. $[_{TP}$ ____ T $[_{vP}$ ~~$DP_1$~~ $[_{VP}$ $DP_2$ $[_{RP}$ $DP_1$ ]]]]

In (22a), where the lower copy of $DP_1$ is made invisible for locality calculation, $DP_1$ in Spec-vP is identified as an argument to be attracted by T. On the other hand, when the upper copy of $DP_1$ is made invisible, as in (22b), $DP_2$ in Spec-VP is identified as the argument to be attracted by T. This indicates that in the configuration (21), T can attract either $DP_1$ or $DP_2$. On the other hand, when $DP_2$ appears in Spec-vP, $DP_1$ in Spec-RP is moved to Spec-VP, as in (23).

(23) $[_{TP}$ ____ T $[_{vP}$ $DP_2$ $[_{VP}$ $DP_1$ $[_{RP}$ $DP_1$ ]]]]

In (23), $DP_2$ unambiguously c-commands $DP_1$ whether the upper or the lower copy of $DP_1$ is chosen as a potential goal, because $DP_2$ c-commands both the upper and the lower copies of $DP_1$. Consequently, T can attract only $DP_2$. In this analysis, which argument can be attracted by T is calculated on the basis of the copies of arguments appearing in *θ*-positions, while only the uppermost copy of the chain is pronounced.

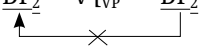
Even though, in Chinese, arguments do not manifest case marking morphologically, an argument needs to be Case-licensed to function as the subject or object of a sentence. For Case licensing, we assume that a verbal head (v) that is first associated

7 McGinnis (2004) argues that long A-movement of an argument across another argument is not possible if it is EPP-driven. The Chinese fact suggests that this restriction can be lifted if an argument forms a chain with multipe *θ*-marked copies.

with T (with no intervening verbal head) has the ability to Case-license an object, i.e. the licenser of accusative Case is a verbal head selected by T (see also section 4). For the RVC in (1), if T is the licenser of nominative Case, and v, the licenser of accusative Case, and if T and v value the Case features of arguments under local c-command, it is easy to see that in the transitive RVCs, the argument in Spec-vP has its Case feature valued as nominative by T, while the other argument, which may be located in Spec-VP or Spec-RP, has its Case feature valued as accusative by v. A single argument may not be doubly Case-marked even if it can receive more than one *θ*-role, as discussed by Hornstein (1999), which suggests that Case features cannot be valued twice (by distinct heads). We assume that arguments are Case-licensed after all instances of A-movement take place within the verbal structure, but before an argument is attracted to Spec-TP. This means that T Case-licenses an argument appearing in Spec-vP by movement, as in (21) or by base-generation as in (23), and v Case-licenses an argument appearing in Spec-VP by movement, as in (23) or by base-generation, as in (21).

Before proceeding, it should be noted that in (1), it is *not* possible for one argument to be assigned both agent and theme roles by $V_1$, with the other argument receiving an affected role from $V_2$.

(24) $[_{TP}$ T ..... $[_{vP}$ $\underline{DP_2}$ v $[_{VP}$ $\underline{DP_2}$ V $[_{RP}$ $DP_1$ R ]]]]

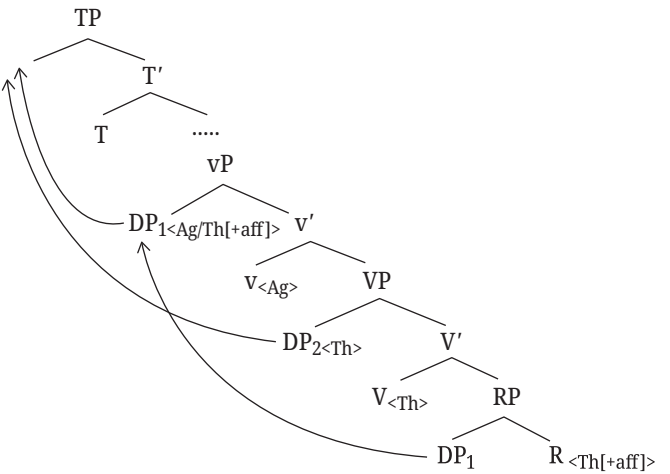


If this way of *θ*-role assignment were possible, (1) would have the interpretation that Taotao chased Taotao with the result that Youyou got tired or the interpretation that Youyou chased Youyou with the result that Taotao got tired.

The possibility of moving an argument from Spec-VP to Spec-vP would be permitted if an intransitive verb can have a reflexive interpretation. One candidate is found in an English sentence like *Mary dressed,* which is interpreted reflexively ('Mary dressed herself'). In this sentence, the verb is unergative, which does not have to Case-license an argument in VP. If so, the sentence can be derived by *Mary* first appearing in Spec-VP to receive a theme role, and then undergoing movement to Spec-vP to receive an agent role (Hornstein 1999). The argument is Case-licensed if its Case feature is valued by T. This derivation of *Mary dressed* is suspect, however, since this construction is likely to involve an unspecified object deletion rather than A-movement. Besides, there are no Chinese counterparts of English reflexive verb constructions. In the present perspective, then, it is reasonable to state that a thematic constraint is imposed on Chinese that a single argument cannot receive two *θ*-roles from the same lexical verb. (Note that in the resulative construction, the sequence of v plus V is realized as a single verb). If this is the case, the fact that an argument in Spec-VP cannot be moved to Spec-vP follows straightforwardly.

Theoretically, all the possible combinations of thematic interpretations assigned to the arguments in RVC constructions are created by the mechanisms of Case and *θ*-role assignment, combined with the syntactic raising of R to v. To lend concreteness, let us illustrate how the interpretations available for (1) are constructed. First, given that the argument $DP_1$ is merged with RP to receive an affected theme role, two options are available for generating the other argument $DP_2$, which does not appear in RP. One option is to base-generate $DP_2$ in Spec-VP to receive a theme role. If this option is chosen, two derivations are available, as illustrated in (25).

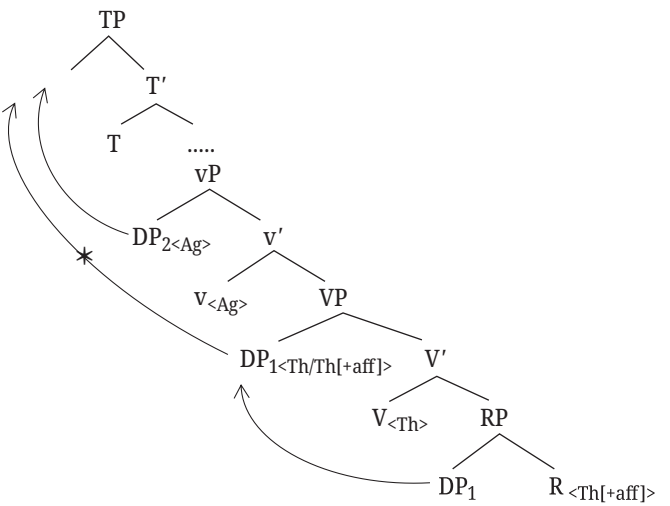
(25)




In (25), T Case-licenses $DP_1$ in Spec-vP and v Case-licenses $DP_2$ in Spec-VP. If $DP_1$, which has <$Ag/Th_{[+aff]}$>, is moved to Spec-TP, (1) has the interpretation in (1ii). If, on the other hand, $DP_2$ with <Th> is moved to Spec-TP, (1) has the interpretation in (1iv). When $DP_1$, which is Case-valued by T, is moved to Spec-TP, $DP_2$, whose Case feature is valued by v, remains in the postverbal position of Spec-vP. This derivation yields the interpretation (1iv), and in this case, the order of the agent argument and the theme argument of $V_1$ is reversed via A-movement. This argument reversal is possible because the relative distance of $DP_1$ and $DP_2$ to T may be assessed in reference to $DP_2$ in Spec-VP and the copy of $DP_1$ left in Spec-RP. In this case, the agent argument of $V_1$ appears in a position following the verbal complex.

Another option of deriving the sentence in (1) is to generate $DP_2$ in Spec-vP to receive an agent role from v. The derivation proceeds as in (26).

(26)




In (26), the $DP_1$ in Spec-RP bearing <$Th_{[+aff]}$> moves into Spec-VP to receive a theme role. Thus, $DP_2$ is identified as the only argument to be attracted by T on the grounds that $DP_2$ in Spec-vP c-commands both $DP_1$ in Spec-VP and its copy in Spec-RP. In (26), T Case-licenses $DP_2$ in Spec-vP, and v Case-licenses $DP_1$ in Spec-VP. (Note that when v is merged, $DP_1$ is located in VP.) If $DP_2$ in Spec-vP (that has received <Ag>) is moved to Spec-TP, (1) has the interpretation (1i). If $DP_1$ is moved to Spec-TP instead, (1) would have the interpretation (1iii). But this interpretation is not possible because $DP_1$ does not qualify as an argument to be attracted by T, i.e. no copy of $DP_1$ in $\theta$-marking position c-commands $DP_2$. This shows that in (1), the construal needed for establishing the interpretation (1iii) cannot be constructed.

As an alternative analysis, one might argue that the argument of RP is realized as PRO/pro controlled by a DP in a higher position, obtaining the control construal like [$_{TP}$ T [$_{vP}$ $DP_2$ [$_{VP}$ $DP_1$ [$_{RP}$ PRO/pro ]]]]. (See Huang 1992 for a control analysis for resultative clauses, positing "pro".) In the present perspective, this analysis would be less restrictive, in the sense that the argument of RP is identified as one of the two arguments ($DP_1$ or $DP_2$) via control (often without requiring a c-command relation). Moreover, since arguments with control relations are "distinct" entities, and form two distinct chains rather than a single chain, $DP_1$ cannot be a candidate for attraction by T. Then, the control analysis will predict that T can attract only the agent $DP_2$ generated in Spec-vP. If this is the case, (1) can only have the interpretations (1i) and (1ii), where the preverbal argument is taken to be an agent, and not (1iii) and (1iv). But the fact is not keeping with the control analysis. In light of these

considerations, it should be apparent that the movement analysis is chosen over the control analysis to account for the interpretive facts of (1).[8]

## 3.2 Some variants of transitive RVCs

Under our proposal, syntactic head raising provides a key to understanding why an RVC like (1) can have the three interpretations (1i), (1ii), and (1iv). These interpretations are derived on the basis that the argument in RP can be A-moved across the other argument in apparent violation of a local c-commanding constraint. In our proposal, this A-movement is made possible by the syntactic head raising of R to v, which results in the formation of the verbal complex v-V-R. This in turn predicts that the kind of A-movement that renders (1ii) and (1iv) as possible interpretations for (1) will not be allowed when a non-*θ*-marking head intervenes between V and R. This prediction is borne out. In addition, the possible interpretations for the RVC are affected when some syntactic operations apply to them. In this section, we will provide new data on *bu*-negation and topicalization.

A first set of new data comes from the negative potential form of an RVC construction. An example like (27) provides a case in point.

(27) *Zhangsan zhui-bu-lei Lisi.*
Zhangsan chase-can.not-tired Lisi
(i) 'Zhangsan cannot make Lisi tired by chasing Lisi'
(ii) *'Zhangsan cannot make Zhangsan tired by chasing Lisi'
(iii) *'Lisi cannot make Zhangsan tired by chasing Zhangsan'
(iv) */[??]'Lisi cannot make Lisi got tired by chasing Zhangsan'

In (27), the negator intervenes between $V_1$ and $V_2$. Interestingly, (27) allows only one interpretation, which is given in (27i). This fact follows if the NegP projection accommodating the negative *bu* is placed above RP.

(28) [$_{TP}$ [$_{AspP}$ v-V-*bu*-R-Asp [$_{vP}$ v-V-*bu*-R [$_{VP}$ V-*bu*-R [$_{NegP}$ *bu*-R [$_{RP}$ R ]]]]]]

8 Under the movement theory of PRO (Hornstein 1999, 2001, and others), movement of PRO does not necessarily target the position which c-commands a copy of PRO left by movement. This postulation is necessary due to the fact that some control construals can be established without a c-command relation.

In the configuration in (28), all the verbal heads and the Neg-head move up to Asp. Note that Spec-VP and Spec-RP are not equidistant from v because R occurs in a head position below the non-*θ*-marking head *bu*. Given that the presence of an intervening non-*θ*-marking head prevents the extension of a minimal complement domain, $DP_1$ merged with R cannot be moved across $DP_2$ appearing in Spec-VP. Accordingly, the only option available for (27) is to place $DP_2$ in Spec-vP, which makes $DP_1$ in Spec-RP move to Spec-VP, as in (29).

(29) $[_{TP}$ _____ T ... $[_{vP}$ $DP_2$ $[_{VP}$ $DP_1$ $[_{NegP}$ $[_{RP}$ $DP_1$ ]]]]]

In (29), since $DP_2$ unambiguously c-commands $DP_1$, only $DP_2$ can be moved to Spec-TP. Consequently, the only interpretation available for (27) is (27i), where the preverbal argument is interpreted as the agent of $V_1$ and the postverbal argument as the theme of $V_1$ as well as the affected theme of $V_2$. Note that Li's (1995, 1999) analysis cannot provide an account for the fact that (27) has only one interpretation, since the arguments in (27) are selected by *zhui* or *lei* in the same way as those arguments in (1).

The only interpretation available for (27) is (27i). No ambiguity arises in (27), since the negator *bu* appears between $V_1$ and $V_2$. (30) shows that three interpretations out of four logically possible interpretations are available if *mei* 'not' appears in a higher position as a clausal negator.

(30) *Zhangsan mei (you) zhui-lei Lisi.*
Zhangsan not (have) chase-tired Lisi
(i) 'The event that Zhangsan chased Lisi and as a result Lisi got tired didn't happen'
(ii) 'The event that Zhangsan chased Lisi and as a result Zhangsan got tired didn't happen'
(iii) *'The event that Lisi chased Zhangsan and as a result Zhangsan got tired didn't happen'
(iv) 'The event that Lisi chased Zhangsan and as a result Lisi got tired didn't happen'

This fact suggests that $DP_1$, which is generated in Spec-RP, can be moved to Spec-vP across $DP_2$ generated in Spec-VP, and that $DP_1$ is moved to Spec-VP when $DP_2$ appears in Spec-vP. The presence of the three interpretations for (30) is naturally expected, since Neg appears above the V-V complex.

(31) $[_{TP}$ T $[_{NegP}$ *mei* $[_{aspP}$ $[_{AspP}$ v-V-R-Asp $[_{vP}$ <u>v-V-R</u> $[_{VP}$ <u>V-R</u> $[_{RP}$ R ]]]]]]]

In (31), NegP is projected over aspP, so nothing prevents the verbal complex from raising to AspP. If R is moved to v (and further to Asp), (31) has the configuration in which Spec-VP and Spec-RP are equidistant from v by virtue of R's movement to v. Accordingly, the negative RVC in (30) can have the three distinct interpretations in (30i), (30ii), and (30iv).

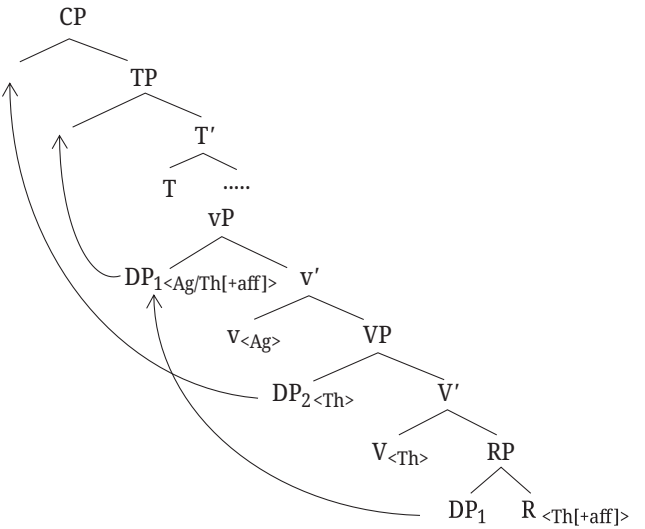
A second set of new data concerns topicalization. Topicalization also affects the possibility of interpretations in RVCs, which suggests, again, that some of the interpretations obtained in the ordinary RVC are rendered unavailable due to the absence of R's movement to v. To be concrete, observe that the topicalized sentence in (32) allows only two interpretations.

(32) *Youyou, Taotao zhui-lei le.*
Youyou, Taotao chase-tired ASP
(i) 'Taotao chased Youyou and as a result Youyou got tired'
(ii) 'Taotao chased Youyou and as a result Taotao got tired'
(iii) *'Youyou chased Taotao and as a result Taotao got tired'
(iv) *'Youyou chased Taotao and as a result Youyou got tired'

The interpretation (32iv), which is available for (1), is not obtained for (32). This fact follows naturally, given that topicalization at issue targets an object, i.e. an argument in Spec-VP.[9] To be concrete, in (32), the topic is located in a higher position than the subject in Spec-TP (and topicalization involves A′-movement to Spec-CP). If topicalization invokes the fronting of the argument in Spec-VP, the argument raised to Spec-TP via A-movement is one located in Spec-vP, to which an agent role is assigned, so that the preverbal argument in Spec-TP is necessarily interpreted as the agent of $V_1$. There are two structural positions from which the argument in Spec-TP could originate. In the first place, the postverbal agent argument can start from within RP, as represented in (33).

**9** Subject topicalization is possible only when a resumptive pronoun is placed in Spec-TP (see Huang, Li and Li 2009). In this case, the possible interpretations on RVC constructions are not affected.

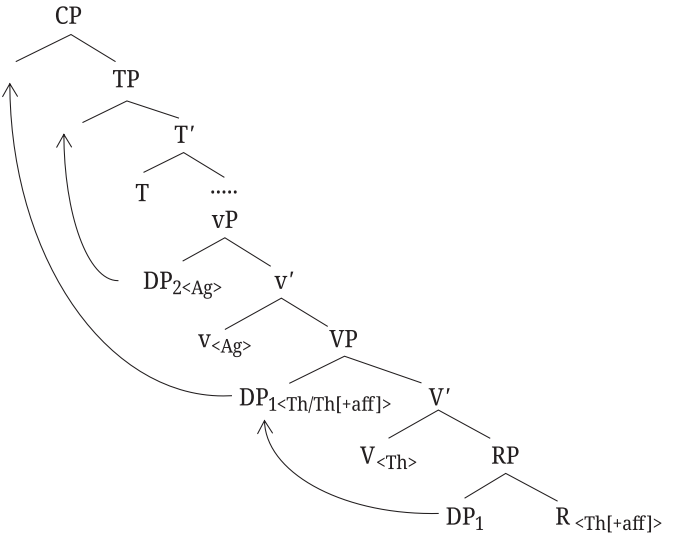
(33)




The derivation gives rise to the interpretation (32ii), where the postverbal agent is identified as the affected theme of $V_2$, and the topicalized argument is assigned a theme role by V. In (33), v Case-licenses $DP_2$ in Spec-VP (under local c-command before topicalization), and T Case-licenses $DP_1$ in Spec-vP, which is moved from Spec-RP. In (33), the theme does not move into Spec-TP, so the interpretation (32iv) is not available, although this interpretation is obtained in the non-topicalized RVC in (1).

Another possible derivation is that the agent is base-generated in Spec-vP, while the affected theme argument moves into Spec-VP, as represented in (34).

(34)



The topicalized $DP_1$, which is moved from Spec-RP to Spec-CP via Spec-VP, receives a theme role from V and an affected theme role from R. In this case, T Case-licenses $DP_2$ in Spec-vP, and v Case-licenses $DP_1$ in Spec-VP moved from Spec-RP. This derivation yields the interpretation (32i) (Needless to say, the interpretation (32iii) is not obtained in the non-topicalized sentence as well as the topicalized sentence because, in both cases, T cannot attract an argument counting as the theme of $V_1$ as well as the affected theme of $V_2$.).[10]

The present syntactic analysis can provide a ready account for the fact that object topicalization eliminates one of the possible interpretations obtained for transitive RVCs like (1), despite the fact that the lexical meanings conveyed by the RVCs do not differ between topicalized and non-topicalized sentences. Obviously, Li's lexical analysis falls short of accounting for the fact that topicalization brings about the change in the possible interpretations of the RVC construction.

One different syntactic analysis has been proposed by Sybesma (1999), which essentially adopts a small-clause analysis which Hoekstra (1988) proposes for Dutch and English resultative constructions. The small-clause analysis postulates that resultative constructions can have three distinct underlyng structures.

(35) a. NP $[_{VP}$ $V_1$ $[_{SC}$ NP Pred ]] (transitive resultative)
b. *e* $[_{VP}$ $V_1$ $[_{SC}$ NP Pred ]] (intransitive resultative)
c. NP CAUS $[_{VP}$ $V_1$ $[_{SC}$ NP Pred ]] (causative resultative)

**10** When an agent appears in postverbal position, it appears in Spec-vP, but not in Spec-VP. Thus, the agent does not undergo object topicalization even if it is located in postverbal position in (32). In this connection, note that the interpretation in (32iv), which is lacking in (32), is obtained for the sentence in (i).

(i) *Zhangsan, zhe-dao cai chi-ni le.*
Zhangsan this-CL dish eat-bored ASP
'This dish made Zhangsan be bored of eating it (=He wants to eat another dish)'

The relevant interpretation here is that *Zhangsan* is the topic and the affected argument of $V_2$ at the same time. This construction is derived from an inverted sentence by applying topicalization to the argument in Spec-vP, and differs from (32), which is derived from a non-inverted sentence by applying topicalization to the argument in Spec-VP. This suggests that topicalization can normally apply to an argument in VP, but topicalization of an argument in vP is made possible only when it is forced by having an argument in the preverbal subject position that cannot possibly be construed as an agent. There are speakers who find (i) very awkward, although the relevant interpretation is detected. Apparently, this group of speakers allows topicalization to apply only to arguments in VP, and thus feels that the forced application of topicalization to arguments in vP is unnatural, though not unacceptable.

Sybesma suggests that the interpreations of a transitive RVC like (1) can be derived from the two kinds of underlying structures where V selects a small clause, one for a canonical intransitive resultative and another for a transitive resultative. To make this point, consider (36)[=(1)].

(36) *Taotao zhui-lei le Youyou.*
Taotao chase-tired ASP Youyou
(i) 'Taotao chased Youyou and as a result Youyou got tired'
(ii) 'Taotao chased Youyou and as a result Taotao got tired'
(iii) *'Youyou chased Taotao and as a result Taotao got tired'
(iv) 'Youyou chased Taotao and as a result Youyou got tired'

In Sybesma's analysis, it is postulated that the RVC in (36) has the unaccusative structure in (37a) or the transitive structure in (37b) as its underlying structures.

(37) a. [ [$_{VP}$ *zhui* [$_{SC}$ *Taotao lei Youyou* ]]]
b. [ *Taotao* [$_{VP}$ *zhui* [$_{SC}$ *Yaoyao lei* ]]]

In (37a), *lei* 'tired' is a transitive predicate taking *Taotao* as an external argument and *Youyou* as an internal argument. In this case, (36) has the interpretation in (36ii). Sybesma takes *Taotao* in (37b) to be a causer. The default interpretation given to (37b), which is obtained when *Taotao* is "animate", is the interpretation in (36i), in which *Taotao* is the causer and *Youyou* is the affected theme of *lei*. If *Taotao* is "inanimate", *Youyou* receives an interpretation as a causer. Then the interpretation in (36iv) is obtained. If no other underlying structure is available for (36), then (36iii) turns out to be a missing interpretation for (36).

This analysis is called into question, however. One problem is posed by the fact that *Taotao lei Youyou* does not have the interpretation that Sybesma stipulates. When used as a transitive predicate, the first argument is a causer and the second arugment is an affected theme. This type of predicate does not fit into the predicate slot in the small clause. This means that (36ii) must be derived from the underlying structure [ *Taotao* [$_{VP}$ *zhui* [$_{SC}$ *Youyou lei* ]]], which differs from the structure posited by Sybesma. Another problem is that no argument of *zhui* appears in the underlying structures of (36). In Chinese, when an argument is suppressed, an existential interpretation is made available (see section 4.2). If (36) has a causative structure like [*Taotao* CAUSE [*chase* [*Youyou tired*]]], (36) is expected to have the interpretation that Taotao caused Youyou to become tired by "someone" chasing Youyou, as a case of agent role suppression, i.e. the interpretation that Taotao caused "someone" to chase Youyou; as a result, *Youyou* got tired. But the

relevant interpretation is not possible with (36). In addition, in all the possible interpretations, the argument represented as a causer must be interpreted as the agent of *zhui*, suggesting that the causer is somehow identified as the agent of *zhui*. The thematic interpretation needs to be fixed through some extra interpretive mechanisms under this analysis.

Our analysis fares better than Sybesma's. In our analysis, which posits a unitary underlying structure for all the interpretations in (36), the absence of the interpretation that "someone" chases *Youyou* straightforwardly follows, since *Taotao* is introduced as the agent of $V_1$ (with no agent role suppression). Moreover, our analysis has the advantage of providing a straightforward account for why (27) has only one interpretation (27i). In (27), the intervening negator blocks the domain extension. Hence (27) can have only one interpretation. This fact does not automatically follow from the analysis propsed by Sybesma.

Incidentally, while (32) represents a case where the possible interpretations of RVCs are restricted by syntactic factors, there are also cases where some possible interpretations are removed by semantic conditions. For instance, the *ba*-construction in (38), which is formed from (1), can have the two interpretations in (38i) and (38ii), but not the interpretations in (38iii) and (38iv).

(38) *Taotao ba Youyou zhui-lei le.*
Taotao BA Youyou chase-tired ASP
(i) 'Taotao chased Youyou and as a result Youyou got tired'
(ii) 'Youyou chased Taotao and as a result Youyou got tired'
(iii) *'Taotao chased Youyou and as a result Taotao got tired'
(iv) *'Youyou chased Taotao and as a result Taotao got tired'
(Li 1995: 271; (iv) is added by the authors)

In the *ba*-construction in (38), the postverbal argument in (36) is rendered into the *ba*-phrase appearing to the left of the RVC. It is often discussed that *ba* needs to take an affected argument, since it is subject to the affectedness condition (see e.g Huang, Li, and Li 2009). Li (1995) in fact suggests that for the *ba*-construction to be legitimate (semantically), the argument occurring with *ba* must be an affected argument. Under the present view, then, the *ba*-argument must count as an affected theme of $V_2$ (regardless of whether it is construed as the agent or the theme of $V_1$). Accordingly, (38iv), which is a possible interpretation for (36), is eliminated, since the interpretation in (38iv) is derived from the structure where *Youyou* does not

receive an affected theme role from R. In (38), then, only the interpretations in (38i) and (38ii) are allowed.[11,12]

**11** Owing to the constraint that only one affected argument is allowed in RVCs, the example in (i), where V1 selects an affected theme, allows only one interpretation out of four logically possible interpretations.

(i) *Zhangsan dong-si le Lisi.*
Zhangsan freeze-dead ASP Lisi
a. 'Zhangsan froze Lisi and as a result Lisi is dead'
b. *'Zhangsan froze Lisi and as a result Zhangsan is dead'
c. *'Lisi froze Zhangsan and as a result Zhangsan is dead'
d. *'Lisi froze Zhangsan and as a result Lisi is dead' (Yu 2018: 38)

(i) can only have the interpretation in (ia), since the postverbal *Lisi*, which is assigned the affected theme role of $V_2$, must also receive the affected theme role from $V_1$.

**12** Another semantic factor that restricts the behavior of RVCs has to with the "delimitedness" condition that a clause may comprise only one expression indicating the culminating point of a described event (Goldberg 1995). (ib) may be ruled out by this condition.

(i) a. *Zhangsan* {*zou/zou-dao chezhan*} *le.*
Zhangsan {walk/walk-arrive station} ASP
'Zhangsan {walked (=went)/walked to the station}'
b. **Zhangsan zou-lei dao chezhan le.*
Zhangsan walk-tired arrive station ASP
'Zhangsan walked to the station and as a result he got tired'

The verb *zou* 'walk' is an activity verb, to which a goal can be optionally added, as in (ia), but (ib) is not acceptable, presumably because the goal delimits the described event. It might be claimed that (ii) is ruled out for the same reason.

(ii) *Zhangsan* (**wang qiang shang*) *tie-ni le haibao.*
Zhangsan to wall LOC paste-bored ASP poster
'Zhangsan pasted posters (to the wall) and as a result he got bored'

Nevertheless, it is not entirely clear whether the unacceptability of (ii) with the goal comes from the affectedness condition, given that (15b) is acceptable even in the presence of an obliquely-marked goal. It might be argued that the unacceptability of (ii) is attributed to the constraint that two individual verbs within a RVC cannot be independently modified, as discussed in Williams (2014), basing the suggestion on the well-formedness of another construction (i.e. the verb-copying construction) like (iii).

(iii) *Zhangsan wang qiang shang tie haibao tie-ni le.*
Zhangsan to wall LOC paste poster paste-bored ASP
'Zhangsan pasted posters to the wall and as a result he got bored'

As noted by Williams (2014), the distribution of adverbial phrases is constrained by this condition, but the well-formedness of (iv) poses a problem on this account, since it shows that obliquely-marked recipients are allowed for RVCs.

Let us now consider how an English resultative construction like (39) allows the interpretation in (39i), where *bloody* is predicated of *the frozen meat*, but not (39ii), where *bloody* is predicated of *Rocky's fist*.

(39) *Rocky's fists pounded the frozen meat bloody.*
(i) 'The frozen meat got bloody from being pounded by Rocky's fists'
(ii) *'Rocky's fists got bloody from pounding the frozen meat'
(Williams 2014: 79)

In (39), the resultative predicate *bloody* can only be predicated of *the frozen meat* owing to the direct object constraint. There are a number of different analyses for English resultative constructions, but for the present purposes, suppose that English shares the basic clause structure with Chinese, specifically, the three-layered verbal structure which has vP-VP-RP (see (4) in section 3.1). One crucial difference that distinguishes English from Chinese is that the resultative predicate in English does not form a compound predicate with the main predicate due to the lack of syntactic predicate raising. This entails that the configuration in (40b)[=(16b)], where the argument of R is moved into the subject position across an object, is not allowed because Spec-VP and Spec-RP are not equidistant from v.

(40) a. $[_{TP}$ T ..... $[_{vP}$ $DP_2$ v $[_{VP}$ ____ V $[_{RP}$ $DP_1$ R ]]]]

b. *$[_{TP}$ T ..... $[_{vP}$ ____ v $[_{VP}$ $DP_2$ V $[_{RP}$ $DP_1$ R ]]]]

The only option available is one where the argument of the resultative predicate moves into the object position, as in (40a) [=(16a)]. Since (40b) is not legitimate, (39ii) is not a possible interpretation for (39), i.e. the argument reversal interpretation in (39ii) is not obtained for (39). The fact regarding (39) falls out straightforwardly in the present analysis.

In the present perspective, syntactic head raising of $\theta$-marking heads feeds the possibility of moving one argument across another. Note that argument reversal interpretation is possible in cases where $V_1$ and $V_2$ share an argument. This config-

(iv) *Wo can gei ta song-cuo le.*
I food to him send-wrong ASP
'I sent him the wrong food'

We will not go into the question of how these cases are handled, and the problem is left open for further research.

uration can be created thanks to the syntactic raising of R to v, which gives rise to a V-V complex. The present analysis then predicts that the reversal of arguments is not possible unless a compound verb is formed. In fact, the inverse realization of agent and theme is impossible in a simple non-RVC clause, where only one transitive predicate appears.

(41) *Taotao zhui/xia/sha le Youyou.*
Taotao chase/threaten/kill ASP Youyou
(i) 'Taotao chased/threatened/killed Youyou'
(ii) *'Youyou chased/threatened/killed Taotao'

In (41), the postverbal argument cannot count as an agent. This fact naturally follows from our analysis. The transitive verbs bear two $\theta$-roles and take two arguments. In this case, the number of arguments matches the number of $\theta$-roles, and thus, no A-movement takes place below vP and thus multiple $\theta$-role assignment is not implemented. If the predicate encodes an unaffected meaning, as in *zhui* 'chase' or *xia* 'threaten', one argument is assigned an agent role by v, and the other argument is assigned a theme role by V, thus obtaining the structure [$_{vP}$ agent [$_{VP}$ theme [$_{RP}$ ]]]. If the predicate carries an affected meaning, as in *sha* 'kill', one argument is assigned an agent role by v and the other argument is assigned an affected theme role by R, obtaining the structure [$_{vP}$ agent [$_{VP}$ [$_{RP}$ affected-theme ]]]. In either case, owing to the absence of a $\theta$-role that V or R can assign to its Spec, A-movement into the open argument slot below vP does not take place even if it does not violate the condition on equidistance. It turns out then that the agent unambiguously c-commands the other argument, and hence only the agent can be attracted to Spec-TP for the purpose of fulfilling the EPP requirement imposed on T, and thus (41i) is the only interpretation available for (41).

In this section, we have discussed how our proposed syntactic analysis can account for the four conceivable interpretations for (36)[=(1)] are derived, while ruling out the unavailable one. In our analysis, syntactic structures available for RVCs are responsible for deriving all the available interpretations, and $\theta$-role assignment strictly follows the thematic hierarchy, since Spec-vP, where an agent role is assigned, is projected above Spec-VP, where a theme role is assigned, and Spec-VP is located above Spec-RP, where an affected theme role is assigned. The available interpretations are derived without positing the causative hierarchy allowing a thematic hierarchy violation. The proposed analysis can also treat the fact that possible interpretations for RVCs are affected by an intervening negator (27) and topicalization (32), which obviously fall outside the realm of Li's lexical analysis.

# 4 Subsidiary RVC constructions

Thus far, our discussion has focused on RVC constructions consisting of transitive $V_1$ and resultative $V_2$, which involve argument sharing. In this section, we will turn to RVCs consisting of an intransitive verb plus a resultative verb and transitive RVC constructions with $\theta$-role suppression. In both cases, a causer, which looks like an unselected argument on the surface, can be introduced under certain conditions. These variants of RVCs show different argument realization patterns but their syntactic behaviors fall out naturally in the present analysis.

## 4.1 Intransitive RVCs

It should be noted at the outset that at least three different variants of RVC constructions can be constructed from intransitive RVCs (like *tiao-fan* 'jump-bored', *pao-po* 'run-worn.out' and *ku-xing* 'cry-awake'), where the first verb is intransitive, as (42) illustrates.

(42) a. *Zhangsan tiao-fan le.*
Zhangsan jump-bored ASP
'Zhangsan jumped and as a result he is bored'
b. *Zhangsan pao-po le zhei shuang xie.*
Zhangsan run-worn.out ASP this CL shoes
'Zhangsan ran and as a result this pair of shoes is worn out'
c. *Emeng ku-xing le mama.*
nightmare cry-awake ASP mother
'The mother cried and as a result she woke up by a nightmare'

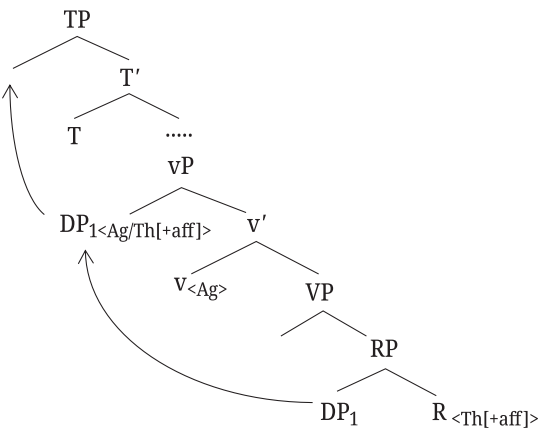
In (42a), *Zhangsan* is the agent of *tiao* 'jump' and the theme of *fan* 'bored'. In (42b), *Zhangsan* is the agent of *pao* 'run' and *zhei shuang xie* 'this pair of shoes' is the theme of *po* 'be worn out'. In (42c), *mama* 'mother' counts as the agent of *ku* 'cry' as well as the theme of *xing* 'awake', and *emeng* 'nightmare' is identified as an external causer (Note that *emeng* 'nightmare' in (42c) is neither the argument of *ku* 'cry' nor the argument of *xing* 'awake' because it is *mama* 'mother', but not *emeng* 'nightmare', that performs the action of crying, resulting in the state of being awake.)

The three intransitive RVC variants in (42) are made available on the grounds that $V_1$ selects only one argument. The intransitive $V_1$ leaves one argument slot open in the verbal structure, and thus, allows an extra non-selected argument to appear because RVCs can include up to two arguments in the clause, i.e. intransitive

RVCs can include one argument selected by $V_1$, or can introduce an extra argument, which is not thematically related to $V_1$, alongside the argument of $V_2$.

Let us now discuss how the three variants of intransitive RVCs in (42) are derived. First, given the premise that unergative verbs include vP as well as VP (Chomsky 1995; Hale and Keyser 1993), the derivation in (43) can be posited for (42a).

(43)



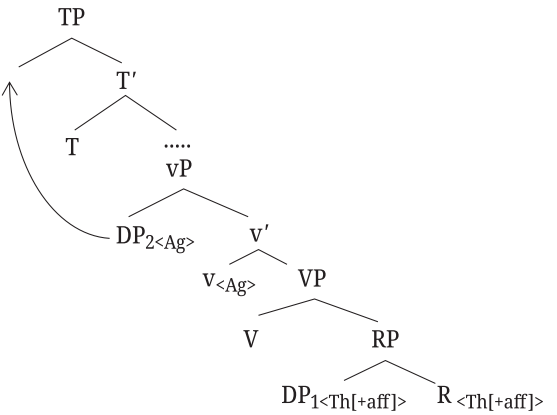

(42a) has only one argument *Zhangsan*, and this argument must first appear in Spec-RP (to receive an affected theme role) and is subsequently raised to Spec-vP (to receive an agent role). *Tiao* 'jump' is an unergative verb, so V does not bear any *θ*-role to assign to an argument. $DP_1$ is merged with RP and moves to vP, and as a result, it carries <Ag/Th[+aff]>. Since (42a) is an intransitive clause with just one argument, T Case-licenses $DP_1$ in Spec-vP. If $DP_1$ is further moved to TP to satisfy the EPP requirement imposed on T, (42a) is derived. Note that if the EPP-driven movement of $DP_1$ does not take place, ungrammaticality results.

(44) **Tiao-fan* *le* *Zhangsan.*
jump-bored ASP Zhangsan
Intended: 'Zhangsan jumped and as a result he is bored'

In (44), the agent argument cannot appear in the postverbal position in the absence of another argument that can fill the subject position. Thus, (43) is the only derivation available for (42a).

Secondly, (42b) represents a case where two arguments appear in intransitive RVCs. In this type of intransitive RVC, one argument is base-generated in Spec-RP, and the other argument in Spec-vP, and we can posit the structure in (45) for (42b).

(45)




$DP_2$ in Spec-vP is assigned an agent role, and is attracted to Spec-TP, while $DP_1$ remains in Spec-RP where it is merged. Only $DP_2$ can be moved to Spec-TP, since $DP_2$ c-commands $DP_1$ and not conversely. $DP_1$ is not an argument selected by the first verb. As argued by Hale and Keyser (1993), unergative verbs are capable of taking a non-subcategorized object in English, since v associated with unergative verbs can Case-license it. This property of unergative verbs follows from Burzio's generalization that the verbs that assign a *θ*-role to the subject can assign accusative Case to an object (Burzio 1986). This also applies to Chinese RVCs with intransitive $V_1$. For intransitive RVCs, the generalization is that if v assigns an agent role, it can assign accusative Case to an argument (i.e. since v is active, it can Case-license an argument). In (45), $V_1$ is unergative and v bears an agent role to an argument in vP. Thus, T and v can Case-license $DP_2$ in Spec-vP and $DP_1$ in Spec-RP, respectively, although $DP_1$ is not assigned a thematic role by V. The derivation in (45), which gives rise to the intransitive RVC clause in (42b), is legitimate.

Under the present analysis, it is further predicted that in (42b), the agent argument cannot appear in postverbal position since there is no copy of *zhei shuang xie* 'this pair of shoes' c-commanding *Zhangsan*. This prediction is borne out, as (46) is unacceptable.

(46) **Zhei shuang xie pao-po le Zhangsan.*
this CL shoes run-worn.out ASP Zhangsan
Intended: 'Zhangsan ran and as a result he was worn out by this pair of shoes'

The affected theme *zhei shuang xie* does not appear in a structural position higher than the agent *Zhangsan* in the derivation, and hence is not construed as an argument that can be attracted by T. Accordingly, in (42b), the reversed realization of the agent and the affected theme arguments is not possible.

Furthermore, note that a *ba*-sentence can be built from the variant of the intransitive RVC in (42b), as (47) indicates.

(47) *Zhangsan ba zhei shuang xie pao-po le.*
Zhangsan BA this CL shoes run-worn.out ASP
'Zhangsan ran and as a result this pair of shoes was worn out'

In (42b), since the argument *zhei shuang xie* 'this pair of shoes' appearing in Spec-RP receives an affected theme role, it is possible for this argument to occur with *ba*, as in (47), for *ba* takes an affected argument as its post-*ba* DP (see section 3.2).

In the variant of the intransitive RVC in (42c), the agent appears to the right of the complex verb, and an external causer to the left of it. Although the external causer is neither the argument of $V_1$ nor the argument of $V_2$, (42c) is grammatical. Then, the question is why such an external causer can appear in (42c). By way of answering this question, observe that the same causer argument can appear in a causative sentence like (48).

(48) *Emeng rang mama ku de henbushufu.*
nightmare cause mother cry DE sick
'The nightmare made the mother cry and as a result she got sick'

(48) is a causative construction which does not include a V-V compound. We assume that the causative sentence has the clause expressing the caused event embedded under the causative verb.

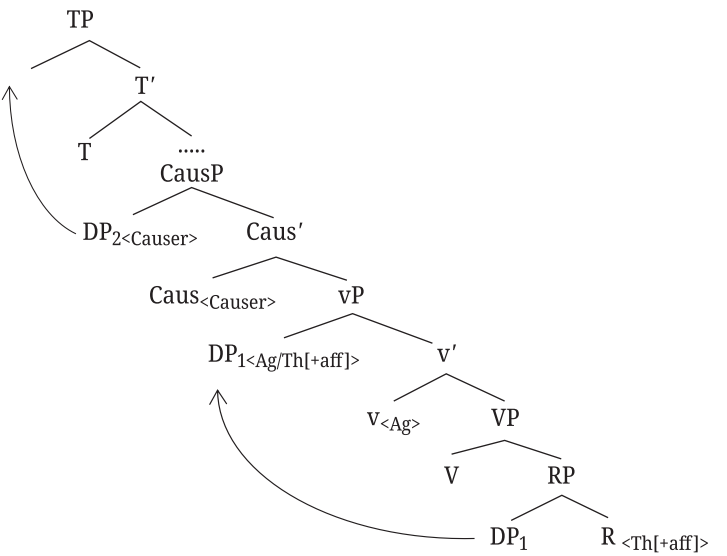
(49) $[_{TP}\ DP_2\ [. . . . .\ [_{CausP}\ DP_2\ CAUS\ [_{TP}\ \ DP_1\ [_{vP}\ \ DP_1\ \ [_{VP}\ \ [_{RP}\ DP_1\ \ ]]]]]]]$

In the causative construction, the embedded verb is intransitive, and does not assign a theme role, which means that Spec-VP is not available as a landing site of A-movement. Thus, $DP_1$ generated in Spec-RP is moved to Spec-vP to receive an agent role. Then $DP_1$ is attracted by the embedded T and appears in the embedded Spec-TP. $DP_2$ is assigned a causer role in CausP and then is moved to the matrix Spec-TP for it is attracted by the matrix T.

In (48), the arguments are realized in a way similar to those in (42c), in the sense that the preverbal causer is followed by the agent argument of the verb *ku* 'cry'. In addition, (42c) expresses the same causative relation as (48). Given these similarities, we propose that an invisible causative verb appears above the vP in the RVC construction in (42c), and that the external causer is assigned a "causer" role by an invisible causative verb in CausP projected above vP. We suggest that no TP projection appears in the embedded clause, since it falls into the subclass of V-V compound constructions. This analysis is dismissed by Li (1995), but we suggest that it is viable since it can capture the word order facts involving an unselected causer.

On this proposal, what looks like an unselected causer – the causer which cannot be taken by $V_1$ (**Emeng ku le* 'Nightmare cried') or $V_2$ (**Emeng xing le* 'Nightmare awoke') – is introduced into CausP. The causative verb in CausP is not overtly realized, since RVCs have the restriction that the verbal complex can include only two overtly realized component verbs. By positing that the external causer is base-generated in CausP positioned above vP, we can account for the word order of the RVC in (42c).[13] To be concrete, in (42c), the derivation proceeds, as illustrated in (50). (cf. Li 1995).

(50)




In (50), $DP_1$ is merged with RP, and is moved to vP; hence $DP_1$ is understood to be the agent of *ku* 'cry' and the affected theme of *xing* 'awake'. The external causer is assigned a causer role by Caus in CausP. T cannot attract the agent $DP_1$, since the causer $DP_2$ is the argument closer to T than $DP_1$, which is the agent of the verb *ku* 'cry'. Given that the intransitive $V_1$ selects only one argument, there is a sense in which the invisible causative verb should introduce a causer argument in (42c). In (50), T Case-licenses the causer argument $DP_2$ in CausP. In addition, the agent argument of *ku* 'cry' is Case-licensed by the Caus-head. The Caus-head is the Case-

**13** Not all causative sentences can have causative RVC counterparts due to the lack of overt indication of causative relations. Pragmatically plausible causative relations need to be established for causative RVCs to be acceptable.

licenser of accusative Case, since it is the verbal head positioned immediately below T (section 3.1). (42c) is well-formed, for (50) is a legitimate derivation.

Li (1995) argues, on the basis of (51a), which seems to be similar to (42c), that the causer subject actually receives a thematic role from $V_1$, although it does not look like the argument of $V_1$.

(51) a. *Taotao de gushi xiao-si wo le.*
Taotao's story laugh-die me ASP
'Taotao's story made me laugh to death' (Li 1995:262)

b. *Taotao de gushi zui xiao ren.*
Taotao's story most laugh people
'Taotao's story made people laugh most (=was the funniest)'
(Li 1995:263)

Li (1995) argues that *xiao* 'laugh' can have a causative use, and can express the meaning of 'make. . .laugh' in (51b). In light of this fact, Li claims that *xiao* 'laugh' can assign a causer role to *Taotao de gushi* 'Taotao's story' in (51a), which means that this causer subject is construed as an argument of $V_1$. Attractive as Li's analysis may seem at first sight, the fact is not general enough to cover a case like (42c), and hence, his account for (51a) cannot be extended to (42c). In fact, the unacceptability of (52) suggests that the subject in (42c) should not receive a causer role from $V_1$ *ku* 'cry'.

(52) **Emeng zui ku ren.*
nightmare most cry people
Intended: 'Nightmare made people cry most'

Example (52), where *ku* 'cry' is intended to take *emeng* 'nightmare' as its argument, is not acceptable. The unacceptability of (52) illustrates that in a sentence like (42c), *ku* 'cry' does not license the occurrence of the external causer *emeng*.

In this connection, observe that (42c) permits only the construal where the external causer appears in the subject position and the agent in the postverbal position. It is in fact not possible to derive from (42c) a sentence like (53), where the agent is placed in TP in lieu of the external causer.

(53) **Mama ku-xing le emeng.*
mother cry-awake ASP nightmare
Lit. 'The mother cry-awake nightmare'

The external causer is not thematically related to vP, VP or RP, but is selected by an invisible causative verb. This external causer unambiguously c-commands the

agent from its *θ*-position, so that the agent can never count as an argument to be attracted by T. Hence, (53), where the agent has been attracted to Spec-TP by T, is unacceptable.

Furthermore, given that $DP_1$ in (50), which corresponds to *mama* 'mother' in (42c), is an affected argument, it is expected that $DP_1$ will be able to occur with *ba*. This expectation is correct, as shown in (54).

(54) *Emeng* *ba* *mama* *ku-xing* *le.*
nightmare BA mother cry-awake ASP
'The mother cried and as a result she woke up by a nightmare'

Under the present proposal, the *ba*-construction is expected to be well-formed, since *mama* is first-generated in Spec-RP to receive an affected theme role, and then is moved up to Spec-vP to receive an agent role. The agent argument *mama* satisfies the affectedness condition for the formation of the *ba*-construction, and hence (54) is well-formed.

In brief, intransitive RVC constructions have derivations that are not available for transitive RVC constructions, since $V_1$ is intransitive and takes only one argument. When the intransitive RVC has only one argument, the sole argument serves as the agent of $V_1$ and the affected theme of the resultative $V_2$ at the same time, as in (42a). Alternatively, the intransitive RVC can have an affected theme argument selected by the result verb $V_2$, independently of an agent argument of $V_1$, as in (42b). In this case, the preverbal argument counts as the agent of $V_1$ and the other postverbal argument counts as the unaffected theme of $V_2$. Furthermore, if a causer is added to the intransitive RVC, as in (42c), the causer appears preverbally, and the postverbal argument counts as the agent of $V_1$ as well as an affected theme of $V_2$. These facts are accounted for straightforwardly in our proposed analysis.

## 4.2 Transitive RVCs with *θ*-role suppression

As noted in section 3.1, transitive RVCs have a transitive $V_1$, which selects two arguments, alongside $V_2$, which selects one argument, but they allow at most two arguments to appear in the clause (while oblique arguments are additionally admitted in certain cases). The transitive RVC in (1) discussed in section 3.1 involves argument sharing. In this type of RVC, one argument receives two *θ*-roles, one from $V_1$ and the other from $V_2$, which gives rise to three distinct interpretations. Nevertheless, argument sharing is not the only option available for transitive RVCs. In fact, some transitive RVCs make recourse to *θ*-role suppression rather than argument sharing. In this section, we will discuss how transitive RVCs invoking *θ*-role suppression are derived.

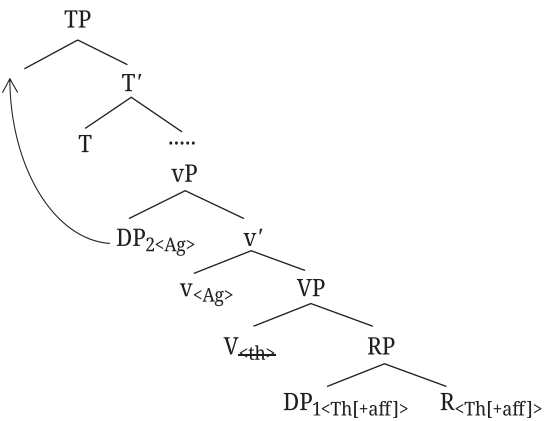
Transitive RVCs denote a caused change of state, so they need to have an affected argument even if *θ*-role suppression can be invoked. The question to be raised at this point is how argument suppression cases are handled. We submit that in RVCs with *θ*-role suppression, *θ*-roles which $V_1$ bears may be suppressed, and that no argument in the clause counts as carrying the suppressed *θ*-roles, i.e. the presence of arguments with the suppressed *θ*-roles is implied only semantically. Some examples are given in (55).

(55) a. *Lao-Wei tai-zhong le jianbang.*
Wei carry-swollen ASP shoulder
'Wei made his shoulders swollen from carrying (something)'
(Williams 2014: 49)

b. *Chi ji dun miantiao ye chi-bu-qiong ta.*
eat several meal noodle also eat-NEG-poor him
'Eating a few meals of noodles won't make him poor from eating'
(Williams 2014: 39)

In (55a), the theme argument of $V_1$ is suppressed, and *jianbang* 'shoulder' is the unaffected theme of $V_2$. No argument is taken to be the theme of $V_1$ although the sentence implies that *Lao Wei* carried "something". Since the theme of $V_1$ is suppressed, the derivation proceeds, as depicted in (56).

(56)




In (56), $DP_2$ in Spec-vP is assigned an agent role, and is attracted to Spec-TP, while $DP_1$ remains in Spec-RP where it is assigned an affected theme role. T Case-licenses $DP_2$ and v Case-licenses $DP_1$ in Spec-RP. Note that even though the theme argument of $V_1$ is not realized, v is capable of Case-licensing $DP_1$, since it selects an agent argument, i.e. the subject (see section 4.1).

In the configuration in (56), only $DP_2$ can be moved to Spec-TP, since $DP_2$ c-commands $DP_1$ and not conversely. In (56), there is no copy of $DP_1$ that c-commands $DP_2$. This leads to the prediction that no argument reversal will be possible for (55a). This prediction is borne out, as (57) shows.

(57) **Jianbang tai-zhong le Lao-Wei.*
shoulder carry-swollen ASP Wei
'Wei carried (something) and as a result his shoulder got swallen'

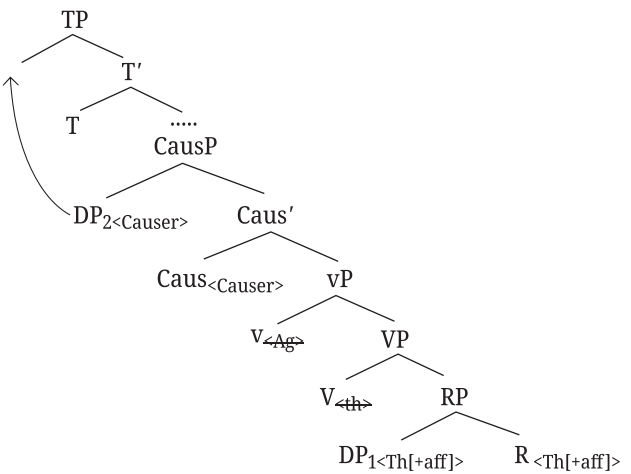
Since the transitive RVC in (55a) does not involve argument sharing, the only interpretation available is the one in which the preverbal argument is the agent of $V_1$ and the postverbal argument, the affected theme of $V_2$. (55a) is similar to an English resultative like *John drank the teapot dry*, where the object of *drink* is not realized.

(55b) is a case where both arguments of $V_1$ are suppressed. In (55b), neither of the two arguments is associated with $V_1$; *chi ji dun miantiao* is a causer (which is not selected by $V_1$ or $V_2$), and *ta* is the affected theme of $V_2$. Under the present analysis, the causer is introduced by an invisible causative verb. This analysis gains support from the fact that (55b) has a causative counterpart like (58).

(58) *Chi ji dun miantiao ye rang ta chi-bu-qiong de.*
eat several meal noodle also cause him eat-NEG-poor DE
'Eating a few meals of noodles won't make him poor from eating'

If the first causer argument is introduced by an unpronounced causative verb, (55b) is derived from the structure in (59).

(59)



In (59), no argument occurs in vP or VP. Since a causative verb appears above vP, it Case-licenses $DP_1$ in RP, and T Case-licenses $DP_2$ in TP. Again, no copy of the causer argument is c-commanded by the unaffected argument of R, so that (55b) does not allow argument reversal, as the ungrammaticality of (60) shows.

(60) **Ta ye chi-bu-qiong chi ji dun miantiao.*
he also eat-NEG-poor eat several meal noodle
'Eating a few meals of noodles won't make him poor from eating'

Importantly, in (55b), an invisible causative verb introduces the first causer argument, and $V_2$, the second affected argument. Thus, (55b) implies that "someone" eats "something" due to the presence of $V_1$, although the clause does not include any argument associated with $V_1$.[14]

Note that the affected theme argument appears on the right of *chi-bu-qiong* in (55b), while it appears on the left of *chi-bu-qiong* in (58). The difference in the order of the affected theme argument follows naturally, given that in the causative construction, the causative verb takes TP as its complement, but not the V-V compound in (55b). In the causative construction in (58), the affected theme argument generated in Spec-RP is attracted by the embedded TP, so that it appears to the left of *chi-bu-qiong*.

(61) $[_{TP}\,[\ldots..\,[_{CausP}\,DP_2$ Caus $[_{TP}\,DP_1\,[_{vP}\,[_{VP}\,[_{RP}\,DP_1$ ]]]]]]]

On the other hand, the affected theme argument in the RVC construction remains in situ, because the embedded clause does not include TP, as depicted in (59).

There is another type of RVC where the agent role of $V_1$ is suppressed. In (62), the agent argument is not realized, and *na dun fan* 'that meal' counts as the theme argument of $V_1$ as well as a causer, and *Zhangsan* as the affected theme of $V_2$.

(62) *Na dun fan chi-qiong le Zhangsan.*
that CL meal eat-poor ASP Zhangsan
'That meal got Zhangsan poor (from someone/himself eating it)'

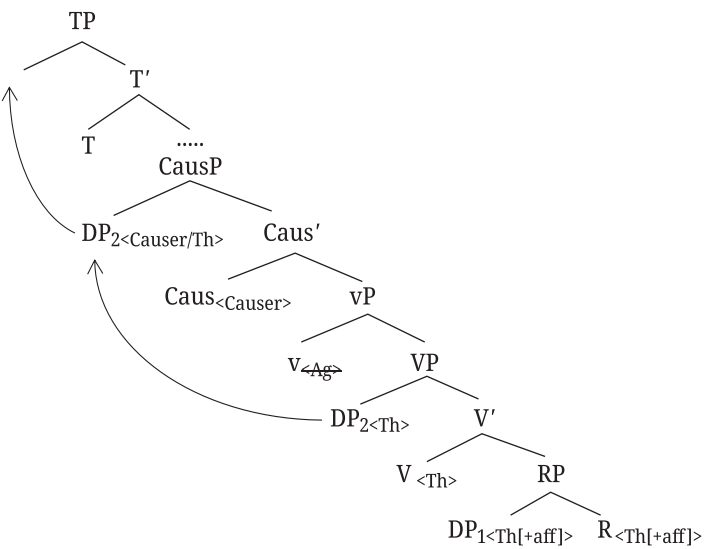
**14** Her (2007) utilizes the two mechanisms of Marked Hierarchy of Argument Functions and the Unified Mapping Principle to fix the thematic interpretations of the arguments in RVCs. This analysis allows an argument of $V_1$ to be suppressed, but cannot treat a case like (55b), in which both the arugments of $V_1$ are suppressed.

One question to be addressed here is how the preverbal argument is realized. The preverbal argument is taken to be the theme of $V_1$. In (62), an agent of $V_1$ is not realized, which means that v does not assign an agent role to any argument. Since Caus is a head selected by T, Caus should be held responsible for Case-licensing a theme argument appearing in Spec-VP. In light of these considerations, we propose that the preverbal argument *na dan fan* is introduced by V and is raised to an invisible CausP projected above vP. This view gains support from the fact that (62) has a causative counterpart, as in (63).

(63) *Na dun fan rang Zhangsan chi-qiong le.*
that CL meal cause Zhangsan eat-poor ASP
'That meal made Zhangsan poor (from someone/himself eating it)'

No argument appears in Spec-vP syntactically owing to the fact that the agent role of $V_1$ is suppressed. Then, the derivation in (64) is posited for the transitive RVC in (62).

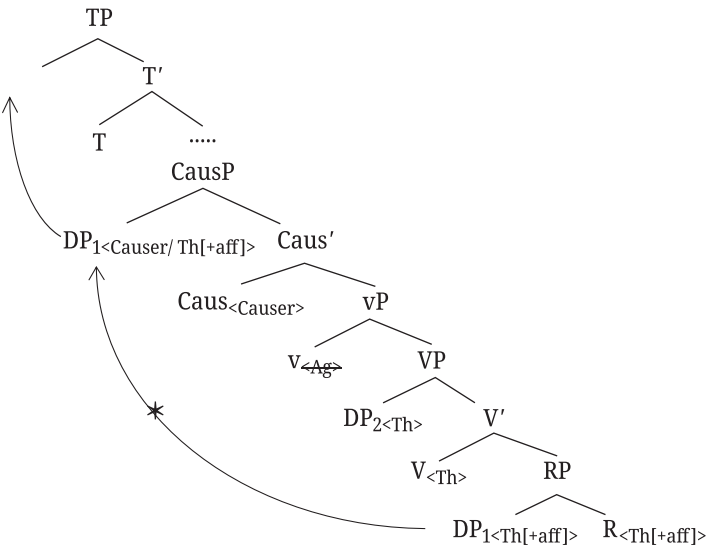
(64)




In (64), the theme argument of $V_1$ appearing in Spec-VP is moved to Spec-TP by way of Spec-vP. For Case, T Case-licenses $DP_2$ and the Caus-head Case-licenses $DP_1$ in Spec-RP. In this configuration, no copy of the causer $DP_2$ c-commands the affected theme $DP_1$, and thus no argument reversal is allowed.

Note, however, that there is another conceivable derivation for (62), where the affected theme $DP_1$ is moved to Spec-CausP across $DP_2$, and further to Spec-TP.

(65)




If this derivation were possible, (66) would be acceptable. But the fact of the matter is that (66) is not acceptable.

(66) **Zhangsan chi-qiong le na dun fan.*
Zhangsan eat-poor ASP that CL meal
'Zhangsan became poor (from someone/himself eating that meal)'

The unacceptability of (66) suggests that the lower $DP_1$ cannot be moved to Spec-CausP across $DP_2$. Note that in Chinese, RVCs are formed by compounding two verbs, one denoting an activity and the other denoting a result. The invisible causative verb adds an extra causative meaning in such a way that the eventuality denoted by the V-V complex is caused by the causer selected by the causative verb. If the verbal compound formed with $V_1$ and $V_2$ cannot be further compounded with a verb expressing another eventuality, it is reasonable to assume that the v-V-R complex head is not raised to (invisible) Caus to form a bigger verbal complex.

(67) $[_{TP}$ $[_{CausP}$ Caus $[_{vP}$ v-V-R $[_{VP}$ $DP_2$ V-R $[_{RP}$ . . .$DP_1$ R ]]]]]

If the v-V-R complex is not raised to Caus, Spec-VP and Spec-vP are not rendered as equidistant from Caus, and Caus can attract $DP_2$ but not $DP_1$, Accordingly, the derivation where $DP_1$ is moved to Spec-CausP is not available, the result of which is that (66) is not acceptable.

The difference in the position of the affected theme argument between (62) and (63) is attributed to the presence or absence of TP in the embedded clause. In the RVC construction in (62), the theme argumement appears in Spec-RP without movement into a higher position in the absence of TP. Hence, the affected theme argument is placed to the right of *chi-qiong*. On the other hand, the embedded clause in the causative construction in (63) includes TP.

(68) $[_{TP}\ [. . . . .\ [_{CausP}\quad DP_2\quad Caus\ [_{TP}\quad DP_1\ [_{vP}\quad [_{VP}\quad [_{RP}\ DP_1\quad ]]]]]]$

In (68), the affected theme argument $DP_1$ is moved into Spec-TP in the embedded clause, so that it appears to the left of *chi-qiong* in (63).

One notable fact about RVCs involving *θ*-role suppression is that the presence of arguments is implied semantically although they are not realized syntactically. In fact, implied arguments are not expected to be syntactically realized given that at most two arguments can be Case-licensed by RVCs, as noted in section 3. In (55a), a semantically implied argument can refer to an entity that can be identified contextually, and in (55b), its reference can be any individual. In (62), the implied argument, i.e. the agent who performs the action of eating, can refer to any individual identifiable in the context. Since the affected argument *Zhangsan* is also a plausible candidate, the implied argument can be taken to refer to *Zhansan*, but this is not necessary.

The "existential" implications for the (implied) arguments of $V_1$ are akin to the interpretation obtained in an English middle sentence like *This bread cuts easily*, where the agent argument is not realized via suppressing the agent *θ*-role to be assigned to an argument (Keyser and Roeper 1984). In this English middle construction, the implied agent is any identifiable individual or can be identified with an argument in the clause when it contains a plausible candidate, as in *This bread cuts easily, at least for Mary* (Fellbaum 1986). Given the parallelisms in interpretation between RVCs with *θ*-role suppression and English middles, it is reasonable to state that suppression of *θ*-roles of RVCs makes the arguments bearing the *θ*-roles unavailable in the syntax, and that the existential implications arise for the unrealized arguments.

Overall, the discussion shows that transitive RVCs invoking *θ*-role suppression differ from transitive RVCs with argument sharing, in that the possibility of interpretation is limited to one in which the postverbal argument counts as the unaffected theme of $V_2$, while the preverbal argument is an unselected causer or the agent of $V_1$. Remarkably, RVCs with *θ*-role suppression do not allow the interpretation where the preverbal argument counts as the affected theme of $V_2$, nor does it allow the argument reversal interpretation. These facts naturally follow from our

proposed analysis. In our proposal, RVCs with $\theta$-role suppression do not allow one argument to move across another for the purpose of $\theta$-role assignment. Since no argument receives $\theta$-roles from both $V_1$ and $V_2$ in such RVCs, they can have only one interpretation.

## 5 Conclusion

In this chapter, we have argued that the behavioral patterns of Chinese resultative verb compounds i.e. the thematic relations of arguments and their syntactic positions are determined according to where they are assigned $\theta$-roles. We propose that tense can attract the closest argument, where the distance is assessed by a c-command relation relative to the $\theta$-positions of arguments (cf. Chomsky 1995). With transitive RVCs invoking argument sharing, one argument is generated in Spec-vP or Spec-VP, and another argument in Spec-RP is moved to either Spec-vP or Spec-VP, which is unfilled by the former argument. The argument in Spec-RP can be moved to Spec-vP across the argument in VP by virtue of head raising of R to v, which makes both Spec-VP and Spec-RP visible to v. The agent argument appearing in vP, if it receives an affected theme role from the result verb $V_2$, can be realized in non-subject position because the other argument in Spec-VP may be construed as closer to T if its closeness is evaluated relative to the copy of the agent argument in RP, which is left by its movement to Spec-vP.

While transitive RVC constructions with *zhui-lei* 'chase-tired' can have three out of four conceivable interpretations by virtue of argument sharing, there are cases where not all conceivable interpretations are available. Topicalization and the negative potential *bu* 'cannot' affect the possibility of interpretations in transitive RVCs. With intransitive RVCs, three distinct patterns of argument realization are available, owing to the fact that $V_1$ is intransitive, which takes only one argument. Furthermore, RVCs involving $\theta$-role suppression do not allow the interpretation where the preverbal argument counts as the affected theme of $V_2$, nor does it allow the argument reversal interpretation. The facts of RVCs with $\theta$-role suppression also follow naturally given that they do not involve argument sharing, i.e. no argument receives a $\theta$-role from both $V_1$ and $V_2$.

In our proposal, the argument realization patterns of RVCs are accounted for with reference to their syntactic structures. The proposed syntactic analysis allows us to dispense with the assumption about an extra Cause-Affectee role assignment rule, by way of which Li (1995, 1999) attempts to account for the argument realization patterns of RVCs. One important consequence derived from the present proposal is that non-agent subject RVCs are not derived by violating the thematic hier-

archy, but that their apparent violation comes from a non-agent argument moving across the agent argument, which is made available by syntactic head raising to form the complex v-V-R. The non-agent subject RVCs represent the cases of argument reversal, where one argument is moved across another via A-movement for $\theta$-role assignment.

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# Chapter 7
# (Re)sultatives

**Abstract:** Intuitively, there is a difference between resultatives with transitive verbs (e.g., *John hammered the metal flat*) and resultatives with intransitive verbs (e.g., *John ran himself thin*). Adding to this distinction, we find transitive resultatives permit the use of the English verbal prefix *re-*, while intransitive resultatives do not (e.g., *John rehammered the metal flat* but **John reran himself thin*). This provides new evidence that each kind of resultative must invoke a distinct structure, consistent with non-uniform approaches to the structures of transitive and intransitive resultatives (e.g., Randall 2010), and contrasting with unified structural approaches that treat all resultatives as reflecting either transitive (e.g., Embick 2004; A. Williams 2015) or intransitive (e.g., Hoekstra 1988; Kratzer 2005) uses of verbs. This is because *re-*, like many other verbal prefixes, requires that the verb it is part of take an internal argument (Keyser and Roeper 1984, 1992; Levin and Rappaport 1986). Since transitive but not intransitive resultatives can host *re-*, our evidence supports the view that transitive resultatives are structurally transitive and intransitive resultatives are not. Our non-uniform structural analysis of resultatives captures this with multidominance, which allows an argument to be simultaneously the verb's object and the resultative secondary predicate's subject in transitive resultatives (cf. Baker 1989; Hiraiwa and Bodomo 2008; Hopperdietzel 2022; Johnson 2018; Wilson 2021).

**Keywords:** Resultatives, *re-*, lexical semantics, prefixes, multidominance, syntax, morphology, semantics

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# 1 Introduction

There is an intuitive difference between the two kinds of resultatives shown in (1–2) (Carrier and Randall 1992; Randall 2010).

(1) Transitive resultatives:
   a. *The winemakers stomped the grapes flat.*
   b. *I shot him dead.*
   c. *The barber cut the customer's hair short.*
   d. *The grocer ground the coffee beans into a fine powder.*
   e. *They painted their house a hideous shade of green.*
   f. *Sue hammered the metal flat.*

(2) Intransitive resultatives (odd for some):
   a. *The kids laughed themselves into a frenzy.*
   b. *The old man snored himself awake.*
   c. *He drank himself sick.*
   d. *The joggers ran their Nikes threadbare.*
   e. *He sneezed his handkerchief soggy.*
   f. *Ken drank the teapot empty.*

This difference has to do with the transitivity of the verbs in sentences without resultative secondary predicates. When the resultative predicate is omitted, the transitive resultatives in (1) have grammatical uses as transitive verbs with the kinds of objects they take in (1). In contrast, the intransitive resultatives cannot be used with the object determiner phrases in (2) when the resultative predicate is omitted.

(3) Transitive verbs:
   a. *The winemakers stomped the grapes.*
   b. *The chef sliced the cheese.*
   c. *The barber cut the customer's hair.*
   d. *The grocer ground the coffee beans.*
   e. *They painted their house.*
   f. *Sue hammered the metal.*

(4) Intransitive verbs:
   a. *The kids laughed* (**themselves*).
   b. *The old man snored* (**himself*).
   c. *He drank* (**himself*).
   d. *The joggers ran* (**their Nikes*).

e. *He sneezed* (**his handkerchief*).
f. *Ken drank* (??*the teapot*).

Some analyses propose a unified structure for both kinds of resultatives. Such analyses treat all resultatives as structurally either intransitive (Hoekstra 1988; Kratzer 2005) or transitive (Embick 2004; A. Williams 2015). In contrast, other approaches (Carrier and Randall 1992; Randall 2010) propose transitive and intransitive resultatives have different underlying structures.

We provide additional evidence for a non-uniform approach, where transitive and intransitive resultatives have different underlying structures, following Carrier and Randall (1992) and Randall (2010). This evidence comes primarily from the English verbal prefix *re-*, which carries an internal argument requirement (Carlson and Roeper 1980; Keyser and Roeper 1992; Randall 2010). As it turns out, *re-* is compatible with transitive resultatives but not intransitive resultatives. This finding is incompatible with a uniform structural analysis of both kinds of resultatives, and it supports analyses where the verb in transitive resultatives directly takes an internal argument, while the verb in intransitive resultatives does not.

We then observe that putting *re-* together with post-VP *again* supports an analysis of transitive resultatives where the internal argument of the verb is shared with the resultative predicate (Carrier and Randall 1992; Hopperdietzel 2022; Randall 2010; Wilson 2021). We present additional novel evidence from the behavior of resultatives in Dutch and Japanese that supports this view (Marcel den Dikken, p.c.; Hideki Kishimoto, p.c.). Thus, novel evidence from *re-* and non-English languages supports a non-uniform approach to resultatives, whereby transitive but not intransitive resultatives take a direct object (Carrier and Randall 1992; Randall 2010). We propose a novel syntactic analysis in line with this approach, which captures this argument sharing behavior structurally, using multidominant representations (Hiraiwa and Bodomo 2008; Johnson 2018; Wilson 2021).

## 2 *Re-* and its internal argument requirement

When *re-* is prefixed to an English verb in a sentence, the resulting sentence has the same asserted content as before, but with a presupposition that an event described by the verb it attaches to occurred at a prior time as well. Let us consider some examples.

(5) *The detective reexamined the scene.* (repetitive)
≈ "The detective examined the scene, and someone had examined the scene before."

(6) *The new owner resold the car.* (repetitive)
≈ "The new owner sold the car, and someone had sold the car before."

(7) *George relit the lamp.* (restitutive)
≈ "George lit the lamp, and the lamp was lit before."

(8) *The worker reopened the window.* (restitutive)
≈ "The worker opened the window, and the window had been open before."

Much like the well-examined adverb *again* (Ausensi, Smith, and Yu 2021; Ausensi, Yu, and Smith 2020, 2021; Bale 2007; Beck 2005, 2007; Beck and Gergel 2015; Beck and Johnson 2004; Beck and Snyder 2001; Patel-Grosz and Beck 2019; Smith and Yu 2021, 2022; von Stechow 1995, 1996; Yu 2020; Yu and Smith 2020; Zhang 2022), *re-* is capable of producing both repetitive and restitutive presuppositions (Lechner, Spathas, Alexiadou, and Anagnostopoulou 2015). Repetitive presuppositions are those in which the prior eventuality invoked by *re-*'s presupposition is an event, while restitutive presuppositions are those in which it is a state.[1]

We note that also like *again* (Bale 2007), *re-*'s presupposition excludes the external argument (Carlson and Roeper 1980). Consider (9), which provides a prior context supporting the sentence/paraphrase in (5).

(9) *Context*: A well-known public figure had been murdered. Due to the high profile of the case, the chief of police herself went to examine the crime scene before anyone else had. However, she was unable to find anything. She then assigned her finest detective to do another pass, so . . .
*The detective went and reexamined the scene.* (repetitive)

**1** While our focus in this chapter is not primarily acquisition, we think it worth noting that restitutive readings of modifiers like *again*, *back*, and *re-* are apparent from early ages, and are subject to interesting overgeneralizations like the following (from the CHILDES Hall corpus [MacWhinney 2000]):

(i) CHI (4;9): *now le(t)s fix it back again.* (Hall/BlackWork/mis.cha:3382)

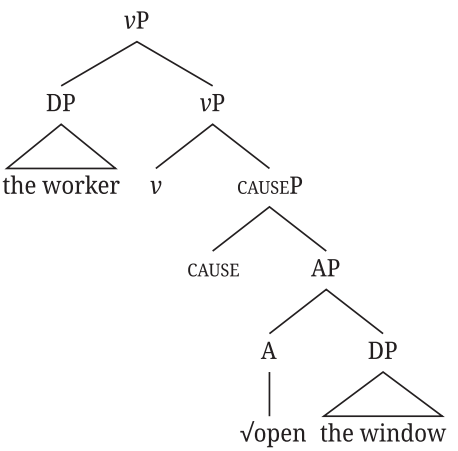
In addition, we know of informal experiments by undergraduates that have indicated that five-year-old children understand complex patterns regarding the scope possibilities of indefinites with *re-* (see section 4.1 for a more detailed discussion), such as the following:

(ii) a. *Who wrapped a present again?* (someone who wrapped one or two presents)
b. *Who rewrapped a present?* (someone who wrapped one present twice)

A presupposition that includes the external argument is not satisfied in (9): the detective had never previously examined this crime scene. Nevertheless, we find (9) felicitous in the context described, where the only prior event available to satisfy *re-*'s presupposition in the context is the one of the chief examining the scene.[2] This fact allows us to conclude that *re-*'s presupposition takes scope below the introduction of the external argument.

While the examples of repetitive readings in (5–6) show that *re-* is able to modify a verb, the examples in (7–8) show that it is able to modify sublexical elements, another parallel between *re-* and *again* (Carlson and Roeper 1980; von Stechow 1995, 1996). This is because there are readings of these examples where *re-*'s presupposition may be satisfied by a repeated state, rather than requiring a full repetition of the dynamic eventuality the verb describes. In particular, (8) is compatible with a context where the window was created and installed open, then closed, and finally opened for the first time. In such a context, there is a only a single dynamic eventuality of *opening*. Nevertheless, *re-*'s presupposition is felicitous, and this is because there have been two eventualities of the window being open. This falls in line with a standard lexical decomposition of *open* that looks as follows (e.g., von Stechow 1995, 1996; Beck and Johnson 2004):

(10)




If *re-* attaches to roots like √*open*, its presupposition will scope over only the open state described by this root, and produce the reading in (8).

2 An important concern we put aside here has to do with why there is a strong tendency in out-of-the-blue contexts to favor interpreting *re-*'s presupposition as including the external argument if this is not part of *re-*'s semantics. We do not propose an explanation for this, but believe it is likely to reside in pragmatics rather than semantics.

On the whole, the previous examples show that *re-* is very similar in meaning to *again*. However, unlike *again*, *re-* carries an internal argument requirement: *re*-V must take an internal argument, even if the verb alone typically does not (Carlson and Roeper 1980; Keyser and Roeper 1984, 1992; also cf. the Sole Complement Generalization of Levin and Rappaport 1986, as well as Horn 1980 and Săvescu Ciucivara and Wood 2010). We demonstrate this in (11).

(11) a. *Mary ran for five miles.* (unergative, no *re-*)
b. **Mary reran for five miles.* (unergative, *re-*)
c. *Mary ran the length of the race course.* (transitive, no *re-*)
d. *Mary reran the length of the race course.* (transitive, *re-*)
e. *The film ran.* (unaccusative, no *re-*)
f. *The film reran.* (unaccusative, *re-*)

In (11), we see an example of *re-*'s internal argument requirement when it applies to the verb *run*. *Run* may be used as an unergative, as in (11a). However, when *rerun* is used unergatively, as in (11b), the result is ungrammatical. *Run*, however, also has a transitive use, as in (11c), where the internal argument is a determiner phrase referring to the path of the running event. *Rerun* is grammatical in such a structure, as in (11d). In addition, *run* can be used as an unaccusative, as in (11e). Since unaccusatives' single argument is internal, using *re-* with unaccusative *run* is grammatical, as borne out in (11f).[3]

Indeed, Keyser and Roeper (1984, 1992) revealed that *re-* was linked to a variety of syntactic restrictions. The constraint that *re-* takes a single determiner phrase object, articulated by Keyser and Roeper (1984) and then by Levin and Rappaport (1986), is clearly syntactic. Thus, in addition to a distinction between arguments and adjuncts (applying to manner, location, place, etc.), Keyser and Roeper (1992) added a third kind of verbal complement position, which could capture this syntactic diversity. We review their proposal briefly.

There is a range of phenomena whose semantics is quite various, but whose syntax is heavily constrained, including particles (*look up*), resultatives (*make DP unhappy*/*sing*), benefactives and recipients (*make me a cake*), small clauses (*consider DP intelligent*), clausal complements (*decide that Bill is innocent*), and serial verbs (*let go*). Keyser and Roeper (1984) argued that these semantically diverse phenomena nevertheless cohere syntactically, just as prefixes fall into one syntactic position but have a multitude of semantic behaviors. The syntactic commonality of these phenomena is reflected in their common exclusion of *re-*.

**3** We thank Janet Randall (p.c.) for examples (11e–f).

(12) a. **Yolanda rephoned up the office.* (particle)
b. **Jim retold me a story.* (dative)
c. **Trisha resaid that she was gone.* (clausal complement)
d. **Hector remade John mad.* (small clause)
e. **Frank relet go of the handle.* (serial verb)
f. **Just remake believe!* (serial verb)
g. **Recome sing!* (serial verb)

And, importantly, all of these are mutually exclusive to one another.

(13) a. **John made Bill mad up.* (cf. *make up*) (*small clause + particle)
b. **John gave me my allowance up.* (cf. *give up*) (*dative + particle)
c. **John revealed that Bill was gone up.* (*clausal complement + particle)
d. **John shouted me that Bill was gone.* (*clausal complement + dative)

Thus, syntactic efficiency offers a way to reuse a single underlying structure without necessarily claiming a single coherent semantic analogue. These structures, despite expressing many different kinds of meanings, nevertheless make use of a single underlying syntax, as shown by their complementary distribution.

Keyser and Roeper (1984, 1992) thus argue that along with arguments and adjuncts, there is an obligatory syntactic abstract clitic position (abstract precisely because it has no single syntactic or semantic basis) that hosts a complement element that carries these various verbal extensions.

(14) Verb { Prepositional particle, $DP_{Dative}$, Adjective, Verb, Clausal complement }

That is, particles that carry telicity, datives that carry interest or recipient meanings, causatives which introduce verbs (*make it run*/**remake it run*), and complements that carry propositions (**redecide that he was nice*). Notably, this position covers all the basic Noun, Verb, Adjective, and Preposition categories.

Now, if prefixes are another element like these, the mutually exclusive character of many prefixes and these verbal complements is captured if we posit that these all originate in the abstract clitic position, and therefore the presence of one excludes the others and leads to a complementary distribution. It is the very fact of their complementary distribution that supports the view that they have a common underlying syntax. To take an example, the idea is that, e.g., *replay the game* starts as [[*play* [*re-*]][$_{NP}$ *the game*]], and *re-* is preposed, much like particles may be extra-

posed to the right.[4] This analysis, like most movement analyses, might be open to a multidominance treatment, such as the one we suggest in section 3.3. By hypothesis, the abstract clitic position is part of Universal Grammar and does not have to be learned. And none of the excluded cases has been reported in the now extensive acquistion literature, further bolstering this proposal.

Sharp evidence favoring this perspective specifically in the account of *re-* comes from the fact that *again* can be combined felicitously with all of these cases (particles, datives, etc.), despite the fact that its meaning is very similar to *re-*'s (cf. (12)).

(15) a. *Yolanda phoned up the office again.* (particle)
b. *Jim told me a story again.* (dative)
c. *Trisha said that she was gone again.* (clausal complement)
d. *Hector made John mad again.* (small clause)
e. *Frank let go of the handle again.* (serial verb)
f. *Just make believe again!* (serial verb)
g. *Come sing again!* (serial verb)

What distinguishes the two is thus not semantics, but instead the fact that *re-* originates in the abstract clitic position, while *again* does not, with *re-* achieving a similar meaning through optional Adverb subcategorization of all verbs (formerly referred to as Redundancy Rules).

In addition to *re-*'s ability to prefix verbs that have independent transitive uses, *re-* is also able to impose a direct internal argument when combined with a head that usually does not take one. For instance, the verb *think* does not occur with a direct internal argument, but instead must introduce its internal argument by means of the preposition *about*, as shown in (16).

(16) a. *Olivia thought *(about) the solution.*
b. *Olivia rethought (*about) the solution.*

**4** Note that we have discussed a single abstract clitic position. However, *re-* can be applied multiple times, e.g., *reredo*, and occur with other prefixes as well, e.g., *reoverwhelm*. To account for such recursive uses, one possibility would be to say that we do not insert *re-* but instead *re-**, where the * indicates one or more open-ended repetitions of *re-* (Samuel Jay Keyser, p.c.). Another possibility would be to allow the syntax to regenerate the prefix in the abstract clitic position once it has been vacated. Serial insertion will then predict order variation (e.g., *reoverwrite*, *overrewrite*), but the absence of prefixes with particles, which do not move at this point, and therefore block *re-* insertion (**overwrite up*, **rewrite up*). However, additional constraints would be needed to prevent overgeneration of structures like those in (12–13). We leave this as an open question here.

However, unlike *think*, *rethink* does take a direct internal argument, and cannot introduce that argument using the preposition *about*, unlike its un-*re*-prefixed counterpart, as shown in (16b). *Re-* is not exceptional in this behavior; many other English verbal prefixes similarly either have internal argument requirements and/or are able to create a transitive verb from an intransitive source, either verbal or nominal, as in (17) (Carlson and Roeper 1980; Ahn 2022).

(17) a. *Norman *(over)thought the issue.*
b. *Norman thought *(about) the issue.*
c. *Heather *(out-)Kennedied Kennedy.*
d. **Heather Kennedied Kennedy.*
e. *Cassandra *(be)moaned her fate.*
f. *Cassandra moaned *(about) her fate.*
g. *John (mis)managed the store.*
h. *John (*mis)managed to lose his whole fortune.*

For implementational purposes, we adopt an analysis that treats this internal argument requirement as part of *re-*'s semantics (Lechner, Spathas, Alexiadou, and Anagnostopoulou 2015). Ultimately, then, the semantics of *re-* is very similar to most analyses of *again*. But while *again* combines with predicates of eventualities to yield a predicate of eventualities (type ⟨*st*,*st*⟩), *re-* combines with a function from entities to predicates of eventualities to yield a function from entities to predicates of eventualities (type ⟨⟨*e*, *st*⟩, ⟨*e*, *st*⟩⟩).[5] We compare the denotations of *again* and *re-* in (18).

**5** We note that our semantic approach to *re-*'s internal argument requirement differs in an important way from the approach adopted in Săvescu Ciucivara and Wood (2010), who suggest that *re-* attaches directly to a determiner phrase. We have some reasons to favor our approach. First, the data we will present in support of our analysis show that *re-* can scope over a determiner phrase with respect to the event the verb denotes, yet may exclude the result state predicated of that same determiner phrase, in contrast to the generalization reported in Săvescu Ciucivara and Wood (2010). If *re-* applied to the determiner phrase itself, this would be difficult to account for. Our semantics captures this behavior straightforwardly, as we describe in section 3.3. Second, if *re-* itself took a determiner phrase argument, it would be difficult to account for multiple stacked uses of *re-*, as in (i):

(i) *The student did her homework, but the teacher didn't find it satisfactory, so she redid it. The second attempt was just as unsatisfactory, so the student reredid her homework and finally got it accepted.*

*Reredid* contains two *re*-s, yet there is only one determiner phrase internal argument, *her homework*. If *re-* itself must combine with a determiner phrase object, it is unclear how the internal argument requirement of the second *re-* could be met. In our approach, the result of combining *re-* with the verb creates a function of an identical semantic type, ⟨*e*, *st*⟩, and thus another *re-* can be applied without further semantic stipulation.

(18) a. $[\![\textit{again}]\!] = \lambda P_{\langle st\rangle}.\lambda e : \exists e'[\tau(e') \prec \tau(e) \wedge P(e')].P(e)$[6]
b. $[\![\textit{re-}]\!] = \lambda P_{\langle e,st\rangle}.\lambda x.\lambda e : \exists e'[\tau(e') \prec \tau(e) \wedge P(e', x)].P(e, x)$
c. $[\![\textit{reexamine}]\!] = \lambda x.\lambda e : \exists e'[\tau(e') \prec \tau(e) \wedge \text{examine}(e', x)].\text{examine}(e, x)$
d. $[\![\textit{reexamine the scene}]\!] =$
$\lambda e : \exists e'[\tau(e') \prec \tau(e) \wedge \text{examine}(e', \text{the scene})].\text{examine}(e, \text{the scene})$

Thus, the result of applying *re-* to a verb like *examine* is a function from entities to predicates of eventualities that are true of examinings of that entity and which presuppose that the entity was examined before (18c). This will produce the correct meaning in a case like *reexamine the scene*, where the result is a description of eventualities of examinings of the scene that presuppose the scene was examined before. Note that, following (9), the presupposition of *re-* does not include the external argument. To be clear, this semantic analysis is parallel to the syntactic analysis we discussed earlier, with neither intended as a substitute for the other. Together, they illustrate an interface between the syntax and semantics of *re-*.

*Re-*'s internal argument requirement appears to be syntactically rather strict in cases where post-verbal arguments are overt. The requirement is not satisfied by small clause subjects, clauses, adverbs, or datives/applicatives[7] (Carlson and Roeper 1980; Keyser and Roeper 1984, 1992), in line with the abstract clitic hypothesis. Only determiner phrase internal arguments suffice, as in the previous examples. In each of these cases, an alternative way of expressing the intended meaning can be achieved using *again*; thus, semantic ineffability is not the reason for the ungrammaticality of *re-*.

(19) a. *Marsha* (**re*)*watched the movie.*
b. *Marsha* (**re)watched the movie play*.
c. *Marsha watched the movie play again.*

(20) a. *Victoria* (**re*)*thought that Abby was tired.*
b. *Victoria thought that Abby was tired again.*

(21) a. *Victoria* (**re*)*behaved badly.*
b. *Victoria behaved badly again.*

**6** This denotation, or something quite similar to it, is widely adopted in work on *again* (Ausensi, Smith, and Yu 2021; Ausensi, Yu, and Smith 2020, 2021; Bale 2007; Beck 2005; Beck 2007; Beck and Gergel 2015; Beck and Johnson 2004; Beck and Snyder 2001; Patel-Grosz and Beck 2019; Smith and Yu 2021, 2022; von Stechow 1995, 1996; Yu 2020; Yu and Smith 2020; Zhang 2022).

**7** According to one line of analyses, datives may represent a particular instance of a small clause structure (Beck and Johnson 2004; Harley 2002; Kayne 1984, ch. 7; Larson 1988, 1990, 2014).

(22) a. *Victoria* (**re*)*gave Abby a dollar.*
b. *Victoria gave Abby a dollar again.*

Interestingly, the behavior of *re-* when post-verbal material is overt suggests its utility in examining the syntactic representation of omitted internal arguments. We note a contrast in the possibility of *re-* with anaphoric internal arguments and with existential internal arguments. For instance, the following examples show that *re-* is ungrammatical with implicit internal arguments that are interpreted as existentially bound.

(23) a. *Anthony* (**re*)*hunted.*
b. *Brittany* (**re*)*painted.* (under the reading "Brittany was a painter")
c. *Carlos* (**re*)*baked.* (under the reading "Carlos was a baker")

In these cases, the reading of the sentence without *re-* entails the existence of something smoked, painted, or baked, without the sentences presupposing the existence of some specific thing that was smoked, painted, or baked. With implicit internal arguments of this sort, *re-* results in ungrammaticality.

In contrast, some verbs allow internal arguments to be dropped when there is a context that allows for recovery of a specific antecedent for the dropped argument. One such verb is *consider*.

(24) a. **Victoria considered.* (in an out-of-the-blue context) (Janet Randall, p.c.)
b. ?*Thinking about her options, Victoria considered for a moment.*

Interestingly, *reconsider* with no overt internal argument is possible, unlike for the verbs in (23). However, as we might expect given the behavior of *consider* in (24), this is only the case when the dropped argument can be recovered from a context.

(25) a. **Victoria reconsidered.* (in an out-of-the-blue context)
b. *Initially, Victoria was very excited about the job offer, but given that she would have to move away from her hometown, she reconsidered.*

This suggests that the implicit internal argument in (24b) is syntactically and semantically projected outside of the verb root, as suggested by Borer (2020), Collins (2021), and Roeper (2022); thus, *re-* can apply to the verb root, and the resulting verb *reconsider* can take the syntactically and semantically projected implicit

argument as its argument, which will satisfy *re-*'s internal argument requirement.[8] In contrast, this is not possible for existential implicit arguments like those in (23), which supports views that these have a different syntactic status from anaphoric implicit arguments.

In addition, although there is much existing evidence for the unaccusative hypothesis (Perlmutter 1978), we also note that the internal argument requirement of *re-* provides an additional syntactic diagnostic of the distinction between intransitive verbs whose single argument is external (unergative) and whose single argument is internal (unaccusative). In particular, the only intransitive verbs that are grammatical with *re-* are unaccusative (or else have an implicit internal argument of the sort in (25b), and are thus arguably syntactically transitive).[9] The examples in (26–27) demonstrate this.

(26) Unergative verbs:
  a. **The jogger reran.*
  b. **The horse rejumped.*
  c. **John reshouted.*
  d. **The jogger retripped.*
  e. **The guard dog rebarked at the intruder.*
  f. **The cat remeowed.*

(27) Unaccusative verbs:
  a. *The lake refroze.*
  b. *The magician reappeared.*
  c. *The coma patient finally reawoke.*
  d. *The door reopened.*

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**8** However, this particular case may well be exceptional for another reason. Consider the contrast between (25b) and (i) (Janet Randall, p.c.):

(i) * *Initially, Victoria was very excited about the job offer, but given that she would have to move away from her hometown, she considered again.*

This is compatible with the use of *re-* in (25b) not being synonymous to *again*; we suggest that *reconsider* may be synchronically analyzed as a distinct verb from the compositional combination of *re-* + *consider*. Indeed, *reconsider* seems to mean something more complex like "have doubts regarding" and not simply "consider again."

**9** We note that this property is not bidirectional – i.e., not all unaccusative verbs seem equally grammatical with *re-*.

(i) a. ?* *The block tower refell to the ground.*
  b. ?* *The wizard who had been resurrected eventually redied.*

e. *John reemerged from the shadows.*
f. *The leaves regrew on the trees.*

# 3 *Re*-sultatives

## 3.1 Evidence for a structural difference between transitive and intransitive resultatives

Having examined some of the properties of *re-*, we return to the structure of resultatives. While some approaches treat transitive and intransitive resultatives as structurally identical (e.g., Embick 2004; Kratzer 2005; Williams 2015), other approaches have found evidence of structural differences between the two (e.g., Carrier and Randall 1992; Levin and Rappaport Hovav 1995, ch. 2; Randall 2010). Carrier and Randall (1992), for example, show that transitive resultatives can form the basis of middles, adjectival passives, and nominalizations, while intransitive resultatives cannot. The following examples from Carrier and Randall (1992) and Levin and Rappaport Hovav (1995, ch. 2) demonstrate.

(28) Based on transitive resultatives:
a. *This table wipes clean easily.*
b. *This metal pounds flat easily.*
c. *a wiped-clean table*
d. *pounded-flat metal*
e. *The table looked wiped clean.*
f. *The metal remained pounded flat.*
g. *The watering of tulips flat is a criminal offense in Holland.*
h. *The Surgeon general warns against the cooking of food black.*

(29) Based on intransitive resultatives:
a. **This type of pavement runs thin easily.*
b. **Newborns tick awake easily.*
c. **This teapot drinks dry in no time at all.*
d. **the run-thin pavement*
e. **a ticked-awake newborn*
f. **a drunk-dry teapot*
g. **The pavement looked run thin.*
h. **The insomniac remained ticked awake night after night.*
i **The pitcher looked drunk dry.*

j. **The drinking of oneself sick is commonplace in one's freshman year.*
k. **The jogging craze has resulted in the running of a lot of pairs of Nikes threadbare.*

These patterns support an analysis where transitive resultatives involve a verb that takes an internal argument, and thus support the kinds of derivational options available to such verbs in general. In contrast, intransitive resultatives pattern differently, behaving like verbs that take small clause complements, as shown in (30).

(30) Based on verbs with small clause complements:
a. **This movie watches play easily.* (cf. [19b])
b. **Physicists consider intelligent easily.*
c. **a watched-play movie*
d. **considered-intelligent physicists* (cf. *physicists considered intelligent*)
e. **The watching of the movie play was the only thing John could think to do.*
f. **The consideration of physicists intelligent is only sometimes justified.*

Adding to this sort of evidence, we observe that *re-* is grammatical when added to transitive resultatives, but ungrammatical when added to intransitive resultatives.[10]

(31) *re-* added to transitive resultatives:
a. *The chef resliced the cheese thin.*
b. *The grocer reground the coffee beans into a fine powder.*
c. *They repainted their house a hideous shade of green.*
d. *Sue rehammered the metal flat.*

**10** Janet Randall (p.c.) notes that many of our examples (e.g., [31a–c], and others throughout) are not resultatives, strictly speaking, but rather pseudoresultatives (Irimia 2012; Levinson 2007; Randall 2010). The characteristic difference between resultatives and pseudoresultatives is semantic in nature, with resultatives having an "extent" interpretation (e.g., Sue hammered the metal to such an extent that the metal became flat), while pseudoresultatives do not. While we agree that this is an interesting semantic distinction, our tests for scope here using *re-* and *again* show no differences between the structures that underlie these distinct semantics (though see Levinson 2010). The scope of our analysis should thus cover both kinds of structures (though there may yet be structural differences that our diagnostics are not sensitive to, which could support differences between these structures at levels lower or higher than the ones which our diagnostics target).

(32) *re-* added to intransitive resultatives:
   a. **The joggers reran themselves thin.*
   b. **The kids relaughed themselves into a frenzy.*
   c. **He resneezed his handkerchief soggy.*
   d. ?**Ken redrank the teapot empty.*

*Re-*'s internal argument requirement means that the contrast between (31) and (32) provides additional evidence for the view that transitive resultatives are truly transitive, in that they contain a verb that takes a direct determiner phrase internal argument (as well as an external argument, introduced in the usual way). In contrast, intransitive resultatives are not transitive: their verbs do not take a direct determiner phrase internal argument. If they did, we should expect *re-* added to intransitive resultatives to be grammatical, contrary to (32). Instead, the behavior of *re-* with different kinds of resultatives is consistent with analyses like Carrier and Randall (1992), Levin and Rappaport Hovav (1995, ch. 2), and Randall (2010), which recognize a distinction between transitive and intransitive resultatives. Additionally, we note that uniform analyses not only posit an identical syntactic analysis for transitive and intransitive resultatives, but often an identical semantic analysis as well. Thus, even attempting to locate the ungrammaticality of (32) in semantics rather than syntax would require distinct analyses for transitive and intransitive resultatives.

In sum, the evidence that transitive resultatives involve transitive uses of verbs comes not only from their ability to support *re-*, but also from their ability to form the basis for middles, adjectival passives, and nominalizations that has been noted in prior work. In contrast, intransitive resultatives pattern like verbs that take small clause complements in supporting none of these options. Thus, multiple sources of syntactic evidence converge on each kind of resultative involving distinct structures, and speak against unified analyses.

## 3.2 Towards structural analyses of resultatives

We now turn to the question of what the proper structural analyses of transitive and intransitive resultatives are, with our primary focus on transitive resultatives. (We will ultimately endorse a small clause analysis for intransitive resultatives, following Hoekstra 1988 and Kratzer 2005.) One possible account for the structure of transitive resultatives would posit that in cases like those in (32), *re-* combines not with a verb to yield a transitive verb, but instead combines with a complex transitive predicate such as [*hammer flat*], with the resulting structure being [*re-*[*hammer flat*] DP] rather than [[*re-hammer* DP] *flat*] (and likewise for the other cases) (cf. A.

Williams 2015, ch. 15). While such complex transitive predicate structures have been proposed in the context of uniform analyses in earlier work (Embick 2004; A. Williams 2015), nothing would necessarily rule out the complex transitive predicate structure forming the basis of transitive resultatives, with the semantic or structural operations necessary to produce these structures being unavailable for some reason with intransitive resultatives like those in (32).

However, the complex transitive predicate approach turns out to be empirically untenable, as shown in (33). Here, we see that *re-*'s presupposition in transitive resultatives only necessarily includes the verb and the internal argument; the resultative secondary predicate may be excluded from the presupposition (Carlson and Roeper 1980; Keyser and Roeper 1992). This is incompatible with *re-* scoping over the resultative secondary predicate, as would be entailed by a structure like [*re-*[*hammer flat*] DP], as in the complex transitive predicate analysis. We underline the relevant parts of the examples in (33) that show that *re-*'s presupposition excludes the resultative secondary predicate.[11]

(33) a. *Sue rehammered the nail flat after Ann hammered it crooked the first time.*
b. *Sue rehammered the metal flatter than Bill had hammered it before.*
c. *They repainted their house green after having painted it a grotesque shade of yellow.*
d. *The grocer reground the coffee beans into a fine powder, after first grinding them into small chunks.*

**11** An anonymous reviewer asks about *re-*'s compatibility with contexts where the result state is repeated, like the following:

(i) *Context*: The blacksmith hammered the metal flat and handed it off to his apprentice. However, the apprentice was new and was unable to correctly shape the metal. So, he handed back to the blacksmith, and . . .
*The blacksmith rehammered the metal flat.*

We do not deny that (i) is felicitous in the given context, which might be taken as supporting a view where *re-* can modify not only the verb and object to the exclusion of the result state (as in [33]), but also modify the verb, object, and result state all together (as apparently occurs in [i]). However, it is difficult to show that the reading in (i) is distinct from the kind of readings achieved in (33). This is because any situation which satisfies the presupposition that the metal was hammered flat before will necessarily satisfy the presupposition that someone hammered the metal before. It could, therefore, be the case that the presupposition in (i) only refers to the prior eventuality of hammering the metal, which is of course compatible with the prior hammering being one which resulted in the metal being flat, though it does not guarantee it. Any preference to interpret sentences like (i) in out-of-the-blue contexts as invoking a presupposition that also includes the result state may, we suggest, arise from pragmatic processes.

The ability to exclude the resultative secondary predicate is consistent with the general pattern that *re-*'s presupposition can exclude any number of modifiers (Carlson and Roeper 1980).

(34) *Context*: Randall cooked the roast at home without spices in the morning without interest, in preparation for the potluck that afternoon. Then, in order to ensure it was fresh, when he arrived at the potluck, . . .
*Randall recooked the roast at the party with spices in the evening with gusto.*

Moreover, the exclusion of the result state from *re-*'s presupposition is not unique to English; it also occurs with the Japanese translation equivalent, 直し *naosi* '*re-*, *fix*.'

(35) ジョンは 床を 白く 塗り直した。
*John-wa yuka-o siroku nuri-naosi-ta.*
John-TOP floor-ACC white paint-fix-PST
"John repainted the floor white." (Hideki Kishimoto, p.c.)

Hideki Kishimoto (p.c.) reports that (35)'s most natural interpretation is one where the color of the floor has been changed by the repainting eventuality. This falls in line with the English pattern in (33), and suggests a common underlying structure for resultatives and the location of the verbal affix in both languages, which we take to be an encouraging result. Given this semantic pattern, and assuming a similar semantics for *re-* and 直し *naosi* 're-, fix,' the relevant substructure would have to be [[*re*-V] DP], according to the semantics we adopted in (18b). More precisely, we have shown that the internal argument of a transitive resultative with *re-* is an argument of *re*-V, and not an argument of [*re*-V Res].

Despite this, there is evidence that the same internal argument is also an argument of the resultative secondary predicate. Though *re-* cannot adjoin to resultative secondary predicates (since it is limited to verbal prefixation, though cf. [10]), we can show this using *again*, which is not so limited in distribution. Consider (36).

(36) *Context*: The machine stamped out a flat piece of metal. Christine, being mischievous, went and bent it until it was all lumpy. Stepping in to fix things, . . .
*Sue hammered the metal flat again.* (restitutive)

In (36), no presupposition including Sue or a hammering eventuality is supported by the context: the metal had never been hammered before, nor had Sue done anything to it. Instead, the eventuality that satisfies *again*'s presupposition in (36) is the prior state of the metal being flat, which was true when it came out of the machine.

This presupposition excludes the verb and the external argument, but includes the internal argument and the resultative secondary predicate. Given the standard semantics for *again* in (18a), we may conclude that the internal argument is an argument of the resultative secondary predicate, and that they form a type ⟨*st*,*st*⟩ constituent [DP Res] to which *again* can adjoin.

We are now potentially led to an interesting bracketing paradox: (33) led us to say that [*re*-V DP] is a constituent that excludes the resultative, while (36) has led us to say that [DP Res] is a constituent that excludes the verb. In a standard syntax, these statements cannot both be true of the same structure. Are resultatives structurally ambiguous, being generated in one way with *re-* as in (33) and in a different way with restitutive *again* as in (36)? No. Both sets of facts that lead to the conflicting predictions can be shown to be true in a single example, as in (37), making the ambiguity approach inadequate.

(37) *Context*: The machine made a flat sheet of metal. Christine hammered it until it was all lumpy. To fix this, . . .
*Sue rehammered the metal sheet flat again.*

Here, the context satisfies two presuppositions: (i) a repetitive presupposition paraphrasable as "someone hammered the metal before," and (ii) a restitutive presupposition paraphrasable as "the metal was flat before." The context describes no prior eventuality that is true of the metal becoming flat via a hammering (e.g., referring to a constituent *hammer the metal flat*). Thus, it must be possible for *re-* to modify [*hammer the metal sheet*] apart from [*flat*], while *again* simultaneously modifies [*the metal sheet flat*] apart from [*hammer*] in the very same sentence. Structural ambiguity of the sort just described cannot account for this.

In addition, (37) is not compatible with a ternary-branching approach to transitive resultatives like that of Carrier and Randall (1992). They propose a structure for transitive resultatives like the following:

(38) $[_{VP}\ [_{V}$ *hammer*$][_{DP}$ *the metal*$][_{A}$ *flat*$]]$

If we take the standard view of the scope of modifiers like *re-* and *again* – namely, that their presupposition takes scope over the entire eventuality described by the phrase to which they attach – the structure in (38) cannot produce the readings in (33), (36), and (37). This is because in such a scenario, there is no constituent that would allow *re-* to modify the hammering and the metal to the exclusion of flat (as in [33]) – the minimal constituent that includes the hammering and the metal also includes the resulting flat state. For the same reason, *again* would not be able to modify the state of the metal being flat without also including the hammering

eventuality, though we saw that this is possible in (38). As neither reading is possible on its own, it is apparent that the combination of these distinct presuppositions will not be possible either, incorrectly ruling out (37). To account for these facts, a different sort of structure is required.

Hopperdietzel (2022) discusses a similar pattern found in resultative serial verb constructions in Samoan, which he analyzes as a means construction. Like resultative secondary predication, means constructions express a relationship between an action and its result; where the two structures differ is that in resultative secondary predication, the verb expresses the action and the resultative secondary predicate expresses the result; while in the means construction, the verb expresses the result and a manner adjunct expresses the action. English examples of the means construction are given in (39).[12]

(39) a. *Kim flattened the metal by hammering it.*
b. *Kim opened the door by pushing it.*

In Samoan, the same sort of meaning is expressed via verb serialization, with the initial verb referring to the action/manner of the causing eventuality, and the second verb referring to the result.

(40) a. *Sā solo fa'a-mamā e Malia le laulau.*
PST wipe CAUS-clean ERG Mary ART table.ABS
"Mary cleaned the table by wiping it."
b. *Sā tipi fa'a-pa'ū e Pita le la'au.*
PST cut CAUS-fall ERG Peter ART tree.ABS
"Peter felled the tree by cutting it." (Hopperdietzel 2022, [51])

Interestingly, the exact same modification properties we reported for English in (33) are available in Samoan as well: the Samoan adverb *toe* 'again' is compatible with a high reading where it scopes over both the causing eventuality and the result state (41a), as well as readings where it modifies only the causing eventuality (41b) and modifies only the result state (41c).

**12** It is unclear to us from Hopperdietzel (2022)'s discussion whether the means construction is considered to use a dedicated structure in English, or if it is just the combination of a result-denoting verb with a manner adjunct. For English, we would not consider it to be anything more than the combination of a verb that specfies a result state with an adjunct that expresses a manner verb, though it is clear that its status in Samoan is different. For this reason, one could instead understand (39) as constituting examples of rough translation equivalents of the kinds of things the means construction can express in languages where it is distinct from a VP + manner adjunct.

(41) a. *Context*: Peter and his family were having breakfast at their kitchen table. After the breakfast, the table was full of crumbs, so Peter wiped the table clean. A few minutes later, one of his children spilled some juice on the table. So, Peter wiped the table clean again.

*Sā toe solo~solo fa'a-mamā e Pita le laulau.*
PST again RED~wipe CAUS-clean ERG Peter ART table.ABS
"Peter again cleaned the table by wiping it." (repetitive + restitutive)

b. *Context*: Peter bought a new table from the shop. At home, he put the new table in his living room. It is spotlessly clean. After dinner, the table got very dirty, covered in crumbs and sauce, so Peter wiped the table clean again.

*Sā toe solo fa'a-mamā e Pita le laulau.*
PST again wipe CAUS-clean ERG Peter ART table.ABS
"Peter cleaned the table again by wiping it." (restitutive)

c. *Context*: Peter bought a new table from the shop. At home, he realized the table had some marks on it. Before he returned the table to the shop, he tried to clean it first. He took a cloth and wiped the table, but the table didn't get any cleaner. Therefore, he got himself some soap and put it on the cloth. He wiped the table again and then it became clean.

*Sā toe solo~solo fa'a-mamā e Pita le laulau.*
PST again RED~wipe CAUS-clean ERG Peter ART table.ABS
"Peter cleaned the table by wiping it again." (narrow repetitive)

(Hopperdietzel 2022, [55–57])

Unlike in the English counterpart of the means construction, these modification possibilities are not associated with the use of an overt element that serves as the object of the verb describing the causing eventuality. In fact, Hopperdietzel notes, the Samoan means construction requires that the argument of the verb denoting the causing eventuality must be interpreted as identical to the argument of the verb denoting the result state (42). This contrasts with English, where the arguments of the causing eventuality and of the result state are both overt, and need not be coreferential (43).

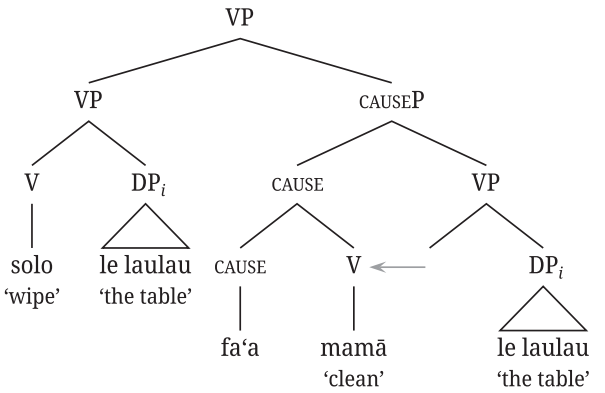
(42) **Sā lamu (pulu) fa'a-pa~pa'e e le teine nifo.*
PST chew gum CAUS-RED~white ERG ART girl teeth.ABS
Intended: "The girl whitened her teeth by chewing (gum)."

(Hopperdietzel 2022, [61a])

(43) *Kim cut herself by carving the pumpkin.* (Hopperdietzel 2022, [62])

To account for this property of the Samoan means construction, Hopperdietzel proposes that a determiner phrase corresponding to the sole argument of the causing eventuality and the result state is present in both VPs: the one that hosts the verb denoting the causing eventuality, and the one that hosts the verb denoting the result state.

(44)




(after Hopperdietzel 2022, [58])

In order to be Case licensed by a single Voice head,[13] the determiner phrase must undergo across-the-board movement to a higher position (not shown in [47]). As across-the-board movement requires the moved phrases to be identical in order to be combined (Ross 1967; E. Williams 1978), this accounts for the fact that there can only be a single argument of both the causing eventuality and the result state. Because, however, this single argument is syntactically present in both VPs, each verb plus determiner phrase combination can be modified independently by *toe* 'again.'

A similar analysis (of resultatives rather than of means constructions) using a different framework can be found in Randall (2010). Randall's framework makes use of linking rules based on conceptual structures associated with words (e.g., Rappaport and Levin 1988). While a full explanation of her framework and analysis is outside the scope of this chapter, the closest analogue in a Minimalist-style approach to syntax and semantics like the one we employ would seem to be one that makes use of a control-like relation between the argument of the verb and the argument of the resultative secondary predicate which will ensure their semantic

**13** We do not review all of Hopperdietzel (2022)'s arguments that there is only a single Voice head present in the Samoan means construction, though we note that (42) itself constitutes one of his crucial pieces of evidence for this claim.

identity. We will instead take a different approach that makes use of multidominance, which avoids some issues with a control-like approach (see Kratzer 2005 for a critique of control-based approaches to resultatives). However, we will note that control-based approaches to resultatives should be consistent with the diagnostics related to *re-* and *again*, to our knowledge. Our data do not directly bear on this question. We adopt multidominance primarily for reasons of maintaining a simpler semantics and a structure that more straightforwardly captures our data.

## 3.3 A multidominant account of transitive resultatives

The spirit of Hopperdietzel (2022)'s analysis would seem to apply no less to the data we have found in English, where we have also shown that in transitive resultatives, the verb and determiner phrase can be modified independently of the resultative secondary predicate at the same time that the determiner phrase and resultative secondary predicate be modified independently of the verb, in (37).

However, we will adopt a different representation for across-the-board movement than Hopperdietzel does, instead following Citko (2005). Citko shows that many of the confusing properties of across-the-board movement can be explained if we allow syntactic representations that permit phrases to have more than a single mother node.[14] In this case, rather than there being two determiner phrases that combine via across-the-board movement, there is a single determiner phrase that is merged in both conjuncts. As Citko (2005) notes, this can straightforwardly account for case-matching effects, the lack of covert across-the-board movement, and the fact that across-the-board movement does not alternate with multiple *wh*-fronting in languages that permit multiple specifiers. A similar set of facts leads us to a multidominant structure for transitive resultatives. Recall that (37) showed that it is possible in a transitive resultative to modify a constituent consisting of [V DP] to the exclusion of Res, while also modifying [DP Res] to the exclusion of the verb. Multidominance allows the determiner phrase to merge with the verb and Res independently in the same structure, thus accounting for these possibilities. In contrast, intransitive resultatives do not show the ability to modify [V DP] to the exclusion of Res (45a), though they do show the ability to modify [DP Res] to the exclusion of the verb (45b).

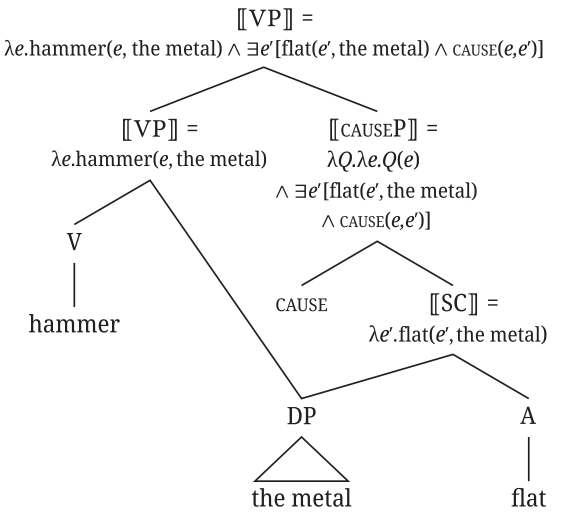
**14** See also Epstein, Groat, Kawashima, and Kitahara (1998); Gärtner (1999); Johnson (2012, 2018); and Starke (2001).

(45) a. *Context*: The city put down a new track of pavement in preparation for the upcoming marathon. Several of the people who planned to participate used the track to practice running with no issues. However, during the actual marathon, . . .
*#The joggers again ran the pavement thin.*
**The joggers ran again the pavement thin.*
*#The joggers ran the pavement again thin.*
*#The joggers ran the pavement thin again.*

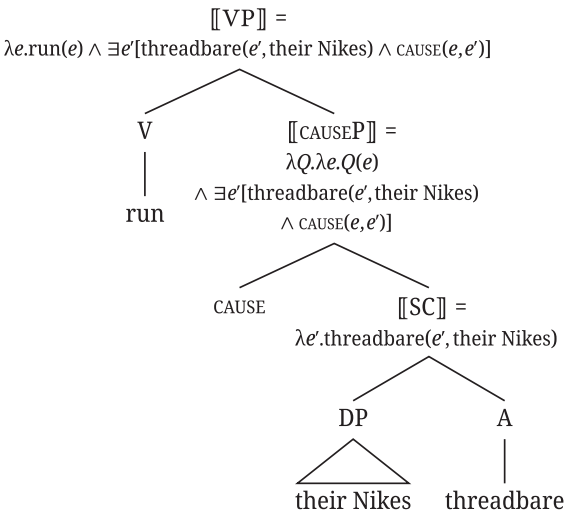
b. *Contex*t: When they put down the new pavement, they didn't do a very good job and it was very thin. But eventually, the city got around to fixing it and made it thicker. But during the marathon, . . .
*The joggers ran the pavement thin again.* (restitutive)

This is entirely consistent with a small clause analysis of intransitive resultatives (Hoekstra 1988; Kratzer 2005). We thus represent the difference between transitive and intransitive resultatives as in (46). Note that nothing special need be added to standard rules of semantic composition to achieve the correct interpretations; standard rules that relate the denotation of a mother node to its two daughters produce the correct result.

(46) a. Transitive resultative: *hammer the metal flat*



b. Intransitive resultative: *run their Nikes threadbare*



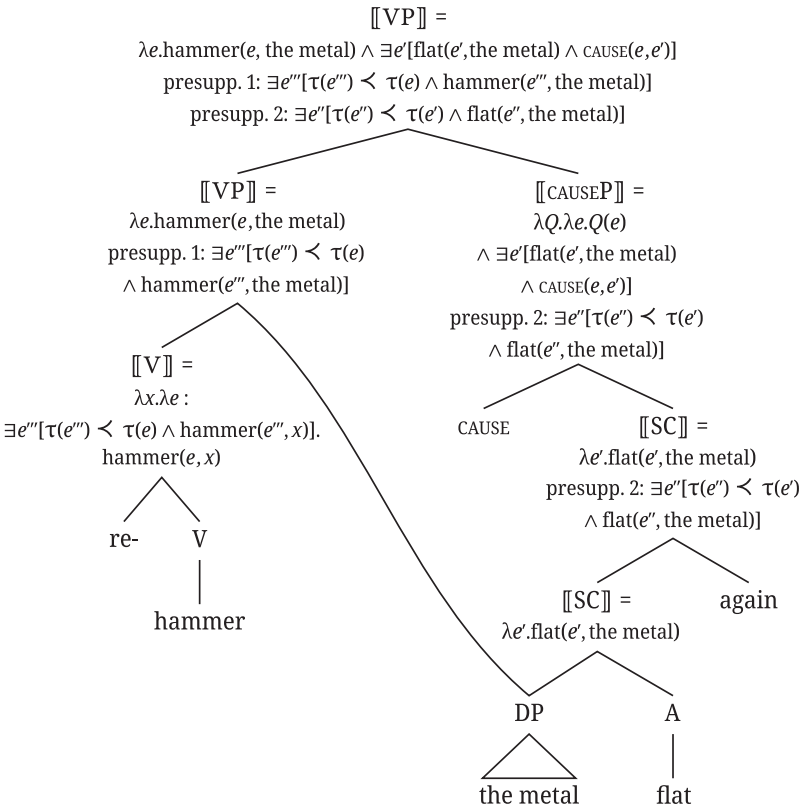

In addition, the structure in (46a) accounts for the correct reading of examples like (37), as shown in (47).[15]

**15** We further note that it is of course possible to use *re-* (and other prefixes, for that matter), recursively, producing sentences like the following:

(i) *Context*: Rong painted the house blue. Deciding blue was not the right color, she repainted the house yellow. Once again unsatisfied with the result, . . .
*She finally re-repainted the house white.*

While the (intentionally simplified) semantics we give for *re-* will not directly predict the correct reading, due to the fact that the presupposition of the prior eventuality is merely existential, we note that an adaptation that treats the eventuality in *re-*'s presupposition as anaphoric would likely be able to capture the right result (Beck 2007) without affecting our analysis. However, we find it worth noting that *re-*'s internal argument requirement must be satisfied in an interesting way in such a case. In particular, if each *re-* had its own internal argument requirement, stacking should be impossible, since the single internal argument *the house* would not be able to satisfy both requirements simultaneously. Multidominance of the internal argument so that it could separately satisfy each *re-*'s presupposition would not work, as the result would not be able to semantically compose (we omit the tree showing this for reasons of space, and because this is not our focus). Instead, we suggest that the internal argument requirements of each prefix can be satisfied by the single internal argument because of the fact that the prefixes are part of the same word, which might allow their syntactic requirements to be unified. While we do not have a full account of how this would work, we note that its generality seems to account equally well for other combinations of prefixes with similar requirements, such as *reoutrun*, *reoverthink*, *overrewrite*, etc., which similarly can use a single internal argument to satisfy all prefixes' internal argument requirements at once.

(47) *rehammer the metal flat again*




## 3.4 Optionally transitive resultatives

Some verbs that occur with resultative secondary predicates can occur independently in both transitive and intransitive uses (Kratzer 2005). Our analysis makes a prediction for such verbs: the acceptability of *re-* with resultatives that make use of optionally transitive verbs will depend on the interpretation of the non-agent determiner phrase. If the non-agent determiner phrase can be interpreted as the internal argument of the optionally transitive verb, *re-* should be acceptable, and the structure will look like (46a). Instead, if the non-agent determiner phrase cannot be interpreted as the internal argument of the optionally transitive verb, it means that the verb is being used intransitively, the structure will look like (46b), and thus adding *re-* should result in ungrammaticality, as its internal argument requirement will remain unsatisfied. We find that these predictions are borne out.

(48) a. *Yolanda sanded the board.*
b. *Yolanda sanded the board smooth.*
c. *Yolanda resanded the board smooth.*

(49) a. **Yolanda sanded the air.*
b. *Yolanda sanded the air full of sawdust.*
c. **Yolanda resanded the air full of sawdust.*

(50) a. *Bill cut the meat.*
b. *Bill cut the meat into smaller pieces.*
c. *Bill recut the meat into smaller pieces.*

(51) a. **Bill cut the meeting.*
b. *Bill cut the meeting short.*
c. **Bill recut the meeting short.* (Carlson and Roeper 1980, [32c])

In (48a), we see that *sand* can be used with the object *the board* in a use where there is no resultative secondary predicate. It can also be used with a resultative secondary predicate, as in (48b). Finally, it can be used with *re-* and a resultative secondary predicate with the object *the board* (48c); we claim this is because *the board* can in fact occur in the object position of *sand* in such a structure, and thus *re-*'s internal argument requirement is satisfied. In contrast, consider (49). Example (49a) shows that it is not possible to use *the air* as the object of *sand* in a use without a resultative secondary predicate. However, *the air* can occur as the non-agent determiner phrase in a resultative use (49b). Nevertheless, it is not possible to add *re-* to this structure, as shown in (49c). This is because adding *re-* would require *the air* to serve as the object of *sand*, which is not possible, as shown in (49a). Thus, (48b) may have the structure in (46a), which permits *re*-prefixation; while (49b) can only have the structure in (46b), which will not permit *re*-prefixation. A similar pair of examples for *cut* is in (50–51). Our analysis correctly accounts for this difference, which uniform analyses would find difficult to explain.

Furthermore, there may be cases where the non-agent determiner phrase may be interpretable as the verb's object only with a certain amount of coercion. In such cases, the acceptability of *re-* should depend on the acceptability of this coercion. We find that this prediction is also borne out.[16]

**16** Janet Randall (p.c.) notes that for her, *redrink* is unacceptable because it is a consumption verb and thereby prohibits reuse of its object. However, we have been able to find naturally occurring examples of this verb as recent as 2012, cited in an online dictionary (en.wiktionary.org/wiki/redrink):

(52) Metonymic reading easy:
  a. *Ken drank the* (*whole*) *bottle.*
  b. *Ken drank the* (*whole*) *bottle empty.*
  c. ?*Ken redrank the* (*whole*) *bottle empty.*

(53) Metonymic reading marginal:
  a. ?*Ken drank the* (*whole*) *teapot.*
  b. *Ken drank the teapot empty.* (cf. Kratzer 2005)
  c. ?**Ken redrank the* (*whole*) *teapot empty.*

(54) No metonymic reading:
  a. **Ken drank himself.*
  b. *Ken drank himself into a stupor.*
  c. ?**Ken redrank himself into a stupor.*

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(i) a. *And then to redrink it above, Eternally fresh from the throne*
(John Wesley, *A Collection of Hymns*, 1797)
  b. *We shall come back! Ev'n now our eyes redrink the dawn*
(*New Catholic World*, 1921)
  c. *Socrates is described as drinking the poison that makes his veins congeal, in contrast with people who quaff luxurious drinks, vomit, and redrink their own bile.*
(James Ker, *The Deaths of Seneca*, 2012)

We suspect that in typical contexts, the presupposition of *re-* may be difficult to satisfy because once something has been drunk, it has been consumed. Nevertheless, there are metaphorical and even certain literal (cf. [i-c]) examples that we take to show this is not a limitation of the grammar in generating a form and meaning for *redrink*, but a limitation of contingent facts about typical situations. In addition, in our examples, the redrinking does not apply to literally the same beverage that was drunk before, but instead whatever beverage was in the container (which in our judgment may differ between the two drinking events):

(ii) *Context*: Ken drank the whole bottle of wine. Leslie filled it up with seltzer, and, expecting it to be more wine, . . .
*Ken redrank the whole bottle.*

Relatedly, we note that there may variation regarding the acceptability of particular examples in (52–54). Though several native speakers we have presented these examples to have agreed with our judgments, a few have found them less clear. We suggest that there may be interspeaker differences regarding the ease of coercion in (52–54), which could lead to either greater or lesser acceptance of particular examples.

While *drink* supports resultative secondary predicates with non-agent determiner phrases that can, marginally can, and cannot receive metonymic readings,[17] the acceptability of *re-* with each varies as a function of how easily the determiner phrase can receive such a reading. When a metonymic reading is easy or conventionalized (52), *re-* is most acceptable; when such a reading is possible but not as prominent (53), *re-* is less acceptable; and when such a reading is completely impossible in a standard context (54), *re-* produces ungrammaticality. Given the link between objecthood and the grammaticality of *re-* with resultatives, this is exactly what we would predict.

Further supportive evidence comes from Dutch, via a novel observation reported to us by Marcel den Dikken (p.c.). He notes a previously unexamined interpretive contrast between resultatives that contain *over-* 're-' and those that do not. In resultatives that lack *over-*, it is possible for the non-agent determiner phrase to be more loosely related to the causing event than in resultatives with *over-*.

(55) a. *Jan heeft de vloer wit geschilderd.*
Jan has the floor white painted
"Jan painted the floor white."
b. *Jan heeft de vloer wit overgeschilderd.*
Jan has the floor white over.painted
"Jan repainted the floor white."
(Marcel den Dikken, p.c.)

Den Dikken (p.c.) considers two possible scenarios: (i) a scenario "in which the paint brush makes contact with the floor directly" (thereby painting it white), and (ii) a scenario "in which the floor becomes white as a result of a clumsy painting event targeted at the ceiling" (where the floor becomes white as a result of paint dripping down from above). Interestingly, while (55a) is compatible with both (i) and (ii), (55b) is compatible only with (i). In our analysis, this would be explained if Dutch *over-* 're-' has the same internal argument requirement as its English counterpart *re-*: the two readings of (55a), which does not include *over-*, correspond to (i) the transitive resultative parse in (46a) and (ii) the intransitive resultative parse in (46b). In contrast, with *over-*, only reading (i), which corresponds to the transitive resultative parse in (46a), is available. The fact that we find supporting evidence for our analysis based primarily on English data from Dutch (55), as well as Japanese (35) and Samoan (41), lends credence to the idea that multidominance is available in transitive resultatives cross-linguistically.

**17** By "metonymic reading," we mean here a reading where a determiner phrase referring to a container can be interpreted as referring to the contents of the container (Levin 2019).

## 3.5 Possible counterexamples to the internal argument requirement

Janet Randall (p.c.; also Randall 1985) raises (56) as possible counterexamples to the generalization that *re-* has an internal argument requirement. Our argument regarding the utility of *re-* as evidence for the particular structural analysis of transitive resultatives we adopt relies crucially on this requirement, so it is important to address these claims, which we do briefly here.

(56) a. *reclarify the problem for me*
b. *reappoint John captain*
c. *reappoint Mary head*
d. *reelect Jane senator*
e. *readvise John to leave*
f. *reteach myself French*

First, (56a) (and other examples with prepositional phrase adjuncts) is not a counterexample to *re-*'s internal argument requirement, since this is an example of a prepositional phrase adjunct. We note that even if (56a) is to be considered a benefactive dative, it is only double-object uses of datives that generally prohibit *re-*, and which are claimed in Keyser and Roeper (1992) to have the special syntax responsible for their complementary distribution.

The examples in (56b–d) do not involve prepositional phrase adjuncts, so they are more problematic. However, they notably represent a well-defined subclass of small clause verbs that involve a person being given a new guise or role. While we do not have a full analysis of such cases, it is possible these might be analyzed as having a similar structure to what we ultimately propose for transitive resultatives. We note that it is possible to have *re-* scope over the verb and the "object" in such cases to the exclusion of the SC predicate (*reappoint Mary head* does not necessarily presuppose that Mary was head before). In addition, it is also possible to use *again* in a way that scopes over only the name and the SC predicate:

(57) *Context*: Jane was appointed senator by the governor after the previous senator retired. She was so popular that when she was up for election. . .
*The voters elected Jane senator again.*

Note that Jane was never elected senator, so *again* cannot be scoping over *elect*. This entirely parallels the behavior we find with the scope possibilities of transitive resultatives, and suggests they might share a common syntactic structure, though we leave a full exploration of this possibility for future work. In addition, although

(56e) is not among these "guise" verbs, it shows similar scope properties: one can advise John to stay, change their mind, and finally readvise John to leave. In addition, one may advise John to leave again, even if he left before of his own accord and was never advised to do so.

Finally, (56f) remains the most problematic for our claim; however, we believe that there is a sense that this case is indeed exceptional in some way (cf. [12b–c]), that should not override the larger generalization at play, even if we do not currently have a full explanation of why this particular example is exceptional. A fact that might be related is that *teach*, unlike dative verbs like *give*, allows for the expression of only an overt unmarked recipient or theme. In contrast, *give* requires a preposition when only the recipient argument is expressed.

(58) a. *John taught French.*
b. *John taught the students.*
c. *John gave money regularly.*
d. **John gave the charity regularly.* (cf. *John gave* to *the charity regularly*)

The fact that *teach* shows more flexibility in its argument structure related to the expression of its dative argument than a verb like *give* could be related to the additional flexibility it shows with regard to *re-* compared to *give* in sentences like (56f).

# 4 Conclusion

## 4.1 *Re-* and the obligatory wide scope of indefinites

We codified *re-*'s internal argument requirement as part of its semantics, and this in combination with our structural analysis of resultatives captured the correct readings and made the right predictions about where *re-* can go in structures with resultatives. However, there are interesting semantic facts regarding how *re-* interacts with the internal argument of the verb it forms that our account does not itself address. In particular, our account does not directly explain some interesting properties of how *re-* interacts with indefinite objects, and how this contrasts with the behavior of *again* (cf. Bale 2007; Yu and Smith 2020). These facts are not restricted to structures with resultatives, and must be a part of any more general account of *re-*.

(59) a. *John baked a cake again.* (one or two cakes)
b. *John rebaked a cake.* (one cake only)
c. *Cindy filled a bowl again.* (one or two bowls)
d. *Cindy refilled a bowl.* (one bowl only)

In (59a), the indefinite can scope below *again*, leading to a reading where the cake in the presupposed prior eventuality is a different cake from the one in the asserted content (i.e., a reading where John baked a different cake on each occasion). In contrast, (59b) has only a reading where John baked the same cake on two separate occasions, where the indefinite takes scope outside *re-*'s presupposition[18] (Carlson and Roeper 1980). Interestingly, this results in an odd reading that is counter to our typical experience, where cakes may be baked only once. The fact that despite this oddness, the only possible reading is one in which the same cake is baked more than once shows that the syntax tightly constrains the range of possible interpretations in a way that pragmatic factors are unable to override.

A similar pattern occurs in German, where adjacency of the verb and *wieder* 'again' results in obligatory wide scope for the indefinite object (i.e., the one-cake reading), compared to when *wieder* 'again' occurs in front of the object, where both wide and narrow scope readings of the indefinite relative to *wieder* 'again' are possible (Sebastian Schuster, p.c.; Leah Bauke, p.c.).

(60) a. *Er hat wieder einen Kuchen gebacken.*
he has again a cake baked
"He baked a cake again." (one or two cakes[19])
b. *Er hat einen Kuchen wieder gebacken.*
he has a cake again baked
"He rebaked a cake." (one cake only)
(Sebastian Schuster, p.c.)

(61) a. *Ich habe wieder ein Stück papier aufgehoben.*
I have again a piece paper up.lifted
"I picked up a piece of paper again." (one or two pieces)

**18** This pattern is identical for cases with *wh*-movement with *again*.

(i) *What did John bake again?* (one cake only; Wolfgang Klein, p.c.)

However, a potential complication for relating this fact to the facts in (59) is that *what* might be definite, in which case the reading would be similar to the reading for a specific/wide-scope indefinite.
**19** Sebastian Schuster (p.c.) reports that for him, the wide scope reading of the indefinite is possible in this sentence, but much harder to get than in its English counterpart.

b. *Ich habe ein Stück papier wiederaufgehoben.*
I have a piece paper again.up.lifted
"I picked up a piece of paper again." (one piece only)
(Leah Bauke, p.c.)

Mandarin shows the same behavior with 又 *yòu* 'again' in the 把 *bǎ* construction. When 又 *yòu* 'again' is placed before 把 *bǎ*, both wide- and narrow-scope readings of indefinites are possible; when it is placed immediately before the verb, a wide-scope reading of the indefinite is forced (Hsin-Lun Huang, p.c.; Rong Yin, p.c.).[20]

(62) a. 张三 刚刚 又 把 一 本 书 给 看 了。
*Zhāngsān gānggāng yòu bǎ yì běn shū gěi kàn le.*
Zhangsan just now again BA one CL book give look ASP
"Zhangsan read a book again just now." (one or two books)
b. 张三 刚刚 把 一 本 书 又 给 看 了。
*Zhāngsān gānggāng bǎ yì běn shū yòu gěi kàn le.*
Zhangsan just now BA one CL book again give look ASP
"Zhangsan read a book again just now." (one book only)
(Hsin-Lun Huang, p.c.; Rong Yin, p.c.)

In addition, though there is no narrow-scope reading available to contrast with it, the bare noun in English noun-verb compounds with *re-* takes obligatory wide scope.

(63) *Each contestant's cake-rebaking took only a few minutes.*

Example (63) cannot describe a scenario where each contestant merely baked multiple cakes, but only a scenario where each contestant baked (at least) one cake they

**20** Note that in standard SVO sentences in Mandarin, the only possible position of 又 *yòu* 'again' is pre-verbal (Hsin-Lun Huang, p.c.; Rong Yin, p.c.):

(i) 张三 刚刚 又 看 了 一 本 书。
*Zhāngsān gānggāng yòu kàn le yì běn shū.*
Zhangsan just now again look ASP one CL book
"Zhangsan read a book again just now."
(Hsin-Lun Huang, p.c.; Rong Yin, p.c.)

Our informants disagreed on the possible readings of (i); one reported that it allows both one- and two-book readings, while the other reported that it allows only a two-book reading. However, both informants agreed regarding the judgments reported in (62).

baked a second time. This corresponds to the wide-scope indefinite reading, where the existential indefinite is bound outside the scope of *re-*'s presupposition.

Interestingly, a similar obligatory wide-scope reading of the indefinite can occur with *again* with verb-particle structures. When the verb and particle remain together, wide- and narrow-scope readings are both possible; while when the object intervenes between the verb and the particle, only a wide-scope reading of the indefinite is possible.[21]

(64) a. *After the first throw, June picked up a piece of paper again.* (one or two pieces)
b. *After the first throw, June picked a piece of paper up again.* (one piece only)
c. *Heather looked up a number again.* (one or two numbers)
d. *Heather looked a number up again.* (one number only)

Interestingly, the wide-scope reading is forced when the verb and particle are separated; this contrasts with the facts in (59–63), where it is the morphological *closeness* of *re-*, *wieder* 'again', and 又 *yòu* 'again' to the verb that produces an obligatory wide-scope reading, and the *distance* between the verb and *again*, *wieder* 'again', or 又 *yòu* 'again' that allows for both scope possibilities. While we do not offer a full account of this behavior here, a first-pass description could characterize *re-* (along with verb-adjacent *wieder* 'again' and 又 *yòu* 'again') and particles as both existing below a domain that indefinites must scope out of (cf. Diesing 1992; Heim 1982), which may be related to the fact that they are close to the verb (*re-* is morphologically adjoined to the verb, while the particle is selected by the verb). We have no mechanistic explanation for why this should matter at present, but are hopeful that this intuition is on the right track. Ultimately, what we want to highlight here is the similarity and differences between *re-* and other distinct elements such as particles and adverbs with regards to the scope-taking properties of indefinite objects. While an explanation eludes us for now, the similar way in which the position of these elements restricts scope possibilities of the object suggests a deep unity between these elements that seemingly play quite diverse syntactic and semantic roles.

**21** It is interesting also to note the contrast between German (61) and English (64). In German, both examples in (61) involve *auf* 'up' prefixed to the verb, with the different scope possibilities arising from the position of *wieder* 'again'. In contrast, in English (64), the different scope possibilities relate to the position of the particle *up* itself, and not the position of *again* (though we note that the position of *again* in English is also known to affect scope possibilities; see, e.g., Bale 2007). Figuring out the complex interplay of how the position of each element affects scope possibilities will no doubt be essential to any explanation of these facts.

We note here that there may well be existing analyses of this phenomenon in the languages we discussed (von Stechow 1995, 1996; Xu 2016; a.o.). Our point here is not that such facts are impossible to analyze; rather, our point is that there is a unity in these patterns cross-linguistically that merits a fuller explanation in terms of properties of Universal Grammar.

## 4.2 Summary

The internal argument requirement of *re-* (Carlson and Roeper 1980; Keyser and Roeper 1992) provides an additional diagnostic supporting a structural difference between transitive and intransitive resultatives. In particular, it lends additional evidence to views where the verb in transitive resultatives has a determiner phrase internal argument, while the verb in intransitive resultatives does not. By combining *re-* with *again*, we showed that transitive resultatives involve argument sharing: the determiner phrase internal argument is shared by *re*-V and the resultative secondary predicate in transitive resultatives. Thus, we find that English transitive resultatives bear similarities to serial verb constructions in other languages, which have also been argued to involve object sharing (Baker 1989; Hiraiwa and Bodomo 2008; Hopperdietzel 2022).[22]

To capture these facts, we proposed an analysis where the constituent structure transparently reflects this argument sharing. Moreover, the structures we proposed not only capture the facts discussed here, but also express efficiently and simply the intuitive distinction between transitive and intransitive resultatives that was our starting point. Transitive resultatives involve a transitive verb sharing its argument with a resultative secondary predicate, while intransitive resultatives involve a resultative secondary predicate combining with its own argument to specify a state resulting from the eventuality the (intransitive) verb describes (Carrier and Randall 1992; Levin and Rappaport Hovav 1995, ch. 2; Randall 2010). Nevertheless, both kinds of resultatives have commonalities, as they each use a small clause to express a state caused by the action denoted by the verb. What distinguishes our analysis from prior analyses that adopt a non-uniform approach is that we make use of a Minimalist-style syntax that includes multidominance, which requires only standard Function Application to predict the correct semantics in complex cases like (37).

It seems that our analysis may trade off semantic complexity for syntactic complexity in the form of multidominance. However, we have not proposed multidomi-

22 See also Johnson (2018), who provides a similar analysis of English double object structures.

nance solely to account for resultatives. Indeed, multidominance has been invoked to model a variety of phenomena that are typically modeled using movement (Citko 2005; Engdahl 1980; Epstein, Groat, Kawashima, and Kitahara 1998; Gärtner 1997, 1999; Johnson 2012; Nunes 2001; Starke 2001), and arguably follows from the simplest definition of Merge, which would not prohibit remerging an already merged element (e.g., Citko 2005). While we took inspiration from Hopperdietzel (2022), who analyses a similar structure in Samoan as involving across-the-board movement, we believe ultimately our approach has more in common with analyses that allow multidominance to account for structures that are not typically modeled using movement (Hiraiwa and Bodomo 2008; Johnson 2018; Wilson 2021). We have built on this prior work by showing that multidominance can be fruitfully applied to the analysis of resultatives as well. The line of work we aim to contribute to shows there is potential value in liberating multidominance from corners of the grammar (e.g., hydras, right-node raising, etc.) and using it in the modeling of parts of core grammar, such as argument structure and small clauses.[23]

Our work is intended to provide novel evidence of the intimate interaction between complex morphology and the fundamental operations of syntax. Among them is the possibility of morphological affixes (e.g., *re-*, *out-*, *over-*) to carry their own capacity to license an argument (such as an object complement, e.g., *[*re*] *purpose the room*), and exclude arguments (such as datives, e.g., [**re*]*give him the money*), as well as their associated thematic roles.

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# Chapter 8
# On the forms of secondary predicates: A Japanese perspective

**Abstract:** The present chapter shows that in Japanese, depictives derived from nouns have predicate structures comprising vP, which accommodates a PRO subject and an invisible copulative verb *aru* 'be'. By contrast, adjectives and nominal adjectives, even if usable on depictive interpretation, count as adverbial modifiers (in syntactic terms), which do not include an invisible verb or PRO (due to the lack of vP projected over them). Further, resultatives are argued to have predicate structures comprising vP, which accommodates PRO as their invisible subject and an invisible change-of-state verb *naru* 'become' irrespective of whether they are constructed on nouns, adjectives, or nominal adjectives. The facts of subject honorification provide evidence that nouns are usable for constructing depictive predicates, but nominal adjectives and adjectives are not, whereas adjuncts derived from nouns, nominal adjectives, and adjectives can all be used as resultative predicates.

**Keywords:** secondary predicate, predication, depictive, resultative, subject honorification, control, Japanese

## 1 Introduction

Secondary predicates are divided into the two broad classes of "depictives" and "resultatives". Depictives describe the transitory states of affairs pertaining to subjects or objects, and resultatives describe the resultant states that occur subsequent to the events described by the primary predicates (see e.g. Himmelmann and Schultze-Berndt 2005; Rothstein 2006). In Japanese, just as in English, certain adjun-

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cts are thought to serve as secondary predicates, although there are different views for identifying what type of adjunct can be construed as a secondary predicate.

There are many syntactic and semantic issues surrounding secondary predicates, and among them, the present chapter attempts to answer one significant question of how secondary predicates establish a predication relation with their antecedents (i.e. their apparent subjects, which are overtly manifested). There are at least two analyses of depictive predicates that have been advanced in the literature, which I call the "direct predication" analysis and the "control" analysis. These two analyses differ as to whether depictive predicates are analyzed as comprising subjects inside them.

(1) a. *John left the room* [$_{SP}$ *angry*] (the direct predication analysis)
b. *John left the room* [$_{SP}$ PRO *angry*] (the control analysis)

Under the direct predication analysis, depictives directly form a predication relation with their overt subjects (e.g. Williams 1980; Rothstein 1983, 2001; McNulty 1988; McNally 1997). In the control analysis, depictive predicates have their own invisible subject (PRO) and the relation between the predicates and their apparent overt subjects is mediated by PRO (e.g. Chomsky 1981; Stowell 1983; Bowers 1993, 2001).[1] For resultative predicates, there is the proposal that they form small-clause complements with the arguments of which they are predicated (Carrier and Randall 1992; Hoekstra 1998). The present chapter shows that in Japanese, both depictives and resultatives, but not adverbial modifiers, are construed as predicates comprising invisible verbs and PRO subjects, and that the overt antecedents of PRO subjects are interpreted as subjects of the secondary predicates via control.[2]

Whether or not secondary predicates contain subjects cannot easily be determined in languages like English, but solid empirical evidence can be adduced from Japanese. Specifically, I will show that in Japanese, depictives (derived from nouns) have predicate structures comprising vP, which accommodates a PRO subject and an invisible stative verb *aru* 'be'. By contrast, adjectives and nominal adjectives,

**1** Ernst (2002) suggests that subject-oriented adverbs include PRO. A similar issue arises here too, since there is the possibility that their subject orientation is obtained only interpretively with no mediation of PRO.

**2** Japanese has two types of adjectives. One type of adjectives has the attributive form ending in *-i* and the other type, referred to as "nominal adjective", has the attributive form ending in *-na*. Adjectives with the attributive *-i* ending are ordinary adjectives. Adjective having the attributive *-na* ending have the superficial constituency of a nominal plus a copula (For some issues on the categorization of adjectives and nominal adjectives, see Kageyama 1982; Miyagawa 1987.)

even if they are taken to describe transitory states of arguments, function as adverbial modifiers, in which neither an invisible verb nor PRO is included (due to the lack of vP projected over them). Further, resultatives are shown to have predicate structures comprising vP, which accommodates PRO as their invisible subject and an invisible change-of-state verb *naru* 'become' irrespective of whether they are constructed on nouns (N), adjectives (A), or nominal adjectives (NA).

Both descriptive and resultative predicates in Japanese display syntactic behaviors derived from the syntactic structure with an invisible subject. On the other hand, secondary predicates are sometimes differentiated morphologically, but the morphological distinction is less straightforward. In English, depictive predicates can often be distinguished from adverbial modifiers on morphological grounds, as in *John left the room calm* and *John left the room calmly*. In Japanese, the distinction between depictive predicates and adverbial modifiers can be drawn on the morphological grounds if nouns and nominal adjectives are compared, but no such morphological distinction can be made with ordinary adjectives. For resultatives in Japanese, no morphological distinction is available, since nouns, nominal adjectives and ordinary adjectives show the same inflection patterns regardless of whether they function as resultatives or adverbial modifiers. It is shown that whether or not adjuncts serve as secondary predicates can be distinguished by their syntactic behavior (even if their status cannot be decided on morphological grounds).

The discussion in this chapter proceeds as follows. In section 2, some basic properties of Japanese secondary predicates are illustrated. In section 3, it is argued that depictives constructed on nouns have predicate structures comprising an invisible PRO subject, while adjectives and nominal adjectives function as adverbial modifiers, which do not include PRO subjects inside even if they are construed as describing the states of subjects or objects. Section 4 shows that resultatives possessing an invisible PRO subject can be derived from nouns, adjectives, and nominal adjectives. A conclusion is presented in section 5.

## 2 Some characteristics of secondary predicates

As with English, Japanese are often thought to possess depictive predicates that are predicated of subjects or objects (Koizumi 1994; Matusi and Kageyama 2008; Shibagaki 2013). Japanese also have resultative predicates with object orientation (Kageyama 1996; Hasegawa 1999; Tsujimura 1990). In this section, I will illustrate the general properties of Japanese secondary predicates (i.e. depictives and resultatives), and show that Japanese secondary predicates behave as adjuncts in syntactic terms.

Secondary predicates are divided into the two major classes of depictives and resultatives.[3] Depictives describe a transitory state overlapping the event described by the primary predicate, and resultatives refers to a state that results from the event described by the primary predicate. Depictives are either subject-oriented or object-oriented, as exemplified in (2).

(2) a. *Eri-wa* ***kimono-sugata-de*** *zyugyoo-o* *uke-ta.*
Eri-TOP kimono-figure-COP class-ACC receive-PST
'Eri attended her class in kimono.'
b. *Ken-wa* *kuruma-o* ***tyuuko-de*** *kat-ta.*
Ken-TOP car-ACC used-COP buy-PST
'Ken bought a car used.'

*Kimono-sugata-de* 'in kimono' in (2a) is a subject-oriented depictive, describing a state pertaining to the subject of the primary predicate, and *tyuuko-de* 'used' in (2b) is an object-oriented depictive, which describes a state related to the object. While depictives can be associated with subjects or direct objects, they cannot be associated with PPs or indirect objects (Koizumi 1994).

(3) a. **Eri-wa* *hahaoya-kara* ***kimono-sugata-de*** *zyogen-o* *morat-ta.*
Eri-TOP mother-from kimono-figure-COP advice-ACC get-PST
'Eri got advice from her mother in kimono.'
b. **Eri-wa* *tomodati-ni* ***kimono-sugata-de*** *hon-o* *age-ta.*
Eri-TOP friend-DAT kimono-figure-COP book-ACC give- PST
'Eri gave a book to her friend in kimono.'

The depictive *kimono-sugata-de* cannot be associated with the PP *hahaoya-kara* 'from her mother' in (3a) or the indirect object *tomodati-ni* 'to her friend' in (3b), although it can be predicated of the subject *Eri*.

While depictives describe a transitory state that arises concomitantly with the event described by the primary predicate, resultatives differ from them, in describing a resultant state that emerges subsequent to the event described by the primary predicate.

**3** The two-way categorization of secondary predicates into depictives and resultatives is prevalent in the literature, but other views are also available. For an overview on the classifications of secondary predicates, see Himmelmann and Schultze-Berndt (2005), Rothstein (2011) and Rapoport (2019).

(4) *Gakusei-ga* *tyawan-o* ***konagona-ni*** *kudai-ta.*
student-NOM rice.bowl-ACC pieces-COP break-PST
'The student broke the rice bowl into pieces.'

Resultatives are primarily object-oriented. This property of resultatives comes from the fact that objects are the most typical arguments which refer to entities undergoing a change of state (see Levin and Rappaport Hovav 1995).

In both English and Japanese, secondary predicates are non-verbal at least on the surface, but how secondary predicates are formed differs between the two languages. Depictives and resultatives in English can be formed on adjectives in the bare form (e.g. *John ate the meat raw, John pounded the metal flat*, adjectives having participial forms (e.g. *John ran naked*), and PPs (e.g. *John pushed her out of the house*) (Aarts 1995). In Japanese, DPs may function as depictives when they occur with the copula *de*. Notably, adjectives (i.e. nominal adjectives and regular adjectives) do not function as depictives in Japanese, whereas the most typical depictives are adjectives in English (see section 3). In contrast, nouns, adjectives, and nominal adjectives (to the exclusion of verbs) can function as resultatives in Japanese (see section 4). Resultatives constructed on nouns and nominal adjectives occur with copulas, but resultatives derived from regular adjectives do not occur with copulas.

Note that the terms "subject orientation" and "object orientation" used for depictives and resultatives in the present chapter (and many works on secondary predication) refer not to surface grammatical relations but to underlying grammatical relations, i.e. external and internal arguments (Williams 1980). This should be apparent in view of the fact that object-oriented depictives can be predicated of passive subjects.

(5) a. *Ken-ga* *kono* *kuruma-o* ***tyuuko-de*** *ut-ta.*
Ken-NOM this car-ACC used-COP sell-PST
'Ken sold this car used.'
b. *Kono* *kuruma-ga* *Ken-niyotte* ***tyuuko-de*** *ur-are-ta.*
this car-NOM Ken-by used-COP sell-PASS-PST
'This car was sold used by Ken.'

Resultatives have object orientation, but can be anchored to subjects when they are originated from underlying object positions, as seen in the pair of the sentences in (6).

(6) a. *Kodomo-ga* *gurasu-o* ***konagona-ni*** *kudai-ta.*
child-NOM glass-ACC pieces- COP break-PST
'The child broke the glass into pieces.'

b. *Gurasu-ga* *kodomo-niyotte* ***konagona-ni*** *kudak-are-ta.*
glass-NOM child-by pieces-COP break-PASS-PST
'The glass was broken into pieces by the child.'

In (6a), *konagona-ni* specifies the resultant state of the object. In (6b), it specifies the resultant state of the passive subject, which is originated from the object position. The object-oriented depictives and resultatives can also be predicated of unaccusative subjects.

(7) a. *Kono* *kuruma-ga* ***tyuuko-de*** *ure-ta.*
this car-NOM used-COP sell-PST
(lit.) 'This car sold used.'
b. *Gurasu-ga* ***konagona-ni*** *kudake-ta.*
glass-NOM pieces-COP break-PST
'The glass broke into pieces.'

Since the subjects of unaccusative verbs are originated from object positions, it is easy to see that depictives associated with external arguments have subject orientation while depictives related to internal arguments have object orientation. Resultatives have object orientation since they are associated only with internal arguments (Tsujimura 1990; Kageyama 1996; see also section 4).

One important property of Japanese depictives and resultatives is that they are construed as adjuncts in syntactic terms, and as such, they can be omitted without changing the structural identity of the clauses in which they appear, as shown in (8).[4]

(8) a. *Eri-ga* (*hadasi-de*) *hasit-ta.*
Eri-NOM (barefoot-COP) run-PST
'Eri ran (barefoot).'
b. *Ken-ga* *kono* *kabe-o* (*akaku*) *nut-ta.*
Ken-NOM this wall-ACC (red) paint-PST
'Ken painted this wall (red).'

**4** One standard descriptive definition is that adjuncts are optional, while arguments are required by the verb (see Trask 2007), but the notion of adjunct is sometimes extended to include adverbials or PPs that are not omissible, e.g. *The letter was worded* *(*carefully*). Arguments can sometimes be elided, e.g. *John ate* (*lunch*) on the surface, but in this case, they are interpreted to be indefinite, which suggests that an omitted argument is present as an unpronounced pronoun. In English, resultatives are not omissible if they occur with fake objects, e.g. *John walked the shoes* *(*thread-bare*). As I will discuss in section 4.2, satellite resultative constructions with fake objects cannot be constructed in Japanese.

In Japanese, arguments (selected by predicates) are generally allowed to be omitted if their references are recoverable from the context, but in such cases, arguments are understood to be present as unpronounced (or null) pronouns. By contrast, adjuncts are optional, and when adjuncts are omitted, no such implication is obtained. The sentences in (8) are not elliptical even if the secondary predicates are elided, showing that they serve as adjuncts. The optionality of depictives and resultatives, exemplified in (8), illustrates that secondary predicates are not selected by the primary predicates, while they are predicated of subjects or objects. In addition, secondary predicates can readily be moved by scrambling, as exemplified in (9).[5]

(9) a. *Tyuuko-de*$_{i}$ *Ken-ga* $t_{i}$ *kuruma-o* *kat-ta.*
used-COP Ken-NOM car-ACC buy-PST
(lit.) 'Used, Ken bought a car.'
b. *Ken-ga* *akaku*$_{i}$ *kabe-o* $t_{i}$ *nut-ta.*
Ken-NOM red wall-ACC paint-PST
(lit.) 'Red, Ken painted the wall.'

By contrast, small-clause predicates, which are selected by higher predicates, cannot be scrambled. For example, nominals and adjectives embedded under the verbs *suru* 'make' and *naru* 'become' cannot be separated from them via scrambling, as shown in (10) (Kishimoto 2014; cf. Kikuchi and Takahashi 1991).

(10) a. **Hadasi-ni*$_{i}$ *Ken-ga* *Mari-o* $t_{i}$ *si-ta.*
barefoot-COP Ken-NOM Mari-ACC do-PST
(lit.) 'Barefoot, Ken made Mari.'
b. **Kawaiku*$_{i}$ *Mari-ga* $t_{i}$ *nat-ta.*
cute Mari-NOM become-PST
(lit.) 'Cute, Mari became.'
c. **Kawaiku*$_{i}$ *Ken-ga* *Mari-o* $t_{i}$ *omot-ta.*
cute Ken-NOM Mari-ACC consider-PST
(lit.) 'Cute, Ken considered Mary.'

In (10a), *hadasi* 'barefoot' is the small-clause predicate selected by the causative verb *suru* 'make'. In (10b), *kawaiku* 'cute' functions as a predicate subordinate to the verb *naru* 'become'. (10c) represents a case where *kawaii* is embedded under the epistemic verb *omou* 'consider'. In all the cases in (10), unacceptability results

5 Where relevant, a copy left by movement is marked by *t* (with an index).

if the embedded predicates are scrambled to the clause front. The difference in applicability of scrambling observed between (9) and (10) suggests that depictives and resultatives have the syntactic status as adjuncts.

Depictives and resultatives occur in the middle of clauses. Thus, the examples in (11), where the depictive and the resultative appear in the conclusive form (*syuusi-kei* 'sentence-final form'), are not acceptable.

(11) a. **Eri-wa kimono-sugata-da zyugyoo-o uke-ta.*
Eri-TOP kimono-figure-COP class-ACC take-PST
'Eri attended her class in kimono.'

b. **Gakusei-ga ita-o aka-i nut-ta.*
student-NOM board-ACC red-PRS paint-PST
'The student paint the board red.'

Adjectives and nominal adjectives appear in the adverbial form when followed by verbal elements. Likewise, depictives and resultatives formed on nouns appear in the adverbial form, but not in the conclusive (or sentence-final) form. Since secondary predicates appear in the adverbial form, it is reasonable to assume that their inflectional forms are licensed by some verbal element.

Having illustrated some of the basic properties of Japanese secondary predicates, I will proceed to argue in the next section that in Japanese, adjuncts formed on nouns in combination with copulas can function as depictive predicates, which have predicate structures that include an invisible PRO subject, whereas adjectives and nominal adjectives do not even if they are taken to characterize some transitory states of subjects or objects.

## 3 Depictives

In the literature on secondary predication, no general agreement has been reached as to the question of what element counts as a depictive. This raises the issue of whether adverbial adjuncts characterizing some states of subjects or objects should be construed as predicates or modifiers (Himmelmann and Schultze-Berndt 2005). The same issue figures prominently in Japanese as well (Matsui and Kageyama 2008; Shibagaki 2015). In this section, I present new empirical evidence that allows us to assess whether a given adjunct can have the status as a secondary predicate or an adverbial modifier.

## 3.1 How depictives can be identified

In Japanese, nominals (DPs), but not ordinary adjectives and nominal adjectives, can serve as depictive predicates.[6] For the purpose of identifying what element counts as a depictive, it is instructive to see that depictives can appear as primary predicates in copular constructions when the copula inflects for the conclusive form or is accompanied by the copulative verb *aru* 'be'.

(12) a. *Eri-wa* ***kimono-sugata-de*** *hasit-ta.*
Eri-TOP kimono-figure-COP run-PST
'Eri ran in kimono.'
b. *Eri-wa* ***kimono-sugata***-{***dat-ta/de*** *at-ta*}.
Eri-TOP kimono-figure-{COP-PST/COP be-PST}
'Eri was in kimono.'

In (12a), the depictive *kimono-sugata-de* is formed based a noun, followed by the copula *de*. In (12b), *kimono-sugata* is used as a primary predicate. Depictives provide descriptions of the states of affairs pertaining to either subjects or objects, and carry essentially the same logical meanings as their copular sentence counterparts. This fact follows naturally provided that depictives are predicated of arguments with which they are associated.

Depictives derived from nouns have the same conclusive form as nominal adjectives, since both are combined with copulas. Nevertheless, depictives derived from nouns are distinguished from nominal adjectives, in that they end in *no* (but not *na*) when they modify nouns, as in (13a) (Iwasaki 2013; Hasegawa 2015).

(13) a. [*kimono-sugata-*{***no***/****na***}] *ano hito*
kimono-figure-{COP/COP} that man
'that man in kimono'
b. *Ano hito-wa kimono-sugata-de ar-u.*
that man-TOP kimono-figure-COP be-PRS
'That man is in kimono.'

**6** While expressions usable for depictive predication are not abundant, it is worthwhile to note that depictive predicates can be formed fairly productively using the nominal *mama* 'remaining', e.g. *hadasi-no mama-de* 'in bare feet', since different kinds of expressions can be embedded. It is claimed by Matsui and Kageyama (2008) that they are not depictives. On the contrary, given that they behave in the same way as authentic noun-based depictives, it is reasonable to say that nominal *mama*-expressions fall into the class of depictives.

When nominal adjectives modify nouns, they occur not with *no* but with *na*, which is another attributive form of the copula, as seen in (14).

(14) *kirei-*{*na/*no*} *hana*
pretty-{COP/GEN} flower
'the pretty flower'

In (13a), *no* is a form of copula, although it is homophonous with the genitive marker *no*. These two markers can be distinguished, however, by looking at whether *no* can be replaced by *de aru*, which is another form of copula (Masuoka and Takubo 1992).

(15) a. [*kimono-sugata-*{*no/de* *ar-u*}] *ano* *hito*
kimono-figure-{COP/COP be-PRS} that man
'that man in kimono'
b. [*kinoo-*{*no/*de* *ar-u*}] *sinbun*
yesterday-{GEN/COP be-PRS} newspaper
'yesterday's newspaper'

When a nominal predicate modifies another noun, it appears with *no,* which is an attributive form of the copula. In this case, *no* can be replaced by *de aru*. The examples show that *no* in (15a), but not in (15b), is an attributive form of the copula.

Noun-based depictives have the sequence of "DP+copula" and complex forms consisting of more than one nominal can be constructed from them. Predicates formed on nouns differ from nominal-adjective predicates, in that the former can include a phrasal element in it, but the latter cannot. Thus, I assume that noun-based predicates are formed by the copula taking a DP as their complement, while nominal adjectives are formed by the copula combining with a qualified nominal head, i.e. they have a structure where the nominal head is directly combined with the copula, as in [[Nominal] copula].

The stative verb *aru* 'be' can be replaced by the verb *iru* 'be' when the subject is animate. Since the verb *iru* is the animate counterpart of the inanimate verb *aru*, it seems at first sight that the verb replacement does not alter the construction type.

(16) a. *Eri-wa* *hadasi-de* (*soko-ni*) *i-ta.*
Eri-TOP barefoot-COP there-at be-PST
'Eri was barefoot (there).'
b. *Eri-wa* *hadasi-de* (**soko-ni*) *at-ta.*
Eri-TOP barefoot-COP there-at be-PST
'Eri was barefoot (there).'

This is not the case, however. The verb *iru* in (16a) constructs not a copular construction but an existential construction. This is confirmed by the fact that a *ni*-marked locative argument can be added to (16a), but not (16b). Since copular sentences cannot have such a locative argument, it proves that (16a) is an existential construction, which asserts the existence of an individual characterized by the *de*-marked argument.[7]

Depictives, which are predicated of subjects or objects, can construct copular-sentence counterparts. Instrumental/locative PPs differ from them in this respect. Since instrumental/locative PPs are not predicated of subjects or objects, they cannot function as copular predicates on the intended senses, as seen in (17).

(17) a. *Eri-ga* {***ohasi-de/rooka-de***} *tabe-ta.*
Eri-NOM {chopstick-with/corridor-in} eat-PST
'Eri ate {with chopsticks/in the corridor}.'

b. **Eri-wa* {***ohasi-de/rooka-de***} *ar-u.*
Eri-TOP {chopstick-with/corridor-in} be-PRS
'Eri is {with chopsticks/in the corridor}.'

In (17a), the instrumental and locative PPs are accompanied by *de* 'with', which is homonymous with one form of the copula, so they look similar to depictives on the surface (see Takezawa 1993). Nevertheless, they cannot appear in copular sentences, as shown in (17b).[8]

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7 When the stative verb *iru* 'be' occurs with a noun-based depictive predicate, the subject is understood to be an individual that can be in control of the described state. This fact is readily confirmed by the (un)acceptability of (i), which includes the agent-oriented adverbial expression *zibun-no isi-de* 'by one's own choice'.

(i) *Eri-wa zibun-no isi-de kimono-sugata-de* {*i-ru*/**ar-u*}.
Eri-TOP self-GEN intention-by kimono-figure-COP {be-PRES/be-PRES}
'Eri is in kimono by her own choice.'

The adverbial expression *zibun-no isi-de* is consonant with the depictive when it is accompanied by *iru*, but not *aru*. This fact shows that *iru* adds a volitional meaning to the nominal-predicate clause.

8 *Kara*-marked phrases can be used for designating a starter, in which case they serve as adjuncts appended to arguments (Kishimoto 2017). Semantically, the *kara*-marked phrase in (i) signifies a source, i.e. a person who starts the action, and is also understood to be a member of the group denoted by the subject *gakusei* 'student'.

(i) *Gakusei-ga Eri-kara kimono-sugata-de hanasi-ta.*
student-NOM Eri-from kimono-figure-COP talk-PST
'The students, starting with Eri, talked in kimono.'

It is sometimes claimed (e.g. Nitta 2002) that manner/degree adverbials (derived from adjectives and nominal adjectives) can be used for characterizing an individual's transitory state. In section 3.3, I shall present evidence that adverbial adjuncts derived from adjectives and nominal adjectives are not usable as depictive predicates in syntactic terms. Note, however, that some, if not all, adverbial manner/degree modifiers behave in a way similar to depictives in the sense that their copular-sentence counterparts can be constructed.

(18) a. *Eri-wa* {***kibin-ni/naname-ni***} *kono koosu-o hasit-ta.*
Eri-TOP {quick-COP/diagonal-COP} this course-ACC run-PST
'Eri ran on this course {quickly/diagonally}.'
b. *Eri-wa* {***kibin-de/*naname-de***} *at-ta.*
Eri-TOP {quick-COP/diagonal-COP} be-PST
'Eri was {quick/diagonal}.'

The adverbial *naname-ni* 'diagonally', which specifies a manner of motion, does not provide a description of a transitory state pertinent to the subject. Therefore, *naname-ni* cannot occur as a primary predicate when the subject is *Eri,* as shown in (18b). Likewise, the adverbial *kibin-ni* 'quickly' (derived from a nominal adjective) specifies a manner of motion (i.e. running). Nevertheless, *kibin* can appear as a main predicate in (18b), suggesting that it can describe a transitory state of the subject.

This does not mean, however, that *kibin-ni* in (18a) is used as a depictive predicate. Rather, it is taken to describe the state pertaining to the subject interpretively via modification, but not predication. As noted by Himmelmann and Schultze-Berndt (2005), there is a semantic difference between secondary predicates and adverbial modifiers. On the one hand, secondary predicates convey the meaning that the two states described by the primary predicate and the adverbial modifier overlap in time (coincidentally). On the other hand, adverbial modifiers describe

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Since the depictive can be anchored to the subject, (i) can carry the meaning that all the students were in kimono. Accordingly, it can be inferred that Eri was also in kimono. Note that the interpretation that Eri was in kimono is not derived by the depictive being syntactically anchored to the *kara*-marked argument, as the unacceptability of (ii) suggests.

(ii) **Eri-kara kimono-sugata-de ar-u.*
Eri-NOM kimono-figure-COP be-PRS
(lit.) 'From Eri is in kimono.'

The depictive *kimono-sugata-de* cannot take *Eri-kara* 'from Eri' as its subject (when used as a primary predicate). This fact follows if depictives cannot be predicated of PPs. In (i), the interpretation that Eri was in kimono is derived by pragmatic inference rather than secondary predication.

a situation closely (or intrinsically) linked to the activity denoted by the primary predicate (see also Geuder 2000).

The status of *kibin* as an adverbial modifier is confirmed by the fact that a copular clause having *kibin* as its primary predicate can have an action nominal as its subject by virtue of the fact that *kibin* modifies the predicate in (18a). (19) shows that *kibin* describes a manner of motion observed in the running event.

(19) *Eri-no hasiri-wa kibin-de at-ta.*
Eri-GEN running-TOP quick-COP be-PST
'Eri's running was quick.'

Nonetheless, it is easy to imagine the subject's transitory physical condition which emerges in connection with the action described by the primary predicate, since these two states of affairs, i.e. 'running' and 'quickness', are closely related. Accordingly, *kibin-ni* can be taken to describe the subject's (transitory) state via "metonymy". This metonymical interpretation is not possible with *naname-ni* 'diagonally', since it cannot be taken to describe the subject's transitory physical state.

By contrast, the depictive *kimono-sugata-de* 'in kimono' in (12a) does not modify the predicate, but is predicated of the subject. The subject *Eri* in (12a) is not derived from *Eri-no hasiri* 'Eri's running' via metonymy. Accordingly, (20) is not acceptable.

(20) **Eri-no hasiri-wa kimono-sugata-de at-ta.*
Eri-GEN running-TOP kimono-figure-COP be-PST
'Eri's running was in kimono.'

In (12a), *kimono-sugata-de* describes the subject's physical state, but not the manner of running. Thus, the copular sentence in (20), where *kimono-sugata* is used as a primary predicate, is unacceptable.

Whether a given adjunct is identified as a secondary predicate or an adverbial modifier can also be assessed by looking at whether it can appear in a separate clause. For instance, the depictive *kimono-sugata-de* in (12a) can appear in a clause separated from the primary predicate, as shown in (21a).

(21) a. *Eri-wa kimono-sugata-de at-ta-ga, hasit-ta.*
Eri-TOP kimono-figure-COP be-PST-but run-PST
'Eri was in kimono, but ran.'
b. *#Eri-wa kibin-de at-ta-ga, hasit-ta.*
Eri-TOP quick-COP be-PST-but run-PST
'Eri was quick, but ran.'

In (12a), *kimono-sugata-de* does not modify the primary predicate, so (21a) is acceptable. By contrast, (21b) is semantically deviant, since *kibin* appears in a separate clause and does not modify the verb *hasiru* 'run'. In light of these facts, it is reasonable to state that *kibin* describes a manner of action, but that (19b) with *kibin-de* can be well-formed on the grounds that it can be taken to characterize the subject's transitory state closely related to the described action by virtue of metonymy.

## 3.2 The constituent position of depictives

Secondary predicates have the status of adjuncts, and thus are adjoined (or attached) to some verbal projections of the clause in which they appear. Drawing on data pertaining to vP-focus pseudo-cleft constructions, I argue in this section that object-oriented depictives as well as resultatives are attached inside VP, in which a theme argument (i.e. an internal argument) is included, and that subject-oriented depictives are adjoined to vP, where an agent argument (i.e. an external argument) appears at the underlying level.

There are several pieces of evidence that subject-oriented depictives appear in a higher structural position than object-oriented depictives and resultatives (see Koizumi 1994). Here, I will confirm this fact chiefly by appealing to pseudo-cleft constructions placing vP in their focus position (Shibagaki 2013; Kishimoto 2016).

To begin with, the examples in (22) illustrate that in the pseudo-cleft constructions with vP-focusing, subject-oriented depictives can occur in the presuppositional clause, as well as in the focus position.

(22) a. [*Kodomo-ga* *si-ta*] *no-wa* [***hadasi-de*** *hasiru*] *koto-da.*
child-NOM do-PST NOML-TOP barefoot-COP run that-COP
'What the child did was run barefoot.'

b. [*Kodomo-ga* ***hadasi-de*** *si-ta*] *no-wa* [*hasiru*] *koto-da.*
child-NOM barefoot-COP do-PST NOML-TOP run that-COP
'What the child did barefoot was run.'

As argued by Kishimoto (2016), when an adjunct is adjoined to vP, it can appear either in the presuppositional clause or in the focus position of vP-focus pseudo-cleft constructions. The availability of the two options comes from the presence of two layers of vP created in clause structure via an adjunct's adjoining to vP, as in [$_{vP}$ Adjunt [$_{vP}$ . . . . ]]. If the lower vP is placed in the focus position, the adjunct appears in the presupposition component. If the upper vP is placed in the focus position, the adjunct occurs in the focus position. On the other hand, object-oriented depictives can occur only in the focus position, as illustrated in (23).

(23) a. [*Ano hito-ga si-ta*] *no-wa* [*sakana-o* ***nama-de***
that man-NOM do-PST NOML-TOP fish-ACC raw-COP
*taberu*] *koto-da.*
eat that-COP
'What that man did was eat the fish raw.'

b. *[*Ano hito-ga* ***nama-de*** *si-ta*] *no-wa* [*sakana-o*
that man-NOM raw-COP do-PST NOML-TOP fish-ACC
*taberu*] *koto-da.*
eat that-COP
'What that man did raw was eat the fish.'

When an adjunct is adjoined to a position internal to VP, it can appear only in the focus component. Hence, the difference in acceptability is observed between (23a) and (23b).

Some depictives can have either subject-orientation or object-orientation when they appear in a clause whose main predicate is a transitive verb of motion, as (24) illustrates.

(24) *Titioya-wa kodomo-o* ***Mikkii-san-no kakkoo-de*** *doobutuen-ni*
father-TOP child-ACC Mickey-Mr-GEN appearance-COP zoo-to
*ture-te it-ta.*
take-GER go-PRS
'The father took his child to the zoo in the Mickey Mouse costume.'

In (24), when the depictive *Mikkii-san-no kakkoo-de* is taken to be predicated of the subject, the sentence means that the father wore the Mickey Mouse costume. When it is taken to be predicated of the object, the sentence means that the child wore the Mickey Mouse costume.[9]

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**9** Some adverbial modifiers derived from adjectives and nominal adjectives as well can be associated with subjects or objects. This can be confirmed by the examples in (i).

(i) a. *Ano hito-wa* {*otonasiku/buzi-ni*} *seikatu-o okut-te i-ru.*
that man-TOP {calm/safe-COP} life-ACC lead-GER be-PRS
'That man is leading a {calm/safe} life.'

b. *Titioya-wa kodomo-o* {*otonasiku/buzi-ni*} *gakkoo-made ture-te*
father-TOP child-ACC {obedient/safe-COP} school-to take-GER
*iku koto-ga deki-ta.*
go that-NOM can.do-PST
'The father was able to take his child to the school {obediently/safely}.'

In (ia), *otonasiku* 'calm, obedient' and *buzi-ni* 'safe' can be associated with the subject. (ib) shows that they can be associated with the object as well.

If vP-clefting applies to (24), there arises a difference in interpretation. When the depictive appears in the presupposition clause, as in (25a), it can be related only to the subject. When the depictive is placed in focus position, as in (25b), it can be associated with either the subject or the object.

(25) a. [*Titioya-ga* ***Mikkii-san-no*** ***kakkoo-de*** *si-ta*] *no-wa*
father-NOM Mickey-Mr-GEN appearance-COP do-PST NOML-TOP
[*kodomo-o* *doobutuen-ni* *ture-te* *ik-u*] *koto-da.*
child-ACC zoo-to take-GER go that-COP
'What the father did in the Mickey Mouse costume was to take his child to the zoo.'

b. [*Titioya-ga* *si-ta*] *no-wa* [***Mikkii-san-no*** ***kakkoo-de***
father-NOM do-PST NOML-TOP Mickey-Mr-GEN appearance-COP
*kodomo-o* *doobutuen-ni* *ture-te* *ik-u*] *koto-da.*
child- ACC zoo-to take-GER go that-COP
'What the father did was to take his child to the zoo in the Mickey Mouse costume.'

Given that depictives serve as adjuncts, as discussed in section 2, the data in (22) through (25) suggest that subject-oriented depictives are adjoined to vP, while object-oriented depictives are located in a position internal to VP.

The facts of vP-focus pseudo-cleft constructions suggest that nominative subjects are located in a higher position than subject-oriented depictives, since the subjects cannot appear in the focus position.

(26) a. [***Ken-ga*** *kyoo* *si-ta*] *no-wa* [*hon-o* *yomu*] *koto-da.*
Ken-NOM today do-PST NOML-TOP book-ACC read that -COP
'What Ken did today was read the book.'

b. *[*Kyoo* *si-ta*] *no-wa* [***Ken-ga*** *hon-o* *yomu*] *koto-da.*
today do-PST NOML-TOP Ken-NOM book-ACC read That-COP
(lit.) 'What did today was Ken read the book.'

The data confirm that the nominative subject appearing in Spec-TP cannot be placed in vP-focus position. Given that the subject-oriented depictive occurs in vP-focus position, it follows that the nominative subject is in a higher position than the subject-oriented depictive.

The relative position of object-oriented depictives to their associated objects cannot be determined by making use of vP-focus pseudo-cleft constructions alone, as can be seen from the fact that objects, just like object-oriented depictives, are not allowed to occur in the presupposition clause.

(27) a. [*Ano hito-ga kyoo si-ta*] *no-wa* [***sakana-o*** *taberu*]
that man-NOM today do-PST NOML-TOP fish-ACC eat
*koto-da.*
that- COP
'What that man did today was eat fish.'

b. *[*Ano hito-ga kyoo* ***sakana-o*** *si-ta*] *no-wa* [*taberu*]
that man-NOM today fish-ACC do-PST NOML-TOP eat
*koto-da.*
that- COP
'What Ken did fish today was eat.'

As can be verified by (23) and (27), the object and the object-oriented depictive behave on a par in the vP-focus pseudo-cleft constructions. Accordingly, it is not possible to assess their relative positions on the basis of pseudo-cleft constructions with vP-focus.

Nevertheless, there is a way of measuring their relative positions. To illustrate this point, consider the examples in (28).

(28) a. *Titioya-wa Ken*$_i$*-o kare*$_i$*-no itumo-no kakkoo-de koo'en-ni*
father-TOP Ken-ACC he-GEN usual-GEN appearance-COP park-to
*ture-te it-ta.*
take-GER go-PST
'The father took Ken to the zoo in his usual clothes.'

b. **Titioya-wa kare*$_i$*-o Ken*$_i$*-no itumo-no kakkoo-de koo'en-ni*
father-TOP he-ACC Ken-GEN usual-GEN appearance-COP park-to
*ture-te it-ta.*
take-GER go-PST
'The father took him to the park in Ken's usual clothes.'

In (28a), the accusative argument *Ken* can be coreferential with the pronominal *kare* 'he' included in the depictive predicate. The accusative pronominal *kare* cannot be coreferential with *Ken* in (28b). The difference is comparable to the one found in (29).

(29) a. *Ken*$_i$*-ga kare*$_i$*-no tomodati-ni at-ta.*
Ken-NOM he-GEN friend-DAT meet-PST
'Ken met his friend.'

b. **Kare*$_i$*-ga Ken*$_i$*-no tomodati-ni at-ta.*
he-NOM Ken-GEN friend-DAT meet-PST
'He met Ken's friend.'

Whereas the pronominal *kare* (included in the dative argument) can be coreferential with the R-expression *Ken* in (29a), pronominal coreference is not possible in (29b) (due to Condition C of the binding theory: Chomsky 1986) since the pronominal *kare* is located in the subject position that c-commands *Ken* (cf. Whitman 1986).

Note that (28b) is not rendered acceptable even if the depictive predicate is scrambled from the base position to the left of the object, where the depictive superficially c-commands the object, as shown in (30).

(30) ?*Titioya-wa Ken$_i$-no itumo-no kakkoo-de kare$_i$-o koo'en-ni
father-TOP Ken-GEN usual-GEN appearance-COP he-ACC park-to
ture-te it-ta.
take-GER go-PST
(lit.) 'The father took him in Ken's usual clothes to the park.'

This fact follows straightforwardly given that a copy of the object-oriented secondary predicate left by scrambling resides in the lower position than the object. In (30), pronominal coreference between *kare* and *Ken* is precluded on the grounds that the pronominal c-commands *Ken* in the pre-scrambling site. The adequacy of the present view is further confirmed by (31).

(31) a. ?*[Ken$_i$-no tomodati-ni]$_j$ kare$_i$-ga $t_j$ at-ta.
Ken-GEN friend-DAT he-NOM meet-PST
'Ken's friend, he met.'
b. Ken$_i$-no tomodati-ga kare$_i$-ni at-ta.
Ken-GEN friend-NOM he-DAT meet-PST
'Ken's friend met him.'

In (31a), where *kare-no tomodati* is scrambled to the sentence front, *Ken* cannot be coreferential with *kare* 'he' (Saito 1983; see also Hoji 1985). Here, pronominal coreference is blocked since there is a copy of *Ken* in the base position, which is c-commanded by the subject *kare*. In (31b) there is no copy of *Ken* that c-commands the pronominal *kare*, so *kare* can be coreferential with *Ken*. Given that the same patterns of distribution in (29) and (31) are observed for (28) and (30), it is feasible to state that object-oriented depictives are base-generated in a position c-commanded by the objects of primary predicates.

The facts of vP-focus pseudo-cleft construction in (22) and (26) suggest that subject-oriented depictives are located in a lower position than their associated subjects. The contrast in acceptability in (32) in regard to pronominal coreference points to the same conclusion.

(32) a. *Ken*$_i$*-ga* *kare*$_i$*-no* *itumo-no* *kakkoo-de* *arui-te* *i-ta.*
Ken-NOM he-GEN usual-GEN appearance-COP walk-GER be-PST
'Ken was walking in his usual clothes.'
b. **Kare*$_i$*-ga* *Ken*$_i$*-no* *itumo-no* *kakkoo-de* *arui-te* *i-ta.*
he-NOM Ken-GEN usual-GEN appearance-COP walk-GER be-PST
'He was walking in Ken's usual clothes.'
c. **Ken*$_i$*-no* *itumo-no* *kakkoo-de* *kare*$_i$*-ga* *arui-te* *i-ta.*
Ken-GEN usual-GEN appearance-COP he-NOM walk-GER be-PST
'In Ken's usual clothes, he was walking.'

The fact suggests that subject-oriented depictives are adjoined to vP and hence are c-commanded by the subjects located in Spec-TP.

As for the adjunction site for object-oriented depictives, I suggest that they are adjoined to a maximal projection inside VP. In the literature, a lexical head is sometimes assumed to be category-neutral and its category is assigned via the merger of a functional head with it (e.g. Embick and Marantz 2007). For the verbal structure, Chomsky (2013, 2015) takes V to be a root (R), but I suggest that V is a functional head to serve as a category assigner rather than a root, and is projected above the root R. Given this, it is plausible to state that a verbal structure is derived by first merging V with R, and then by merging v with the V-R complex. Japanese verbal morphology lends empirical support to this view.

(33) a. *haya-**m**-**ar**-u* (fast-**m**-**ar**-PRS) 'become fast (intr.)'
b. *haya-**m**-**e**-ru* (fast-**m**-**e**-PRS) 'make fast (trans.)'
c. *haya-i* (fast-PRS) 'high'

The verbs *hayamaru* 'become fast (intr.)' and *hayameru* 'make fast (trans.)' are derived by suffixing *-m-ar* or *-m-e* to the root *haya* (cf. Oseki 2017). When *haya* occurs with a present tense morpheme with no overt suffix, it counts as an adjective, as in (33c). With the derived verbs, *-e* and *-ar* are construed as transitivity affixes, which we can assume correspond to v (Jacobsen 1991; Kishimoto 2020). The other affix *-m* is a verbalizing affix, which can be considered a morphological realization of V although this class of affix is not always expressed overtly.[10] In light of this consideration, I posit a three-layered verbal structure: [$_{vP}$ [$_{VP}$ [$_{RP}$ ]]].

(34) [$_{TP}$ SUBJ [$_{vP}$ SOD [$_{vP}$ [$_{VP}$ OBJ [$_{RP}$ ODP [$_{RP}$ ]]]]]]

**10** See Kishimoto (2008) for different kinds of arguments based on idioms that lend support to the view that a maximal projection exists below VP.

Subject-oriented depictives appear in a position lower than the subject, which suggests that subject-oriented depictives are adjoined to vP. Object-oriented depictives, which is adjoined to RP, appears in a lower position than the object.[11] Then, it is reasonable to say that object-oriented depictives are adjoined to RP. (I will turn to further discussion on the adjunct status of secondary predicates in section 4.2.)

## 3.3 The internal structure of depictives

In this section, I will argue that depictive predicates include an invisible PRO subject. On the basis of subject honorification, which is a kind of (optional) agreement that can target a subject referring to an individual worthy of respect (see Harada 1976; Hasegawa 2006), I suggest that the invisible subjects of secondary predicates are linked to the subjects or objects of the primary predicates via control. It is argued that adverbials derived from adjectives and nominal adjectives can only be used as modifiers, and do not comprise (invisible) subjects inside, unlike depictive predicates.

With regard to the question of where invisible subjects are placed inside depictive predicates, I propose that they appear in the projection of an invisible stative verb *aru* 'be'. To make this point, observe that adjuncts describing some transitory states of subjects or objects display distinct inflectional patterns according to their syntactic categories. (35) illustrates the morphological forms of adjuncts derived from nouns (N), nominal adjectives (NA), and adjectives (A).

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**11** den Dikken (this volume) proposes that depictive predication involves specificational asyndetic coordination. His analysis is primarily motivated by the fact that depictives show an island effect when they undergo long-distance extraction, which he attributes to a violation of the Coordinate Structure Constraint.

(i) ?*How drunk does Mary think that John left the pub?

In Japanese, no island effect is observed even if a depictive undergoes long-distance extraction (cf. Koizumi 1994).

(ii) *Nama-de*$_i$ *Ken-wa* [*Mari-ga* *sakana-o* $t_i$ *tabe-ta* *to*]
raw-COP Ken-TOP Mari-NOM fish-ACC eat-PST that
*omot-te* *i-ru.*
think-GER be-PRS
(lit.) 'Raw, Ken thinks that Mari ate the fish.'

In (ii) the depictive is extracted from the embedded clause via srambling, but the sentence is acceptable (although it is a little hard to process the sentence). This fact might be taken as an indication that Japanese depictive predication involves external syntax different from English-type depictive predication.

(35)

| N-based | NA-based | A-based |
|---|---|---|
| X-*de* | X-*ni* | X-*ku* |

Adjuncts providing the descriptions of arguments occur in the adverbial form, and not in the conclusive form, as shown in (36).

(36) *Ken-wa* *hadasi-{**de**/***da**}* *kono* *torakku-o* *hasit-ta.*
Ken-TOP barefoot-{COP/COP} this track-ACC run-PST
'Ken ran on this track barefoot.'

The inflectional forms in (36), licensed by some verbal elements that follow them, provide an important key to understanding the nature of depictive predicates. In the following sections, I propose that adjuncts derived from nouns can serve as depictive predicates, which contain invisible subjects, while adjuncts formed on nominal adjectives and ordinary adjectives serve only as modifiers that do not contain subjects (even when they are taken to specify the states of the subjects or objects of primary predicates).

### 3.3.1 Depictives derived from nouns

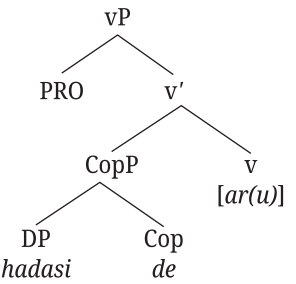
Adjuncts derived from nouns can serve as secondary predicates. These adjuncts appear in the *de*-form when they form full clauses with the stative verb *aru* 'be'. Note that when the copula occurs before the verb *aru*, it appears in the *de*-form, as shown in (37a), but the copula appears in the *ni*-form when it is followed by other verbs, as shown in (37b).

(37) a. *Ano* *hito-wa* *hadasi-{**de**/***ni**}* *ar-u.*
that man-TOP barefoot-{COP/COP} be-PRS
'That man is barefoot.'
b. *Ano* *hito-wa* *hadasi-{**de/ni**}* *{nar-u/mie-ru}.*
that man-TOP barefoot-{COP/COP} {become-PRS/look-PRS}
'That man{becomes/looks} barefoot.'

This fact shows that the copula has different morphological realizations according to the type of verb that follows it (cf. Hasegawa 2014).

The stative *aru* is a special verb associated with the copula. In light of the morphological facts about the inflectional forms of the copula, I suggest that nominal depictives have a structure where vP is projected over CopP.

(38)




The subjects inside the secondary predicates are in no way manifested overtly, but there is good reason to believe that they are present syntactically. I propose that PRO is placed in Spec-vP associated with the invisible *aru* 'be' and serves as the invisible subject to be controlled by either the subject or the object of the primary predicate. Under this proposal, the vP can be conceived of as functioning as a "Relator" which mediates a subject-predicate relation in the sense of den Dikken (2006) (see also Bowers 1993; Kishimoto and Kikuchi 2008).[12]

There are two major analyses for the syntactic structures of secondary predicates that have been proposed in the literature. One type of analysis postulates a null subject PRO inside the secondary predicate (e.g. Chomsky 1981; Stowell 1983; Bowers 1993, 2010), and another type of analysis does not posit any subject inside it (e.g. Williams 1980; Rothstein 1983, 2001; McNulty 1988). The present proposal on noun-based depictives is in line with the first analysis. In the following discussions, I present empirical evidence showing that invisible subjects indeed appear inside noun-based depictive predicates.

Empirical evidence that invisible subjects appear inside depictive predicates constructed on nouns may be adduced from the facts of subject honorification, which, as its name suggests, has subject orientation.[13] By way of illustrating this

**12** The vP in the present analysis roughly corresponds to the VP projected from a dummy cop in Nishiyama (1999), but the present analysis differs from his analysis, in that the hypothesized vP accommodates an invisible subject, but not just a device for morphological support (see also Urushibara 1993).

**13** The prefixes *o-* and *go-* have "beautification" uses (Harada 1976). When the prefixes are used for the purpose of beautification, they can be associated with nominals even if they refer to entities to which deference cannot be directed, as in (ia). On the other hand, when the prefixes are used for subject honorification, a contrast in acceptability emerges depending on the type of nominal they are associated with, as in (ib).

(i) a. {*sensei-no/seito-no*} *o-hasi*
{teacher-GEN/student-GEN} HON-chopstick
'{the teacher's/the pupil's} chopsticks'

point, observe that depictives can have a subject-honorific marker regardless of whether they target the subjects or objects of the primary predicates.[14]

(39) a. ***Sato-sensei-ga*** [*kimono-no* ***o****-sugata-de*] *hanasi-te irassyar-u.*
Sato-teacher-NOM kimono-GEN HON-figure-COP talk-GER be.HON-PRS
'Professor Sato is talking in kimono.'

b. *Kyuukyuusya-ga* ***Sato-sensei-o*** [*kimono-no* ***o****-sugata-de*]
ambulance-NOM Sato-teacher-ACC kimono-GEN HON-figure-COP
*hakon-da.*
carry-PST
'The ambulance carried Professor Sato in kimono.'

Note in this connection that subject-honorific forms of non-verbal predicates are derived by attaching the prefix *o-* or *go-* to them.

Subject honorification has subject orientation, in the sense that its target is confined to subjects referring to the individual worthy of respect.

(40) a. ***Tanaka-sensei-ga*** *gakusei-ni* ***go****-rippuku-de ar-u.*
Tanaka-teacher-NOM student-DAT HON-anger-COP be-PRS
'Professor Tanaka is angry at the students.'

b. **Gakusei-ga* ***Tanaka-sensei-ni*** ***go****-rippuku-de ar-u.*
student-NOM Tanaka-teacher-DAT HON-anger-COP be-PRS
'The students are angry at Professor Tanaka.'

In (40a), subject honorification targets the subject, and the sentence is acceptable. In (40b), since subject honorification is not anchored to the subject, the sentence is not acceptable.

Importantly, when subject-honorific affixes are affixed to depictives, their honorification targets could be either the subjects or the objects of the primary predicates, as shown in (39). On the other hand, when they are used as primary predicates, their predication targets are confined to subjects, as seen in (40). The discrepancy in orientation of subject honorification observed between the depic-

b. {*sensei-no*/**seito-no*} *o-kaban*
{teacher-GEN/pupil-GEN} HON-bag
'{the teacher's/the pupil's} bag'

**14** When subject honorification marked on an adjunct is anchored to the subject of the clause, it is preferrable (and sometimes necessary) for the main predicate to have a subject honorific form alongside the adjunct for stylistic reasons. No such condition is imposed when subject honorification targets a non-subject argument.

tive predicates and the full-clause counterparts accrues from the differences in their internal structures.

(41) a. [ $SUBJ_i$ $OBJ_j$ [$_{vP}$ $PRO_{i/j}$ PRED ] PRED]
b. [ SUBJ [$_{vP}$ ~~SUBJ~~ PRED]]

Secondary predicates are predicated of the invisible PRO inside them. PRO enters into a control relation with either the subject or the object, as (41a) illustrates. Subject honorification is understood as targeting the object if PRO is controlled by the object. If PRO is controlled by the subject, subject honorification is taken to target the subject. When the predicates are used as primary predicates, they are predicated of the subjects generated inside the vP, and are moved into the clause subject position, as illustrated in (41a). In this case, the honorification target is confined to subjects.

Observe at this point that a locality condition is imposed on subject honorification besides the subject condition. Since the local domain of subject honorification is the smallest clause containing its marker and the subject, the target of subject honorification is confined to the subject closest to the predicative element with a subject-honorific marker.

(42) a. *Gakusei-ga* [***Ito-sensei-o*** ***o****-utukusiku*] *omot-te* *i-ru.*
student-NOM Ito-teacher-ACC HON-beautiful consider-GER be-PRS
'The student considers Professor Ito beautiful.'
b. ****Ito-sensei-ga*** [*gakusei-o* ***o****-utukusiku*] *omot-te* *i-ru.*
Ito-teacher-NOM student-ACC HON-beautiful consider-GER be-PRS
'Professor Ito considers the student beautiful.'

In (42a), the subject of the small clause is marked with accusative case.[15] When the embedded predicate bears a subject-honorific marker, the small-clause subject is targeted by subject honorification. Since the embedded subject *Ito sensei* which refers to a person worthy of respect, subject honorification is legitimate. If the predicate in the embedded small clause bears a subject-honorific marker, the matrix subject cannot be a target for subject honorification, as seen in (42b).

The data in (42) illustrate that long distance subject honorification targeting the matrix subject across another subject is not possible. Nevertheless, if the subject of

**15** Although I make use of the small-clause construction to illustrate how subject honorification behaves in complex-predicate constructions, it is worth noting that exactly the same distributions are observed for ECM constructions (see Kishimoto 2021a).

the embedded small clause is rendered as a matrix subject via direct passivization, the matrix subject can be targeted for subject honorification even if the embedded predicate bears a subject-honorific marker.

(43) ***Ito-sensei-ga***$_{i}$ *gakusei-ni* [ $t_{i}$ ***o**-utukusiku*] *omow-are-te*
Ito-teacher-NOM student-by HON-beautiful consider-PASS-GER
*i-ru.*
be-PRS
'Professor Ito is considered to be beautiful by the student.'

Given that the passive subject is originated from the embedded small clause, it should be apparent that subject honorification is anchored to a copy of the passive subject appearing in the embedded clause when the embedded predicate has a subject-honorific form.

As noted earlier, noun-based depictives readily allow subject honorification to target an object of the primary predicate, as seen in (44).

(44) *Kyuukyuusya-ga* ***Sato-sensei-o*** [PRO *isikihumei-no*
ambulance-NOM Sato-teacher-ACC unconsciousness-GEN
***go**-zyootai-de*] *hakon-de i-ru.*
HON-condition-COP carry-GER be-PRS
'The ambulance is carrying Professor Sato unconscious.'

The object cannot be directly targeted for subject honorification if the primary predicate bears a subject-honorific marker. Thus, (45) is not acceptable.

(45) **Kyuukyuusya-ga* ***Sato-sensei-o*** [PRO *isikihumei-no*
ambulance-NOM Sato-teacher-ACC unconsciousness-GEN
*zyootai-de*] ***o**-hakobi-**ni-nat**-ta.*
condition-COP HON-carry-DAT-become-PST
'The ambulance carried Professor Sato unconscious.'

(45) shows that the object does not appear in a position to which subject honorification cannot be directed if the primary predicate carries a subject-honorific marker. When *isikihumei-no go-zyootai-de* is used as a primary predicate in the corresponding copular construction, the subject can be targeted for subject honorification.

(46) ***Sato-sensei-ga*** *isikihumei-no* ***go**-zyootai-de* *ar-u.*
Sato-teacher-NOM unconsciousness-GEN HON-condition-COP be-PRS
'Professor Sato is unconscious.'

In (44), the secondary predicate has a subject-honorific marker, and the object of a primary predicate is the target for subject honorification. If the depictive predicate includes PRO in its subject position, PRO controlled by the object is the real target of subject honorification. In such cases, it is naturally expected that the object can be understood to be a target of subject honorification.

Essentially the same facts are observed in object-control constructions. Subject orientation of subject honorification is fairly pervasive, but apparent exceptions are found in object-control constructions like (47).

(47) *Kare-wa* ***Ito-sensei-o*** [PRO *sinzitu-o* ***o****-hanasi-****ni-nar-u***
he-TOP Ito-teacher-ACC truth-ACC HON-tell-COP-become-PRS
*yoo*] *settoku-si-ta.*
COMP persuasion-do-PST
'He persuaded Professor Ito that she should tell the truth.'

In (47), the subject-honorific marker appears on the embedded predicate, and the matrix object is understood to be a target for subject honorification. This interpretation is derived on the grounds that the matrix object controls PRO in the embedded clause. A comparison of (45) and (46) suggests that when a depictive predicate carries a subject-honorific marker, subject honorification targeting the object of the primary predicate is allowed via the real syntactic target for subject honorification inside the depictive.

Reflexivization is another well-known subject test in Japanese (Shibatani 1987; Kishimoto 2005). Nevertheless, subject-oriented reflexive *zibun* inside the depictive predicate cannot take the object of a primary predicate as its antecedent.

(48) *Titioya*$_{i}$*-wa* *kodomo*$_{j}$*-o* *zibun*$_{i/*j}$*-no* *konomi-no* *kakkoo-de*
father-TOP child-ACC self-GEN favorite-GEN appearance-COP
*doobutuen-ni* *ture-te* *it-ta.*
zoo-to take-GER go-PST
'The father took his child to the zoo in his favorite clothes.'

In (48), the subject is the antecedent of the reflexive *zibun* regardless of whether the depictive is interpreted as describing the state pertaining to the subject or the object.

It is important to see at this point that in the equative copular construction in (49), the subject cannot bind the reflexive *zibun* or the pronoun *kare* 'he' embedded in the nominal predicate *sukina kakko de aru* 'in favorite clothes'.

(49) *$Ken_i$-wa {$zibun_i$-no/$kare_i$-no} sukina kakkoo-de ar-u.
Ken-TOP {self-GEN/he-GEN} favorite appearance-COP be-PRS
(lit.) 'Ken is in {his/self's} favorite clothes.'

In English, the subject of an equative copular sentence, unlike the subject of a non-copular sentence, cannot be coreferential with the possessor of the nominal copular predicate, as seen by the contrast in acceptability between (50a) and (50b) (see e.g. Higginbotham 1980; Moro 2006).

(50) a. *$John_i$ likes $his_i$ cook.*
b. **$John_i$ is $his_i$ cook.*

In the copular construction in (50b), in opposition to the ordinary transitive construction in (50a), the pronoun *his* cannot be coreferential with the subject *John*.[16] The unavailability of the intended interpretation in (50b) is due to the fact that in ordinary contexts, the DP *his supporter* cannot refer to the same individual that its specifier *his* refers to (Hoeksma and Napoli 1990). The reference of the pronoun *his* cannot be resolved unless some individual other than *John* is referred to by *his* in the copular clause in (50b) (see also section 4.1).

The binding restriction does not obtain in non-copular clauses. The reflexive *zibun* can be bound by the subject when it appears inside *kakkoo* in the existential construction or in the construction with the intransitive verb *aruku* 'walk', as shown in (51) (see also section 3.1).

**16** When *own* is added to (50b), as in *John is his own cook,* the sentence improves. This improvement obtains since it can be inferred, in the presence of *own*, that John is taken to play different roles when *his* and *John* co-refer. Both semantic/pragmatic account (Hoekstra and Napoli 1990) and syntactic account (e.g. Hornstein 1994) have been proposed in the literature, but I will not go into the question of which analysis is favored. A similar effect is obtained for (i) when the subject carries an exhaustive listing interpretation (by placing a stress on the case particle) (Kuno 1973).

(i) $Ken_i$-gá $zibun_i$-no sizisya-de ar-u.
Ken-NOM self-GEN supporter-COP be-PRS
(lit.) 'Ken is self's supporter.'

(i) is acceptable to the extent that *Ken* can be taken to play two different roles as "a supporter" and "a supported person" at the same time. In the case of secondary predicates, this interpretation is apparently not available since the subject is not overtly realized. Then, the reflexive *zibun* appearing in the secondary predicate cannot take PRO as its antecedent, and therefore the object of the primary predicate in (49) cannot be its antecedent.

(51) a. *Ken*$_i$*-wa* {*kare*$_i$*-no/zibun*$_i$*-no*} *sukina* *kakkoo-de* *i-ta.*
Ken-TOP {he-GEN/self-GEN} favorite appearance-COP be-PST
(lit.) 'Ken was in {the usual/self's favorite} clothes.'

b. *Ken*$_i$*-wa* {*kare*$_i$*-no/zibun*$_i$*-no*} *sukina* *kakkoo-de* *arui-ta.*
Ken-TOP {he-GEN/self-GEN favorite appearance-COP walk-PST
(lit.) 'Ken walked in {his/self's favorite} clothes.'

The contrast in acceptability between the examples in (49) and (51) illustrates that reflexive *zibun* and pronominal *kare* cannot take the subject as its antecedent in the copular construction.[17]

Given that secondary predicates have the same kind of equative construal as the copular clause in (49), it follows that PRO appearing as the subject of depictives cannot bind the local reflexive *zibun.* Accordingly, the object of the primary predicate cannot be the antecedent of the reflexive *zibun* in (48), and the antecedent of *zibun* is limited to the subject of the primary predicate. The fact that reflexive *zibun* does not behave in the same way as subject honorification falls out straightforwardly if depictive predicates include invisible PRO subjects inside and have the same semantic relations as their equative copular clause counterparts.

The overall generalization is that when depictives have subject-honorific marking, their subject-honorific targets can be objects or subjects, depending on their orientation. If depictives to which a subject-honorific marker is attached include a PRO subject, subject honorification is anchored to PRO. Since PRO may be controlled by either the subject or the object of the primary predicate, the target of subject honorification could be the object of the primary predicate if object control is involved. Given the parallelism between depictives and object-control constructions, it is reasonable to state that depictives include PRO subjects inside, and that their predication target is determined according to whether PRO has a control relation with the subject or the object of the primary predicate.

As an alternative, one might argue that in cases where a depictive predicate bears subject-honorific marking, subject honorification targeting the object of a primary predicate is made available on the basis that the object is originated from the subject position of the depictive. If the argument located inside the secondary predicate undergoes A-movement into the object position, it is expected that the object can be targeted for subject honorification. This alternative is not viable, however. By looking at a Proper Binding Condition (PBC) effect (Saito 1989), it is possible to confirm that no argument is extracted from the secondary predicate.

**17** The fact of reflexive binding gives us another indication that the sentence with *iru* 'be' is not a copular construction.

To make this point, let us consider the light verb construction, where a verbal noun is combined with *suru* 'do' to derive a complex predicate (Kishimoto 2019). Note that the light verb construction in (52b) can be construed as derived from (52a) via the raising of the dative argument out of the verbal noun *hensoo* 'disguise'.

(52) a. *Ken-ga* [*keikan-no* *hensoo-o*] *si-ta.*
Ken-NOM policeman-GEN disguise-ACC do-PST
'Ken disguised himself as a policeman.'
b. *Ken-ga* *keikan-ni*$_i$ [ $t_i$ *hensoo-o*] *si-ta.*
Ken-NOM policeman-DAT disguise-ACC do-PST
'Ken disguised himself as a policeman.'

In the dative possessor variant of the light verb construction in (52b), the verbal noun contains a copy left by movement. If the verbal noun in (52b) is scrambled to the left of the dative argument, unacceptability results, as shown in (53).

(53) **Ken-ga* [ $t_i$ *hensoo-o*]$_j$ *keikan-ni*$_i$ $t_j$ *si-ta.*
Ken-NOM disguise-ACC policeman-DAT do-PST
'Ken disguised himself as a policeman.'

In (53), the dative argument fails to c-command the copy inside the verbal noun, which has been left by movement. Thus (53) gives rise to a PBC effect.

No such effect is observed if control rather than movement is involved. This can be confirmed by the acceptability of the control construction in (54), where the embedded clause is moved to the left of the accusative argument.

(54) *Karera-wa* [PRO *sinzitu-o* ***o-hanasi-ni-nar-u*** *yoo*]$_i$
they-TOP truth-ACC HON-tell-COP-become-PRS COMP
***Ito-sensei-o*** $t_i$ *settoku-si-ta.*
Ito-teacher-ACC persuasion-do-PST
'They persuaded Professor Ito that she should tell the truth.'

In (54), the controller does not c-command PRO in overt syntax, but the accusative argument is taken to be the subject of the embedded predicate. This fact shows that a c-command relation is not required at least on the surface for control to be established.

For depictive predicates, it is fully acceptable to place them to the left of the arguments with which they are associated (even when a subject-honorific marker is attached to them), as exemplified in (55).

(55) [*Kimono-no* ***o****-sugata-de*]$_i$ ***Sato-sensei-ga*** $t_i$ *hanasi-te* *irassyar-u.*
kimono-GEN HON-figure-COP Sato-teacher-NOM talk-GER be.HON-PRS
'Professor Sato is talking in kimono.'

No PBC effect is obtained for (54), which suggests that the honorific target is not extracted from the secondary predicate. In the face of this fact, it is fair to state that adjuncts derived from nouns can count as depictive predicates that include an invisible PRO inside them, and that they can take the subjects or objects of the primary predicates as their predication targets via control.

### 3.3.2 Adverbial adjuncts derived from nominal adjectives

While adjuncts formed on nouns can be construed as depictive predicates, adverbial adjuncts derived from ordinary adjectives and nominal adjectives cannot be used as secondary predicates. Even though it is sometimes claimed or assumed that ordinary adjectives and nominal adjectives can function as secondary predicates (e.g. Yamakido 2005), the facts of subject honorification show that they do not serve as secondary predicates containing PPO even if they are used to characterize some states of subjects or objects.

First, let us consider cases involving nominal adjectives. Recall that nominal adjectives have the sequence of "Nominal+copula", and noun-based predicates have the sequence of "DP+copula". There is good reason to believe that while adjuncts formed from nouns can function as depictives which comprise invisible subjects, adjuncts formed from nominal adjectives do not, although both have similar morphological shapes.

To make this point, observe that nominal adjectives, unlike depictives formed from nouns, appear in the *ni*-form rather than in the *de*-form even when they are taken to describe an individual's state, as shown in (56).

(56) a. *Ano* *hito-wa* *nonki-*{***ni****/*****de***} *gohan-o* *tabe-te* *i-ta.*
that man-TOP optimistic-{COP/COP} meal-ACC eat-GER be-PST
'That man was having a meal free from care.'
b. *Ano* *hito-wa* *kimono-*{****ni/de***} *gohan-o* *tabe-te* *i-ta.*
that man-TOP kimono-{COP/COP} meal-ACC eat-GER be-PST
'That man was having a meal in kimono.'

The copula occurring with nominal adjectives inflects, but nominal adjectives used as adjuncts do not have the same inflectional patterns as their full-clause counterparts.

(57) a. *Ano hito-wa nonki-{***ni**/**de**} ar-u.*
that man-TOP optimistic-{COP/COP} be-PRS
'That man is optimistic.'
b. *Ano hito-wa nonki-{**ni**/***de**} {nat-ta/mie-ta}.*
that man-TOP optimistic-{COP/COP} {become-PST/look-PST}
'That man {became/looked} optimistic.'

Nominal adjectives functioning as primary predicates in full clauses appear in the *de*-from, as in (57a), but those nominal adjectives used as adjuncts appear in the *ni*-form, as in (57b). From the data in (57), it can be hypothesized that the *ni*-form of nominal adjectives is licensed by verbs but not *aru*. The inflectional form of nominal adjectives used as adverbial adjuncts leads to the hypothesis that no vP is projected over the nominal adjectives, so that they do not comprise an invisible verb or a PRO subject.

The vP-clefting data in (58) provide empirical evidence that *nonki-ni*, which is associated with subjects, is adjoined to vP, since it can appear in the presupposition clause as well as in the focus position.

(58) a. [*Ano hito-ga **nonki-ni** si-te i-ta*] *no-wa*
that man-NOM optimistic-COP do-GER be-PST NOML-TOP
[*gohan-o taberu*] *koto-da.*
meal-ACC eat that-COP
'What that man was doing free from care was have a meal.'
b. [*Ano hito-ga si-te i-ta*] *no-wa* [***nonki-ni***
that man-NOM do-GER be-PST NOML-TOP optimistic-COP
*gohan-o taberu*] *koto-da.*
meal-ACC eat that-COP
'What that man was doing was have a meal free from care.'

The nominal adjective modifier *nonki-ni* behaves like a subject-oriented depictive in this respect. Nevertheless, the data in (59) suggest that the nominal adjective *nonki* serves as a predicate modifier rather than a depictive predicate.

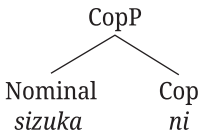
(59) a. *Ano hito-wa nonki-ni gohan-o tabe-te i-ta.*
that man-TOP optimistic-COP meal-ACC eat-GER be-PST
'That man was having a meal carefree.'

b. *#Ano* *hito-wa* *nonki-de* *at-ta-ga,* *gohan-o* *tabe-te*
that man-TOP optimistic-COP be-PST-but meal-ACC eat-GER
*i-ta.*
be-PST
'That man was carefree, but had a meal.'

The clause in (59a), which includes a nominal adjective adjunct, does not carry the same meaning as (59b), in which the nominal adjective appears in a separate clause. This fact follows if nominal adjectives in the *ni*-form are used as adverbial modifiers, but not secondary predicates, even when they are taken to describe the state of the subject.

As for the structure of adverbial adjuncts derived from nominal adjectives, I suggest that they do not comprise vP projected over nominal adjective stems (even if they are understood to describe the state of arguments interpretively), so that neither an invisible verb nor a PRO subject is included in them.

(60)




The present analysis makes the prediction that when a nominal adjective describing the state of an object carries a subject-honorific marker, subject honorification cannot target the object. This prediction is indeed borne out, as seen in (61).

(61) *Watasi-wa* ***Ito-sensei-o*** (****go***-)*buzi-ni* *eki-made* *okuritodoke-ta.*
I-TOP Ito-teacher-ACC (HON-)safe-COP station-to send-PST
'I sent Professor Ito to the station safely.'

In (61), *buzi-ni* 'safely' can be interpreted as describing the situation (or state) pertaining to the object *Ito-sensei* when no subject-honorific marker appears on it. If a subject-honorific marker is attached to *buzi-ni*, the sentence is not acceptable since subject honorification is anchored not to the object, but to the subject, which does not qualify as a legitimate honorification target.

The adverbial adjunct *buzi-ni* interpretively modifies the object in (61), and shows a behavior on a par with an object-oriented depictive in vP-focus pseudo-cleft constructions. The adjunct *buzi-ni* patterns with object-oriented depictives, in that it is not allowed to appear in the presupposition clause.

(62) a. *[*Watassi-ga* ***buzi-ni*** *si-ta*] *no-wa* [*Ito-sensei-o*
I-NOM safe-COP do-PST NOML-TOP Ito-teacher-ACC
*eki-made* *okuritodokeru*] *koto-da.*
station-to send that-COP
'What I did safely was send Professor Ito to the station.'

b. [*Watasi-ga* *si-ta*] *no-wa* [*Ito-sensei-o* ***buzi-ni***
I-NOM do-PRS NOML-TOP Ito-teacher-ACC safe-COP
*eki-made* *okuritodokeru*] *koto-da.*
station-to send that-COP
'What I did was send Professor Ito to the station safely.'

The fact that *buzi-ni* can appear only in the focus position suggests that this adverb is adjoined inside VP. Nevertheless, the object cannot be targeted for subject honorification when *buzi-ni* has a subject-honorific marker, as in (61).

If the subject-honorific marker *go-* is attached to the adjunct *buzi-ni*, the target of subject honorification is confined to the subject of the clause, as shown in (63).

(63) a. ***Ito-sensei-ga*** *hibi-o* (***go***-)*buzi-ni* *kurasi-te* *irassayar-u.*
Ito-teacher-NOM every.day-ACC (HON-)safe-COP live-GER be.HON-PRS
'Professor Ito is leading a safe everyday life.'

b. ***Ito-sensei-ga*** *sudeni* (***go***-)*buzi-ni* *tui-te* *irassayar-u.*
Ito-teacher-NOM already (HON-)safe-COP arrive-GER be.HON-PRS
'Professor Ito has already arrived safely.'

The two sentences in (63) are fine with the subject-honorific marker on *buzi-ni*, since the subject is targeted for subject honorification. The crucial fact is that deference cannot be directed to the object when the nominal adjective adjunct bears a subject-honorific marker. The data regarding the adjunct *buzi-ni* 'safely' leads to the conclusion that an invisible subject pronoun PRO, which is a potential target for subject honorification, is lacking in nominal adjectives when they appear in the *ni*-form.[18]

**18** There are adjuncts derived from nominal adjectives and regular adjectives that can be associated with either subjects or objects even if they do not function as secondary predicates. This is illustrated by the examples in (i), with the nominal adjective modifier *buzi-ni* 'safe' and the adjective modifier *otonasiku* 'calm, obedient'.

(i) a. *Ano* *hito-wa* {*buzi-ni/otonasiku*} *seikatu-o* *okut-te* *i-ru.*
that man-TOP {safe-COP/calm} life-ACC lead-GER be-PRS
'That man is leading a {safe/clam} life.'

The same pattern of distribution for subject honorification is observed when nominal adjectives are used adverbially, specifying a manner. In (64), *teityoo-ni* 'politely', which is an adverbial derived from a nominal adjective, describes a manner of 'carrying', but not the state of the object, which refers to the individual worthy of respect.

(64) *Watasi-wa* ***Ito-sensei-o*** (****go***-)*teityoo-ni* *eki-made* *okuritodoke-ta.*
I-TOP Ito-teacher-ACC (HON-)polite-COP station-to send-PST
'I sent Professor Ito to the station politely.'

When *teityoo-ni* carries a subject-honorific marker, the sentence is not acceptable since the deference cannot be directed to the object.

Note that *buzi* 'safe' can have the *de*-form, perhaps by virtue of the fact that it qualifies as a noun alongside a nominal adjective.[19] Importantly, (65), in which *buzi-de* bears the subject-honorific marker *go-*, is acceptable.

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b. *Titioya-wa* *kodomo-o* {*buzi-ni/otonasiku*} *gakkoo-made* *ture-te*
father-TOP child-ACC {safe-COP/obedient} school-to take-GER
*ik-u* *koto-ga* *deki-ta.*
go-PRS that-NOM can.do-PST
'The father was able to take his child to the school {safely/obediently}.'

(ia) shows that *buzi-ni* and *otonasiku* can be associated with the subject. (ib) shows that they can be associated with the object as well.

**19** Some expressions like *genki* 'vigor', *hissi* 'desperate', and *buzi* 'safe' are ambiguous in their lexical categories, which is illustrated by the fact that *genki* can appear with either *no* or *na* when used as a prenominal expression.

(i) a. *genki-**no*** *moto* b. *genki-**na*** *hito*
vigor-COP source vigorous-COP man
'the source of vigor' 'a vigorous man'

Note that *genki* can be combined with *iru* and *si-te iru*, as illustrated in (ii).

(ii) a. *Ano* *hito-wa* *genki-de* {*ar-u/i-ru*}.
that man-TOP vigor-COP {be-PRS/be-PRS}
'That man {is/stays} vigorous.'
b. *Ano* *hito-wa* *genki-ni* *si-te* *i-ru.*
that man-TOP vigor-COP do-GER be-PRS
'That man is being vigorous.'

By contrast, a nominal adjective like *sizuka* is allowed to occur with *aru*, but not *iru*, while it is possible to occur with *si-te iru.*

(iii) a. *Ano* *hito-wa* *sizuka-de* {*at-ta/*i-ta*}.
that man-TOP calm-COP {be-PST/be-PST}
'That man {was/stayed} calm.'

(65) *Watasi-wa* ***Ito-sensei-o*** (***go***-)*buzi-de* *eki-made* *okuritodoke-ta.*
I-TOP Ito-teacher-ACC (HON-)safe-COP station-to send-PST
'I sent Professor Ito to the station safely.'

When the copula has the *de*-form, the adjunct comprises the verbal projection containing PRO above it. Accordingly, the deference can successfully be directed to the object in (65).

It should be mentioned at this point that the morphosyntactic distinction between *buzi-de* and *buzi-ni* is in a sense akin to the distinction between adjectives used as secondary predicates and adverbs in English.

(66) a. *John left the room* ***angry****.*
b. *John left the room* ***angrily****.*

In (66a), *angry* does not directly modify the predicate, but rather it is predicated of the subject as a depictive predicate. The morphological form of *angrily* in (66b) indicates that it is used as an adverbial modifier. A similar sort of distinction is drawn with respect to the adjuncts *buzi-de* and *buzi-ni*.

In essence, subject honorification can target only the subjects of primary predicates when subject-honorific markers are appended to adverbial modifiers derived from nominal adjectives. This fact suggests that nominal adjectives appearing in the *ni*-form lack the vP projection which accommodates PRO and function as adverbial modifiers syntactically even when they are taken to describe some transitory states pertaining to the subjects or the objects of the primary predicates.

### 3.3.3 Adverbial adjuncts derived from ordinary adjectives

Let us now turn to cases involving ordinary adjectives, which have the attributive form with the *i*-ending. Notably, some adverbial adjuncts derived from ordinary adjectives can be understood to provide a description of arguments (Matsuoka 2021; Miura 2021).

b. *Ano* *hito-wa* *sizuka-ni* *si-te* *i-ru.*
that man-TOP calm-COP do-GER be-PRS
'That man is being calm.'

Given that *genki* can be either a noun or a nominal adjective, it is naturally expected that it can have two attributive forms.

(67) a. *Watasi-wa Saito-sensei-o insyoobukaku syookai-si-ta.*
I-TOP Saito-teacher-ACC impressive introduction-do-PST
'I introduced Professor Saito impressively.'
b. *Sono toki Saito-sensei-wa insyoobukakat-ta.*
that time Saito-teacher-TOP impressive-PST
'Professor Saito was impressive at that time.'

It is possible to construct a copular clause counterpart corresponding to (67a) with the adjective *insyoobukai*, as shown in (67b). This fact suggests that the adverbial form of the adjective *insyoobukai* can be taken to describe the state of the object in (67a). They nevertheless show properties that count as adverbial modifiers, but not secondary predicates.

Adverbial adjuncts derived from psychological adjectives are either subject-oriented or object-oriented. Adjectives *sabisii* 'lonely' and *tanosii* 'pleasing, happy' can describe the transitory state of the subject (see Yamakido 2005).

(68) a. *Mari-ga {sabisiku/tanosiku} syokuzi-o si-ta.*
Mari-NOM {lonely/pleasing} meal-ACC do-PST
'Mari had a meal {alone/happily}.'
b. *Mari-wa {sabisikat-ta/tanosikat-ta}.*
Mari-TOP {lonely-PST/pleasing-PST}
'Mari was {alone/pleased}.'

These psychological adjectives can appear in the presupposition clause, as well as in the focus position of vP-focus pseudo-cleft constructions.

(69) a. [*Kodomo-ga* {***sabisiku/tanosiku***} *si-ta*] *no-wa* [*syokuzi-o suru*] *koto-da.*
child-NOM {lonely/pleasing} do-PST NOML-TOP meal-ACC do that-COP
'What the child did {lonely/happily} was have a meal.'
b. [*Kodomo-ga si-ta*] *no-wa* [{***sabisiku/tanosiku***} *syokuzi-o suru*] *koto-da.*
child-NOM do-PST NOML-TOP {lonely/pleasing} meal-ACC do that-COP
'What the child did was have a meal {lonely/happily}.'

Secondly, *kyoomibukai* 'fascinating' and *omosiroi* 'interesting' describe the state of an object, and thus pattern with object-oriented depictives even though they are taken to characterize the mental states possessed by the subject, i.e. the experiencer.

(70) a. *Mari-ga sono hon-o {kyoomibukaku/omosiroku} yon-da.*
Mari-NOM that book-ACC {fascinating/interesting} read-PST
'Mari read that book with {fascination/interest}.'
b. *Sono hon-wa {kyoomibukakat-ta/omosirokat-ta}.*
that book-TOP {fascination-PST/interesting-PST}
'That book was {fascinating/interesting}.'

*Kyoomibukaku* and *omosiroku* differ from *sabisiku* and *tanosiku*, in that they can occur in the focus position, but not in the presupposition clause of pseudo-cleft constructions with vP-focusing.

(71) a. [*Ano hito-ga si-ta*] *no-wa* [{***kyoomibukaku/omosiroku***}
that man-NOM do-PST] NOML-TOP {fascinating/interesting}
*hon-o yomu*] *koto-da.*
book-ACC read that-COP
'What that man did was read the book with {fascination/interest}.'
b. *[*Ano hito-ga* {***kyoomibukaku/omosiroku***} *si-ta*] *no-wa*
that man-NOM {fascinating/interesting} do-PST NOML-TOP
[*hon-o yomu*] *koto-da.*
book-ACC read that-COP
'What that man did with {fascination/interest} was read the book.'

The data illustrate that subject-oriented psychological adjectives *sabisii* and *tanosii* are adjoined to vP, while *kyoomibukai* and *omosiroi* are adjoined below VP. This fact raises the question of how these psychological adjectives are distinguished. The two types of adjectives differ as to whether they take experiencer subjects or theme subjects when used intransitively. To make this point, observe that *sabisii* and *tanosii* can be followed by the verb *suru* 'do', as shown in (72).

(72) *Mari-wa {sabisiku/tanosiku} si-te i-ru.*
Mari-TOP {lonely/happy} do-GER be-PRS
'Mari is feeling {lonely/happy}.'

In (72), the sentence carries the meaning that Mari is feeling lonely/happy. The verbal complex *si-te iru* 'be doing' adds a volitional meaning to the clause, so that the subject is taken to be a volitional experiencer that can have control over the

described state.[20] By contrast, it is not possible for *hon* 'book' in (73a), which refers to an inanimate entity, to stand as the subject of *kyoomibukai* and *omosiroi* combined with *si-te iru* by virtue of the animacy restriction.

(73) a. **Hon-wa* {*kyoomibukaku/omosiroku*} *si-te* *i-ru.*
book-TOP {fascinating/interesting} do-GER be-PRS
'The book is being {fascinating/interesting}.'
b. *#Mari-wa* {*kyoomibukaku/omosiroku*} *si-te* *i-ru.*
Mari-TOP {fascinating/interesting} do-GER be-PRS
'Mari is doing {fascinating/interesting}.'

Even if the subject refers to an animate entity, it is not understood to be an experiencer. Since the subject in (73b) counts as the theme, the sentence means that Mari did something of interest to someone else, and it does not convey the sense that Mari was interested.

In short, adjectives like *sabisii* and *tanosii* take an experiencer (i.e. the external argument) as their nominative subject when used intransitively, and thus behave like subject-oriented depictives that occur in vP. On the other hand, adjectives like *kyoomibukai* and *omosiroi* take a theme (i.e. the internal argument) as their nominative subject on the intransitive use, so that they behave like object-oriented depictives.

I suggest that adjectives in the adverbial form are usable only as adverbial modifiers. This claim gains support from the fact that the adjective *insyoobukai* 'impressive' in (74a), which characterizes a state pertaining to the object, cannot be separated from the primary predicate.

(74) a. *Seito-wa* ***Ito-sensei-o*** *insyoobukaku* *syookai-si-te* *i-ta.*
pupil-TOP Ito-teacher-ACC impressive introduction-do-GER be-PST
'The pupil was introducing Professor Ito impressively
b. *#Sono toki Ito-sensei-wa insyoobukakat-ta-ga, watasi-wa*
that time Ito-teacher-TOP impressive-PST-CONJ I-TOP
*sensei-o* *syookai-si-ta.*
teacher-ACC introduction-do-PST
'Professor Saito was impressive at that time, but I introduced the teacher.'

**20** The verb *suru* 'do' can naturally be combined with a subject-oriented depictive when it is used in the progressive form *si-te iru* 'be doing'.

The semantic anomaly of (74b) comes from the fact that *insyoobukaku* does not modify the predicate *syookai-suru* 'introduce'.

Another indication that *insyoobukaku* 'impressively' does not count as a depictive predicate comes from the fact that it can provide a description of an argument other than the subject and the object of the primary predicate.

(75) *Ken-wa* *Saito-sensei-nituite* *insyoobukaku* *katat-ta.*
Ken-TOP Saito-teacher-about impressive talk-PST
'Ken talked about Professor Saito impressively.'

In (75), *insyoobukaku* describes a transitory state pertaining to the PP *Saito-sensei-nituite* 'about Professor Saito'. This is not a property found in secondary predicates (see section 2).

One notable fact about *insyoobukai* 'impressive' and *kyoomibukai* 'interesting', which have both intransitive and transitive uses, is that, as discussed by Matsuoka (2016) and Miura (2021), some individual is identified as the experiencer of the mental states described by the adjectives even when no experiencer is expressed in the clause.[21]

(76) *Sensei-ga* *monogatari-o* *kyoomibukaku* *hanasi-ta* *node,* *seito-wa*
teacher-NOM story-ACC interesting tell-PST because pupil-TOP
*totemo* *yorokon-da.*
very please-PST
'Since the teacher told the story in an interesting way, the pupils were much pleased.'

In (76), the experiencer can be taken to be *seito* 'pupil', which appears outside the clause containing *kyoomibukaku*. Furthermore, if the experiencer is not deter-

**21** Adjectives *tanosii* 'pleasing' and *omosiroi* 'interesting, exciting' as well have both intransitive and transitive uses. When they are used intransitively, the nominative theme argument is targeted for subject honorification, but when it is used transitively, the dative experiencer is the target of subject honorification.

(i) a. *Saito-sensei-wa* *totemo* {*tanosiku-te/omosiroku-te*} *irassyar-u.*
Saito-teacher-TOP very {pleasing-GER/interesting-GER} be.HON-PRS
'Professor Saito is very {pleasing/interesting}.'
b. *Saito-sensei-ni-wa* *sore-ga* *totemo* {*tanosiku-te/omosiroku-te*}
Saito-teacher-DAT-TOP that-NOM very {pleasing-GER/interesting-GER}
*irassyar-u.*
be.HON-PRS
'That is very {pleasing/interesting} to Professor Saito.'

mined contextually, a generic interpretation is assigned, i.e. the experiencer may be any individual. These facts would not be expected if the experiencer were identified via secondary predication.

As for the syntax of adjuncts derived from adjectives, their structures cannot be directly assessed by comparing inflectional forms in the absence of nominal counterparts. Nonetheless, it is reasonable to hypothesize that ordinary adjectives appearing in the *ku*-form do not include the vP accommodating the invisible subject PRO, given the paradigms of inflections in (77).

(77) a. **Ano hito-wa zuuzuusiku ar-u.*
that man-TOP impudent be-PRS
'That man is impudent.'

b. *Ano hito-wa tikagoro zuuzuusiku* {*nat-ta/mie-ta*}.
that man-TOP recently impudent {become-PST/look-PST}
'That man {became/looked} impudent recently.'

An ordinary adjective does not occur with the verb *aru* unless it is followed by an adverbial particle.[22] When *aru* directly follows the adjective, the sentence is not grammatical, as shown in (77a).[23] The adverbial form of the adjective is not licensed by *aru* but by other verbs, as shown in (77b). These morphological facts suggest that the adjectives used as adverbial adjuncts possess the structure [$_{AP}$ *zuuzuusiku* ] rather than [$_{vP}$ PRO [$_{AP}$ *zuuzuusiku* ]], i.e. the adjuncts derived from adjectives do not have the structure where the vP headed by the stative verb *aru* mediates a relation between the predicate and the subject.[24] The present analysis gains further support

22 In earlier stages of Japanese, adjectives could be associated with copulative verbs. This fact is reflected by the past form in contemporary Japanese, since it comes from the sequence of "adjective stem+*ku*+*aru*", where the relic of the verb *aru* is found (Martin 1975). The adverbial form of adjectives has the form "adjective stem+*ku*", so it can be assumed that the verb *aru* is not included in the adverbial form.

23 The verb *aru* can appear in (i), where an adverbial particle follows the adjective, but this is a supportive verb inserted just for morphological support.

(i) *Ano hito-wa zuuzuusiku-mo ar-u.*
that man-TOP impudent-also be-PRS
'That man is also impudent.'

The supportive verb *aru* in (i) differs from the copulative verb *aru* associated with secondary predicates, in that the latter, but not the former, plays a crucial role of accommodating an invisible subject.

24 When adjectives are used as primary predicates, their subjects are allowed to occur. I assume for the sake of reference that in such cases, the subjects are merged with the light adjective (aP) projection, as in [$_{aP}$ SUBJ [$_{AP}$ Adj ]].

from the fact that direct objects cannot be targeted for subject honorification even if nominal adjectives carry a subject-honorific marker.

(78) *Ano seito-wa* ***Ito-sensei-o*** (****go***-)*insyoobukaku* *syookai-si-te*
that pupil-TOP Ito-teacher-ACC (HON-)impressive introduction-do-GER
*i-ta.*
be-PST
'That pupil was introducing Professor Ito impressively.'

It goes without saying that subject honorification targets the subject when the adjectives are used as primary predicates.[25]

(79) *Ano toki-wa* ***Ito-sensei-ga*** ***go****-insyoobukaka-ta.*
that time-TOP Ito-teacher-NOM HON-impressive-PST
'Professor Ito was impressive at that time.'

In addition, *insyoobukai* can carry a subject-honorific marker if subject honorification targets a subject, as illustrated by (80), which is derived by applying direct passivization to (77a).

(80) ***Ito-sensei-ga*** ***go****-insyoobukaku* *syookai-s-are-te* *i-ta.*
Ito-teacher-NOM HON-impressive introduce-do-PASS-GER be-PST
'Professor Ito was introduced impressively.'

The data show that the object in (78) cannot be a potential subject-honorific target due to the fact that the adjunct *insyoobukaku* does not include a PRO subject.

Taken together, ordinary adjectives used as adjuncts can sometimes be understood to describe the state of arguments of the primary predicates (via metonymy in a way similar to manner adverbs like *kibin-ni* 'quickly' discussed in section 3.1), but they do not function as secondary predicates with invisible PRO subjects, which

**25** The adjective *insyoobukai* is usable intransitively or transitively. When it is used as an intransitive predicate, the nominative argument is the subject-honorific target, but on its transitive use, the dative argument counts as the target for subject honorification.

(i) a. *Yamada-sensei-wa* *taihen* *go-insyoobukakat-ta.*
Yamada-teacher-TOP very HON-impressive-PST
'Professor Yamada was very impressive.'
b. *Yamada-sensei-ni-wa* *sore-ga* *go-insyoobukaka-ta.*
Yamada-teacher-DAT-TOP it-NOM HON-impressive-PST
'Professor Yamada was impressed by it.'

allows subject honorification to be directed to objects. In Japanese, DPs may function as depictives when they occur with the copula *de*, but adjectives (i.e. nominal adjectives and regular adjectives) do not.

# 4 Resultatives

In this section, I will turn to the discussion of adjuncts used as resultatives, which describe the resultant states that arise as a consequence of the events described by the primary predicates, as exemplified in (81).

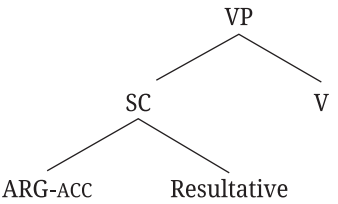
(81) a. *Ken-ga* *mado-garasu-o* ***konagona-ni*** *kowasi-ta.*
Ken-NOM window-pane-ACC pieces-COP break-PST
'Ken broke the window pane into pieces.'
b. *Mado-garasu-ga* ***konagona-ni*** *koware-ta.*
window-pane-NOM pieces-COP break-PST
'The window pane broke into pieces.'

In both sentences in (81), the resultative *konagona-ni* 'into pieces' appears as a satellite to the primary predicate. I suggest that satellite resultatives such as *konagona-ni* include a complete subject-predicate structure within, accompanied by the projection of an invisible change-of-state verb *naru* 'become'. It is shown that in the "satellite" resultative construction, the resultative predicate includes a PRO subject, and that the object of the primary predicate is taken to be the target of the resultative predication via control.

## 4.1 Japanese satellite resultatives as adverbial adjuncts

It should be mentioned at the outset that satellite resultative constructions in Japanese such as (80) are formed in a different way from those resultative constructions in English (as well as other Germanic languages like Dutch). It is often claimed in the literature (e.g. Carrier and Randall 1992; Hoekstra 1998) that in English, resultatives form small clauses with the objects of the primary predicates.

(82)




There is good reason to believe that the Japanese resultative constructions do not form a small clause complement, but rather resultative predicates function as adjuncts syntactically just in the same way as depictives.

The small-clause analysis is often motivated by the fact that resultative constructions allow fake (or non-subcategorized) objects, as in (83) (see, e.g. Levin and Rappaport Hovav 1995).

(83) a. *The joggers ran the shoes threadbare.*
b. *She shouted herself coarse.*

Since the objects in (83) are selected by the resultatives rather than the primary predicates, the sentences in which the resultatives are elided are not acceptable.

(84) a. **The joggers ran the shoes.*
b. **She shouted herself.*

In English, resultative constructions can take an object which is not selected by the primary predicate. This state of affairs is naturally expected if a small clause constituent can be formed in the object position, as (82) illustrates.

As often noted (see, e.g. Washio 1997), Japanese differs from English, in not allowing a fake object in the satellite resultative construction.

(85) a. **Ken-ga* *kutu-o* *boroboro-ni* *hasit-ta.*
Ken-NOM shoe-ACC worn.out-COP run-PST
'Ken ran his shoes worn out.'
b. **Mari$_i$-ga* {*nodo-o/zibun$_i$-o*} *karakara-ni* *saken-da.*
Mari-NOM {throat-ACC/self-ACC} hoarse-COP shout-PST
'Mari shouted {her throat/herself} hoarse.'

The sentences in (85) are unacceptable, since the objects are not selected by the primary predicates.[26] The examples in (86) confirm that the objects in (85) are not the arguments of the main predicates.

(86) a. **Ken-ga kutu-o hasit-ta.*
Ken-NOM shoe-ACC run-PST
'Ken ran the shoes.'
b. **Mari$_i$-ga {nodo-o/zibun$_i$-o} saken-da.*
Mari-NOM {throat-ACC/self-ACC} shout-PST
'Mari shouted {her throat/herself}.'

The data suggest that in the Japanese resultative construction, the resultative predicate is not allowed to form a small clause constituent with the argument in object position, which stands in contrast to the English resultative construction.

There is another difference observed between the English resultative construction and the Japanese resultative construction. In English, a change in the thematic status of the object can be induced by adding a resultative to form a resultative construction (Hoekstra 1988; Levin and Rappaport 1995).

(87) a. John pounded the metal.
b. John pounded the metal flat.

The object of the verb *pound* is understood to be an "unaffected" theme in (87a), but the object is an "affected" theme, i.e. it refers to an entity undergoing a change of state, in (87b).

By contrast, Japanese does not allow a change in the thematic status of the object (see e.g. Kageyama 1996). Thus, (88) turns out to be unacceptable if a resultative predicate is added.

(88) *Ken-ga kinzoku-o hanmaa-de (*pesyanko-ni) tatai-ta.*
Ken-NOM metal-ACC hammer-with flat-COP pound-PST
'Ken pounded the metal (flat) with a hammer.'

**26** Washio (1997) posits a subclass of resultatives called "spurious" resultatives, which are taken to add manner meanings to primary predicates (as well as specify certain resultant states). This class of resultatives as well does not allow a fake object to appear in object position.

In (88), the object *kinzoku* 'metal' cannot be taken as the affected theme of the resultative. Since the object does not refer to an entity undergoing a change of state, (88) is not acceptable if the resultative *pesyanko-ni* 'flat' occurs in it.

The data suggest that the Japanese satellite resultative construction can be constructed only on the primary verb carrying the meaning of a change of state, with the resultative phrase serving as an adjunct syntactically. Consequently, only the internal argument of the primary predicate can be placed in the object position of the satellite resultative construction due to the absence of the syntactic operation placing a small clause in object position. There are a number of indications that resultatives, just like depictives, count only as optional adjuncts, and do not form a small clause constituent with the argument in object position.

For instance, whether a resultative predicate forms a constituent with the preceding argument can be assessed by way of indeterminate pronoun binding. As discussed by Kishimoto (2001), in Japanese, for an indeterminate pronoun to be interpreted appropriately, it needs to be bound by a Q element like *mo,* the former falling under the scope of the latter. The epistemic verb *omou* 'consider' can take a small-clause complement, and its indeterminate pronoun subject can legitimately be bound by the Q element attached to the small clause predicate, as shown in (89).

(89) *Ken-wa* [***nani**-o* *huan-ni*]-***mo*** *omowa-nakat-ta.*
Ken-TOP anything-ACC anxious-COP-Q consider-NEG -PST
'Ken did not consider anything anxious.'

The unacceptability of the examples in (90) illustrates that the Q element attached to the depictives cannot bind the indeterminate pronoun arguments of which they are predicated.

(90) a. ****Dare**-ga* *konomi-no* *kakko-de-**mo*** *zyugyoo-o* *uke-nakat-ta.*
anyone-NOM favorite-GEN clothes-COP-Q class-ACC receive-NEG-PST
'Anyone did not attend the class in favorite clothes.'
b. **Eri-wa* ***nani**-o* *tyuuko-de-**mo*** *kawa-nakat-ta.*
Eri-TOP anything-ACC used-COP-Q buy-NEG-PST
'Eri did not buy anything used.'

Resultatives pattern with depictives in not allowing the Q element to bind the antecedents of which they are predicated.

(91) **Ai-wa* ***dare**-o* *zyoohin-ni-**mo*** *sodate-nakat-ta.*
Ai-TOP anyone-ACC decent-COP-Q raise-NEG-PST
(lit.) 'Ai did not raise anyone to be decent.'

The Q-element can bind the accusative argument under c-command, which forms part of the small clause, as (89) illustrates. In the satellite resultative construction in (91), as well as the depictive predicate constructions in (90), the Q element preceded by the secondary predicate fails to c-command the indeterminate pronoun.

(92) a. .... [$_{VP}$ [$_{SC}$ ***dare-o*** Pred ]-***mo*** [$_{RP}$ R] V**]**
b. .... *[$_{VP}$ ***dare-o*** [$_{RP}$ Pred-***mo*** R] V]

If a small clause is formed on the sequence of the object and the resultative predicate, *mo* can be affixed to the small clause (SC), and the indeterminate pronoun is expected to have a legitimate interpretation as an NPI in (90) and (91). Nevertheless, no legitimate interpretation is assigned to the complex of the indeterminate pronoun and *mo*. This fact suggests that both resultative and depictive predicates do not form a constituent with their overt antecedents.

The data illustrate that a resultative cannot be added unless an affected theme argument of the primary predicate appears in the object position. Since an affected argument is selected by a predicate denoting a change of state, the fact suggests that the primary predicate must carry the meaning of a resultant state to construct a resultative construction where the resultative serves as a satellite to the primary predicate, i.e. the primary predicate needs to possess the meaning represented by [**do′** (x, [**pred**$_1$**′** (x)])] CAUSE [BECOME **pred**$_2$**′** (y)] or [BECOME **pred′** (y)] (Van Valin and LaPolla 1997). As shown in (81), the resultative construction can be formed on the transitive *kowasu* 'break' or intransitive *kowareru* 'break', both of which include the result specification as part of its lexical meaning. As shown in (85) and (88), the satellite resultative construction cannot be constructed on the intransitive verbs *hasiru* 'run' and *sakebu* 'shout' and the transitive verb *tataku* 'pound', since these verbs carries the lexical meaning lacking the component specifying the resultant state: [**do′** (x, [**pred′** (x))].

The restrictions imposed on resultative predication indicate that in Japanese, resultatives, just like depictives, can only serve as adverbial adjuncts, and do not form a small clause constituent with an argument in object position. Adjuncts are not capable of adding to the primary predicate a change-of-state meaning, which is a prerequisite for forming a resultative construction. Thus a satellite resultative construction turns out to be unacceptable if the primary predicate does not carry a lexical meaning specifying a resultant state.

## 4.2 Resultative V-V compounds

The foregoing discussion shows that only the internal argument of the primary predicate is permitted to serve as the antecedent of the resultative in the Japanese satellite resultative construction, as opposed to the English resultative construction. This does not mean, however, that Japanese never allows a fake object and a change of thematic interpretation on the object. These phenomena are observed in another type of resultative construction – the resultative V-V compound constructions, where two verbs are compounded in a clause.

The hallmark of V-V compounds is that two verbs are compounded to give a morphologically complex predicate, which can carry a lexical meaning in which the meanings of the component verbs are combined. Some V-V compounds allow a non-selected argument for the first verb, i.e. a fake object, to occur in object position. For instance, the compound verb *naki-nurasu* 'cry-make.wet' in (93a) allows a fake object.

(93) a. *Mari-ga* *doresu-no* *sode-o* *naki-nurasi-ta.*
Mari-NOM dress-GEN sleeve-ACC cry-make.wet-PST
'Mari cried and as a result the sleeves of her dress got wet.'
b. *Mari-ga* (**doresu-no* *sode-o*) *nai-ta.*
Mari-NOM dress-GEN sleeve-ACC cry-PST
'Mari cried (the sleeves of her dress).'
c. *Mari-ga* *doresu-no* *sode-o* *nurasi-ta.*
Mari-NOM dress-GEN sleeve-ACC make.wet-PST
'Mari got the sleeves of her dress wet.'

The first verb *naku* 'cry' is an intransitive activity verb, so that it does not take an object, as seen in (93b). As shown in (93c), the second verb *nurasu* 'make. . .wet' can select *doresu-no sode* 'the sleeves of the dress' as its object. This shows that the resultative V-V compound construction in (93a) allows a fake object, i.e. an argument which is not selected by the first verb, to appear in the object position.

The compound verb *naki-nurasu* carries the lexical meaning of "y got wet as a result of x's crying", represented as [**do′** (x, [**cry′** (x)])] CAUSE [ BECOME **wet′**(y)]. With *naki-nurasu*, the causing event [**do′** (x, [**cry′** (x)])] is specified by the first verb, and the caused event [ BECOME **wet′** (y)] by the second verb. Furthermore, verb compounding allows the argument structures of the two component verbs to merge into one, as illustrated in (94).

(94) V1 *naku*: <experiencer> + V2 *nurasu*: <experiencer, affected theme>
→ *naki-nurasu* <experiencer, affected theme>

In (94), the two experiencers of the component verbs are identified, which brings out the effect that the subjects of the two component verbs refer to the same individual. At the same time, the affected theme role of the second verb is included in the newly created argument structure (see e.g. Kageyama 1993). Given the argument structure in (94), the experiencer role is assigned to the subject, and the affected theme role is assigned to the object. Since the affected theme role is originated from the second verb, the DP *doresu-no sode* counts as an argument selected by the second verb *nurasu* 'make . . .wet'.

Note in passing that with *naki-nurasu*, the experiencer role is transferred to the argument structure of the compound verb from the first verb rather than the second verb. This can be verified by (95).

(95) a. {*Mari-ga/Tooriame-ga*} *doresu-no* *sode-o* *nurasi-ta.*
{Mari-NOM/shower-NOM} dress-GEN sleeve-ACC make.wet-PST
'{Mari/The shower} made the sleeves of the dress wet.'

b. {*Mari-ga/*Tooriame-ga*} *doresu-no* *sode-o* *naki-nurasi-ta.*
{Mari-NOM/shower-NOM} dress-GEN sleeve-ACC cry-make.wet-PST
'{Mari/The shower} cried and as a result the sleeves of the dress got wet.'

c. {*Mari-ga/*Tooriame-ga*} *nai-ta.*
{Mari-NOM/shower-NOM} cry-PST
'{Mari/The shower} cried.'

While the subject of the verb *nurasu* 'get. . .wet' can be an inanimate causer alongside an experiencer, the subject of the V-V compound must be animate, just like the subject of the first verb *naku* 'cry'. This fact suggests that the experiencer role of the compound verb *naki-nurasu* comes from the first verb.

The example in (96a) provides another case in point. The V-V compound *toki-akasu* 'work.on-reveal' in (96a) expresses the meaning of "z is revealed as a result of x's working on y", represented as DO ([**do′** (x, [**work.on′** (x, y)])]) CAUSE [ BECOME **revealed′** (z)].

(96) a. *Ken-ga* {*nandai-o/sinzitu-o*} *toki-akasi-ta.*
Ken-NOM {difficult.task-ACC/truth-ACC} work.on-reveal-PST
'Ken worked on the difficult task and as a result, the truth was revealed.'

b. *Ken-ga* {*nandai-o/*sinzitu-o*} *toi-ta.*
Ken-NOM {difficult.task-ACC/truth-ACC} work.on-PST
'Ken worked on {the difficult task/the truth}.'

c. *Ken-ga* *sinzitu-o* *akasi-ta.*
Ken-NOM truth-ACC reveal-PST
'Ken revealed the truth.'

The resultative V-V compound allows either *nandai* 'difficult task' or *sinzitu* 'truth' to appear as an accusative-marked argument. A comparison of (96b) and (96c) shows that either the theme of the first verb or the affected theme of the second verb is allowed as the object of the V-V compound in (96a). This suggests that the two types of argument structure may be derived by virtue of verb compounding, as in (97).

(97) V1 *toku* 'work on': <agent, theme> + V2 *akasu*: <agent, affected theme>
→ *toki-akasu*: <agent, theme> or <agent, affected theme>

When the theme role is assigned to the argument in object position by the compound verb, it counts as the argument of the first verb. If an affected theme is assigned to the argument in object position, it counts as the argument of the second verb.

Moreover, some resultative V-V constructions allow a change of thematic status of the object, as exemplified in (98).

(98) *Ken-ga* *kinzoku-o* *hanmaa-de* *(pesyanko-ni)* *tataki-tubusi-ta.*
Ken-NOM metal-ACC hammer-with flat-COP pound-crush-PST
'Ken pounded and crushed the metal (flat) with a hammer.'

The V-V compound *tataki-tubusu* 'pound-crush' possesses the lexical meaning of "y became crushed, as a result of x's pounding y", represented as DO ([**do′** (x, [**pound′** (x, y)])]) CAUSE [ BECOME **crushed′** (z)]. In (98), a change of the thematic status is allowed on the grounds that the argument structures of the two verbs are merged into one, as in (99), while the V-V compound expresses the meaning of a change of state.

(99) V1 *tataku*: <agent, theme> + V2 *tubusu*: <agent, affected theme>
→ *tataki-tubusu*: <agent, affected theme>

The compound verb *tataki-tubusu* possesses the argument structure <agent, affected theme>, where the affected theme role is originated from the second verb. If the unaffected theme role is assigned by the compound verb, the object counts as an argument selected by the resultative verb. In (99), since the primary predicate, i.e. the V-V compound, carries the lexical meaning specifying the result, it is possible to add the satellite resultative *pesyanko-ni* 'flat' to the clause in (98), although this addition is not possible in (88), where the activity verb *tataku* 'pound' (with no result state meaning) appears as the primary predicate.

In the Japanese satellite resultative construction, if the primary predicate specifies a resultant state as part of its lexical meaning, a satellite resultative predicate is allowed to occur, as in (81). Since the satellite resultative does not contribute to

adding the component of a meaning specifying a resultant state to the primary predicate, satellite resultatives are usable only for providing a further specification on the affected theme argument of the primary predicate. As a consequence, it is not possible to place a fake object or to induce a change on the thematic interpretation of the object in the satellite resultative construction by adding a satellite resultative predicate. Nevertheless, fake objects and a change in thematic interpretation are observed in the resultative V-V compound construction since the compound verb can acquire the meaning of a result state from the second verb even if the first verb does not have any specification about it.

One crucial difference that distinguishes Japanese from English lies in the way in which a resultant state meaning is added to the predicate which does not carry a result meaning. In English, the result meaning necessary to form a resultative construction can be supplied with the addition of a resultative predicate at the syntax level. The addition of a resultative meaning can be done by forming a small clause in object position. In Japanese, by contrast, the syntactic means of adding a resultative meaning with a small clause is not available. Rather, the addition of result meaning is implemented by virtue of verb compounding, which takes place at the lexical level. Accordingly, satellite resultatives are not allowed to be added to the clause to form a satellite resultative construction when the primary predicate does not include any specification of a resultative state as part of its lexical meaning.

## 4.3 The structure of satellite resultative constructions

In the satellite type of resultative construction, the resultative predicate is construed as an adverbial adjunct syntactically. Given that adjuncts could be either modifiers or secondary predicates, there remains an issue whether satellite resultatives are construed as predicates with their own invisible subjects or modifiers without. I argue in this section that resultatives are equipped with their own subjects and can be constructed from nouns, adjectives and nominal adjectives.

To begin, adjuncts, which provide descriptions of result states, have morphological forms licensed when ordinary verbs rather than the stative verb *aru* follow, regardless of whether they are formed on nouns, adjectives, or nominal adjectives, as (100) shows.

(100)

| N-based | NA-based | A-based |
|---|---|---|
| *-ni* | *-ni* | *-ku* |

Notably, the adjuncts with the resultative meanings have the same morphological form whether they are derived from nouns or nominal adjectives. In this respect,

resultatives crucially differ from depictives that display distinct morphological forms depending on whether they are derived from nouns or nominal adjectives. Adjectival adjuncts qualifying as resultatives also have the same morphological form as adverbial modifiers.

I suggest that adjuncts used as resultatives are construed as predicates with the projection of an invisible change-of-state verb *naru* 'become', which includes an invisible subject PRO to be controlled by the object of the primary predicate. To lend concreteness, consider the example in (101).[27]

(101) *Gakusei-ga* *kutu-o* {*pikapika-**ni**/kirei-**ni***} *migai-ta.*
student-NOM shoe-ACC {shiny-COP/clean-COP} polish-PST
'The student polished the shoes {shiny/clean}.'

(101) represents a case involving the resultatives formed on a noun and a nominal adjective. The resultatives *pikapika* 'shiny' and *kirei* 'clean' both appear in the same *ni*-form. An inspection of the data in (102) shows that this inflectional form is licensed by *naru* 'become', but not the copular verb *aru* 'be'.

(102) a. *Kutu-wa* {*pikapika-**ni**/kirei-**ni***} *nat-ta.*
shoe-TOP {shiny-COP/clean-COP} become-PST
'The shoes were made {shiny/clean}.'
b. *Kutu-wa* {*pikapika-**de**/kirei-**de***} *at-ta.*
shoe-TOP {shiny-COP/clean-COP} be-PST
'The shoes were {shiny/clean}.'

Nouns and nominal adjectives express stative meanings, but the satellite adjuncts in (101) carry "result" meanings. I suggest that they acquire the result meanings via the invisible change-of-state verb *naru* 'become', which can license the *ni*-form of the copula.

In the same vein, it can be hypothesized that regular adjectives used as resultatives have the predicate structure including the invisible change-of-state verb *naru*, since they appear in the adverbial form.

(103) *Gakusei-ga* *kabe-o* ***akaku*** *nut-ta.*
student-NOM wall-ACC red paint-PST
'The student paint the wall red.'

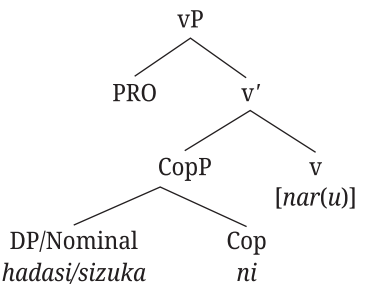
27 Onomatopoeic expressions are often used as resultative predicates. These fall into either the noun or the nominal adjective class.

As shown in (104), the adverbial form of adjective resultatives is licensed by the verb *naru*, but not *aru*.

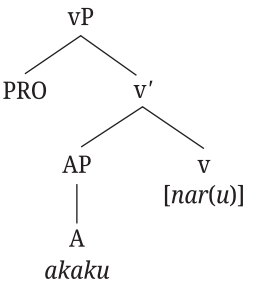
(104) *Kabe-ga* ***akaku*** {*nat-ta*/**at-ta*}.
wall-NOM red {become-PST/be-PST}
'The wall {became/was} red.'

I suggest that the resultative predicates derived from adjectives as well express result meanings by virtue of the invisible change-of-state verb *naru* 'become'. This in turn suggests that all types of resultatives have the predicate structure where vP comprising the null verb *naru* 'become' is projected above them, i.e., resultatives have the structures given in (105).

(105) a.




b.




I submit that adjuncts can function as resultative predicates if vP, which comprises the invisible change-of-state verb *naru,* is projected on the top of a Cop projection or an adjective projection. In the present analysis, the silent verb not merely specifies the aspectual meaning of the resultative, but also licenses its inflectional form. It is plausible to postulate here that the verb *naru* is a dynamic counterpart of the copular verb *aru* 'be', and that PRO appears in the specifier position of vP to serve as the subject of the resultative.

In the present perspective, the predicative relation between resultatives and their overt antecedents, i.e. the internal arguments of the primary predicates, is fixed via control, just like depictives. Resultatives are distinguished from depictives, however, in that they are predicated of internal arguments, but not external arguments (Levin and Rappaport Hovav 1995). This constraint follows straightforwardly, given that the affected theme role of the primary predicate is assigned to an argument appearing in direct object position. By virtue of this semantic constraint, the predicative target of resultative predicates is necessarily confined to internal arguments.

Resultatives appear in a projection lower than the objects of which they are predicated in a way similar to object-oriented depictives. The fact that resultatives appear below VP can be verified by making use of vP-focus pseudo-cleft constructions. The examples in (106) represent cases of resultatives derived from adjectives and nominal adjectives.

(106) a. *[*Gakusei-ga* {***pikapika-ni/kirei-ni***} *si-ta*] *no-wa* [*kutu-o*
student-NOM {shiny-COP/clean-COP} do-PST NOML-TOP shoe-ACC
*migaku*] *koto-da.*
Polish that-COP
(lit.) 'What the student did {shiny/clean} is polish the shoes.'

b. [*Gakusei-ga* *si-ta*] *no-wa* [*kutu-o* {***pikapika-ni/kirei-ni***}
student-NOM do-PST NOML-TOP shoe-ACC {shiny-COP/clean-COP}
*migaku*] *koto-da.*
Polish that-COP
(lit.) 'What the student did is polish the shoes {shiny/clean}.'

(107) represents a case of adjectival resultatives.

(107) a. *[*Gakusei-ga* *akaku* *si-ta*] *no-wa* [*kabe-o* *nuru*] *koto-da.*
student-NOM red do-PST NOML-TOP wall-ACC paint that-COP
'What the student did red is paint the wall.'

b. [*Gakusei-ga* *si-ta*] *no-wa* [*kabe-o* *akaku* *nuru*] *koto-da.*
student-NOM do-PST NOML-TOP wall-ACC red paint that-COP
'What the student did is paint the wall red.'

All types of resultatives are allowed only in the focus position of vP-focus pseudo-cleft constructions, indicating that they appear below VP.

Moreover, resultatives are located in a position c-commanded by the objects of which they are predicated. This can be confirmed by the facts of pronominal coreference, as illustrated in (108).

(108) a. *Sensei-ga* *Ken*$_i$*-o* *kare*$_i$*-no* *yoona* *ningen-ni* *sodate-ta.*
teacher-NOM Ken-ACC he-GEN like man-COP raise-PST
(lit.) 'The teacher raised Ken to be a man like him.'

b. **Sensei-ga* *kare*$_i$*-o* *Ken*$_i$*-no* *yoona* *ningen-ni* *sodate-ta.*
teacher-NOM he-ACC Ken-GEN like man-COP raise-PST
(lit.) 'The teacher raised him to be a man like Ken.'

c. **Sensei-ga* *Ken$_i$-no* *yoona* *ningen-ni* *kare$_i$-o* *sodate-ta.*
teacher-NOM Ken-GEN like man-COP he-ACC raise-PST
(lit.) 'The teacher raised him to be a man like Ken.'

The argument *Ken* appearing in the resultative cannot be coreferential with the object pronominal *kare* regardless of their linear order. This fact illustrates that the resultative is generated in a position that is c-commanded by the host object.

(109) $[_{TP}\ [_{vP}\ [_{vP}\ [_{VP}$ OBJ $[_{RP}$ RES $[_{RP}\ ]]]]]]$

The fact that resultatives appear in a lower structural position than the objects (i.e. the internal arguments) suggests that they are adjoined to RP.

Next, under the present analysis taking PRO to appear inside resultative predicates, it is expected that when resultatives carry a subject-honorific marker, they will be able to have the deference directed to the objects of which they are predicated regardless of whether they are formed on nouns, adjectives, or nominal adjectives. This expectation is in fact fulfilled. To illustrate this point, consider (110).

(110) a. *Sato-oya-ga* *Ito-sensei-o* *ano* *yoo-ni* {*zyoohin-ni/*
foster-parent-NOM Ito-teacher-ACC that way-in {decent-COP/
*uruwasiku/reigitadasii* *huzin-ni*} *sodate-ta.*
beautiful/polite lady-COP} raise-PST
(lit.) 'The foster parents raised Professor Ito to be {decent/beautiful/a polite lady} like that.'

b. *Sato-oya-ga* *Ito-sensei-o* *ano* *yoo-ni* *sodate-ta.*
foster-parent-NOM Ito-teacher-ACC that way-in *sodate-ta.*
'The foster parents raised Professor Ito like that.'

The resultative construction in (110a) takes a human object, and (110b) shows that the resultatives can be elided without changing the structural identity of the construction.[28] In the resultative construction in (111), where a resultative predicate carries a subject-honorific marker, the object can be targeted for subject honorification regardless of the category of the resultative.[29]

**28** The same type of construction can also be constructed by using verbs like *sodate-ageru* 'train' and *egaku* 'draw'.

**29** The noun *huzin* 'lady' without *go-* still carries an honorific implication. The most neutral noun is *zyosei* 'woman'.

(111) *Sato-oya-ga* ***Ito-sensei-o*** *ano yoo-ni* {***o****-zyoohin-ni/*
foster-parent-NOM Ito-teacher-ACC that way-in {HON-decent-COP/
***o****-uruwasiku/reigitadasii* ***go****-huzin-ni*} *sodate-ta.*
HON-beautiful/polite HON-lady-COP} raise-PST
(lit.) 'The foster parents raised Professor Ito to be {decent/beautiful/a polite lady} like that.'

When resultatives are used as primary predicates, subject honorification targets their subjects, as shown in (112).

(112) ***Ito-sensei-wa*** *ano yoo-ni* {***o****-zyoohin-de* *ar-u/****o****-uruwasi-i/*
Ito-teacher-TOP that way-in {HON-decent-COP be-PRS/HON-beautiful-PRS/
*reigitadasii* ***go****-huzin-de* *ar-u*}.
polite HON-lady-COP be-PRS}
'Professor Ito is {decent/beautiful/a polite lady} like that.'

Nevertheless, the target of subject honorification in the resultative construction is limited to the object when the resultative carries a subject-honorific marker. Accordingly, the resultative construction in (113), where the intended target of subject honorification is the subject of the primary predicate, is not acceptable.

(113) ****Ito-sensei-wa*** *watasi-o ano yoo-ni* {***o****-zyoohin-ni/****o****-uruwasiku/*
Ito-teacher-TOP I-ACC that way-in {HON-decent-COP/HON-beautiful/
*reigitadasii* ***go****-huzin-ni*} *sodate-te irassyar-u.*
polite HON-lady-COP} raise-GER be.HON-PRS
(lit.) 'Professor Ito has raised me to be {decent/beautiful/a polite lady} like that.'

In (113), the subject honorific maker appears on the resultatives. Subject honorification triggered by the resultative predicates is necessarily anchored to the object *watasi* 'I', which does not count as a potential target of subject honorification. Thus (113) is not acceptable. It is worthwhile to note that when the primary predicate has a subject-honorific form, the subject qualifies as a target to which the deference is directed.[30]

**30** The object can be an honorific target when the primary predicate *sodateru* appears in the object honorification form, an observation due to Atsushi Ito (p.c.).

(i) *Ano hito-ga* ***Ito-sensei-o*** *ano yoo-ni* {*zyoohin-ni/uruwasiku/*
that man-NOM Ito-teacher-ACC that way-in {decent-COP/beautiful/
*reigitadaii zyosei-ni*} ***o****-sodate-****si****-ta.*
polite woman-COP HON-raise-do-PST
(lit.) 'That man raised Professor Ito to be {decent/beautiful/a polite woman} like that.'

(114) ***Ito-sensei-ga*** *watasi-o ano yoo-ni* {*zyoohin-ni/uruwasiku/reigitadasii*
Ito-teacher-NOM I-ACC that way-in {decent-COP/beautiful/polite
*zyosei-ni*} ***o****-sodate-****ni-nat****-ta.*
woman-COP} HON-raise-COP-become-PST
(lit.) 'Professor Ito raised me to be {decent/beautiful/a polite woman} like that.'

In (114), the subject is the target of subject honorification, but in (111), where the resultatives carry subject-honorific markers, subject honorification is necessarily directed to the object. Given this fact, it is fair to conclude that the resultative predicates include PRO in them. Subject honorification cannot target the subject of the primary predicate, as shown in (113), since it can target only the local subject PRO.

Resultatives are predicated of internal arguments. Thus, subject honorification can be directed to the subjects originated from object positions if its marker appears on the resultatives, as shown in (115).

(115) a. ***Ito-sensei-wa*** *ano yoo-ni* {***o****-zyoohin-ni/****o****-uruwasiku/*
Ito-teacher-TOP that way-in {HON-decent-COP/HON-beautiful/
*reigitadasii* ***go****-huzin-ni*} *sodat-te irassya-ru.*
polite HON-lady-COP} grow-GER be.HON-PRS
(lit.) 'Professor Ito grew up to be {decent/beautiful/a polite lady} like that.'

b. ***Ito-sensei-wa*** *ano yoo-ni* {***o****-zyoohin-ni/****o****-uruwasiku/*
Ito-teacher-TOP that way-in {HON-decent-COP/HON-beautiful/
*reigitadasii* ***go****-huzin-ni*} *sodate-rare-te irassyar-u*
polite HON-lady-COP} raise-PASS-GER be.HON-PRS
(lit.) 'Professor Ito was raised to be {decent/beautiful/a polite lady}
like that.'

In (115a), the main verb is unaccusative, and (115b) involves passivization. In both cases, the resultatives in (115) can be predicated of the subjects of the primary predicate, and at the same time, they can have subject honorification target the subjects on the grounds that the subjects are originated from the object position.

Furthermore, reflexive *zibun* inside the depictive predicate cannot take the object as its antecedent despite the fact that the object can be targeted for subject honorification when a subject-honorific marker appears inside the depictive.

(116) a. *Ano hito*$_{i}$*-wa kodomo*$_{j}$*-o zibun*$_{i/*j}$*-no konomi-no zinbutu-ni*
that man-TOP child-ACC self-GEN favorite-GEN figure-COP
*sodate-ta.*
raise-PST
(lit.) 'That man raised his child self's favorite person.'

b. **Kodomo$_i$-wa zibun$_i$-no konomi-no {zinbutu-ni*
child-TOP self-GEN favorite-COP {figure-COP
*nat-ta/zinbutu-dat-ta}.*
become-PST/figure-COP-PST}
(lit.) 'The child {became/was} self's favorite person.'

The *naru*-sentence in (116b) is construed as a type of copular clause. The accusative nominal *kodomo* and the nominal predicate in (116a) bear the same equative relation with the subject *kodomo* and the nominal predicate with the copula in (116b). Since the subject cannot be the antecedent of the reflexive in (116b) (see section 3.3.1), it is easy to see that the accusative nominal *kodomo* in (116a) cannot be the antecedent of the subject-oriented reflexive *zibun*.

There are cases where the reflexive *zibun* can be anchored to the object of the primary predicate. In (117), the reflexive *zibun*, which is deeply embedded in the resultative predicate, can take the object as well as the subject of the primary predicate as its antecedent.[31]

(117) a. *Ano hito$_i$-wa kodomo$_j$-o zibun$_{i/j}$-o taisetu-ni su-ru*
that man-TOP child-ACC self-ACC good-COP do-PRS
*zinbutu-ni sodate-ta.*
figure-COP raise-PST
(lit.) 'That man raised his child to be a person to be good to herself.'

b. *Kodomo$_i$-wa zibun$_i$-o taisetu-ni su-ru {zinbutu-ni*
child-TOP self-ACC good-COP do-PRS {figure-COP
*nat-ta/zinbutu-dat-ta}.*
become-PST/figure-COP-PST}
(lit.) 'The child {became/was} a person to be good to herself.'

The subject of the copular constrictions in (117b) can be the antecedent of *zibun*. Given this fact, it is reasonable to state that whether or not the object of the primary predicate can be the antecedent of *zibun* in the resultative construction is tightly correlated with whether the subject of its copular sentence counterpart can antecede the reflexive.

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**31** A similar fact is observed in English, since the subject of a copular clause can be coreferential with a pronoun deeply embedded in the predicate nominal, as sometimes discussed (e.g. Hornstein 1984).

(i) a. **John$_i$ is his$_i$ cook.*
b. *John$_i$ is his$_i$ father's cook.*

Since the reflexive appearing in the resultative predicate shows the identical behavior to that of its corresponding copular construction, it can be concluded that satellite resultative predicates, just like depictive predicates, contain invisible PRO subjects. The target of subject honorification is determined according to whether PRO appearing in the resultative is controlled by the subject or object of the primary predicate.

To summarize, resultative predicates, which serve as satellites to the primary predicates, have object orientation in Japanese, just like object control constructions, owning to the semantic restriction that the target of resultative predication is restricted to arguments referring to an entity undergoing a change of state. The object orientation of resultative predication straightforwardly follows from the fact that internal arguments, but not external arguments, can be assigned an affected theme role by the primary predicate. Accordingly, the resultative predicates are necessarily taken to provide a further specification for the result state described by the primary predicate. The satellite resultative constructions can be constructed on nouns, adjectives and nominal adjectives, and allow the resultative predicates to include a subject honorific-marker. The satellite resultative predicate includes an invisible PRO subject inside, controlled by the object of the primary predicate. Accordingly, subject honorification can be directed to the object of primary predicate when the resultative predicate carries a subject-honorific marker.

## 5 Concluding remarks

In this chapter, I have argued that adjuncts derived from nouns can serve as depictive predicates, comprising vP, which accommodates a PRO subject and the invisible verb *aru* 'be'. By contrast, adjuncts appearing in the adverbial form derived from adjectives and nominal adjectives cannot serve as depictives, but are adverbial modifiers, which do not include the invisible verb and PRO (due to the lack of vP projected over them) even if they are taken to characterize the states of the subjects or objects of the primary predicates. I have presented evidence that in Japanese, resultatives, which serve as adjuncts syntactically, have predicate structures comprising vP, which accommodates PRO as their invisible subject and the invisible change-of-state verb *naru* 'become' irrespective of whether they are constructed on nouns, adjectives, or nominal adjectives. In Japanese, satellite resultatives are usable only as adjuncts, and in no way form a small-clause constituent with the arguments of which they are predicated. Overall, the facts of subject honorification, as well as the morphological forms of adjuncts, point to the conclusion that nominals, but not adjuncts derived from ordinary adjectives and nominal adjecti-

ves, can be used as depictive predicates, while adjuncts based on nouns, adjectives and nominal adjectives can all be used as resultative predicates.

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# Chapter 9
# Depictive predicates with not so complex structures: An empirical argument for functional projections

**Abstract:** This chapter delves into the nature of depictive predicates in Japanese, and explore a theoretical account of the difference between the depictive predicates and homophonous particles in Japanese. In Japanese, depictive predicates are usually followed by a particle *-de*, and the particle appears after phrases of different kinds such as those that specify locations. We compare the depictive predicates and the locative phrases in Japanese and claim that these two kinds of *de*-phrases behave similarly in terms of syntax and that they have a different property that should be accounted for in terms of semantics. Showing the differences, we argue that these differences arise from two syntactic heads that are both phonetically realized as *de* and that the locative phrases are headed by a postposition, while depictive predicates are merged with a functional head. When the phrases appear more than once in one clause, the depictive predicates are restricted to express exclusive states, but the inclusive relationship needs to be specified by multiple locative phrases. This difference is captured by presuppositional differences that the functional head of depictive predicates and the postpositional head of the locative phrases are equipped with.

**Keywords:** Syntax, depictive predicates, locative phrases, Japanese, functional projections

## 1 Introduction

This chapter explores the syntactic and semantic properties of depictive constructions in Japanese. Languages such as English have depictive predicates in the bare form, as shown in (1). The depictive predicates *naked* and *raw* are predicated of the subject *John* and the object *the meat*, respectively, describing the state of the arguments during the event expressed by the VP. In contrast, the predicates in Japanese are not in the bare form but are followed by a particle *-de*, as illustrated in (2).


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(1) a. *John ate the meat* ***naked****.*
b. *John ate the meat* ***raw****.*

(2) a. *Taroo-ga* ***hadaka****-de* *niku-o* *tabeta.*
Taro-NOM naked-DE meat-ACC ate
'Taro ate the meat naked.'
b. *Taroo-ga* ***nama-de*** *niku-o* *tabeta.*
Taro-NOM raw-DE meat-ACC ate
'Taro ate the meat raw.'

The depictive predicates in (2) – *hadaka-de* 'naked' and *nama-de* 'raw' – describe the state of the matrix subject *Taro* and the object *niku-o* 'the meat', respectively; therefore, the sentences are interpreted as 'Taro ate the meat, and he was naked while eating it,' and 'Taro ate the meat, and the meat was raw.' We refer to depictive predicates that are predicated of subjects as Subject-oriented Depictive Predicates (SDPs), and those predicated of objects as Object-oriented Depictive Predicates (ODPs).

The particle *de* in Japanese expresses several meanings including that of depictives. One of those with comparatively similar meaning is the one that specifies the location of an argument. The phrases with this type of *de*-particle can also be associated with subjects and objects. The *de*-phrase in (3) specifies where the subject reside, and the one in (3) indicate the position of the object. In the following part of this chapter, the phrases with *de*-particles of this kind are referred to as *de*-locatives.

(3) a. *Taroo-ga* ***tenmondai-de*** *koosei-o* *kansoku-sita.*
Taro-NOM observatory-DE fixed.star-ACC observed-did
'Taro observed a fixed star in an observatory.'
b. *Taroo-ga* ***iti*** ***koonen*** ***saki-no*** ***ten-de*** *koosei-o*
Taro-NOM one light.year away-GEN point-DE fixed.star-ACC
*kansoku-sita.*
observation-did
'Taro observed a fixed star at the point one light year away (from the earth).'

In (3a), the *de*-locative phrase *tenmondai-de* 'in an observatory' specifies the location of the subject, as 'Taro was in an observatory, and he observed a fixed star there.' In (3b), *iti koonen saki-no ten-de* 'at the point one light year away (from the earth)' describes the location of the object; thus, the interpretation of (3b) is 'Taroo observed a fixed star, and the star is at the point one light year away from

the earth.'[1] This chapter refers to *de*-locative phrases associated with subjects as Subject-associated Locative Phrases (SLPs) and those associated with objects as Object-associated Locative Phrases (OLPs).

The main claim of this chapter is that, although in Japanese, depictive predicates and *de*-locative phrases have the same syntactic properties, they are actually different in terms of semantics. Koizumi (1994) claims that *de*-locative phrases and depictive predicates are the same linguistic expressions, but Takezawa (1993) suggests that their semantic properties are different. We argue in favor of Takezawa and claim that the difference between these two phrases arises from the different kinds of *de*-particles. With this claim, we propose that the *de*-particle of depictive predicates is the realization of a functional head for depictive constructions, and the *de*-particle of locative predicates is a postposition that denotes a place of an argument. The main point of our proposal is that the homophonous particles denote different semantics, which claim leads to the argument that the two types of phrases with *de*-particles are different expressions.

Before we proceed on to the main discussion, let us define the type of depictive predicate on which this chapter focuses. Depictive predicates, as we observed, describe the state of an NP during the event denoted by verbs. One may claim that under this definition, other phrases with different particles may function as depictive predicates. For example, nominal adjectives such as *kenzitu-ni* 'steadily' may express the state of the subject in (4).

(4) *Taroo-wa* ***kenzitu-ni*** *kono* *mondai-ni* *torikunda.*
Taro-TOP steady-NI this problem-DAT tackled
'Taro steadily tackled this problem.'

(4) includes a nominal adjective *kenzitu-ni* 'steadily.' This phrase describes the state of the subject *Taroo*, as the interpretation of this example shows; 'Taro tackled this problem and his attitude was steady while doing so.' This phrase may also receive an analysis of a depictive predicate, but in this chapter, we do not deal with the phrases with *-ni* particles as depictive predicates because it is possibly the case that the phrase is a manner adverb, and it is difficult to determine whether a phrase is a manner adverb or not. Therefore, we focus on predicates with *de*-particles only. However, if phrases with different particles are actually depictive predicates, it is possible to apply the analysis of this chapter to them.

**1** As one of the anonymous reviewers pointed out, the locative expression *iti koonen saki-no ten-de* 'at the point one light year away from the earth' can also be used to indicate the location of the subject. In that case, the expression would be SLP and given the same analysis as the locative phrase in (3a). For the purpose of this chapter, we treat this expression and similar ones as OLPs.

This chapter is organized as follows. Section 2 introduces other types of phrases with *de*-particles and explains why we compare locative phrases with depictive predicates. In Section 3, we show syntactic similarities between depictive predicates and *de*-locative phrases and claim that these phrases share the same syntactic properties with respect to the testing ground conducted in this chapter, but in Section 4, we observe differences between the *de*-phrases, and we conclude that they are, though syntactically similar, not completely the same expressions. Section 5 presents the proposal and analysis to account for the linguistic properties of the phrases in question. Finally, Section 6 concludes the chapter.

## 2 Why locative phrases?

In this section, we provide our reasons for comparing *de*-locative phrases with depictive predicates. As we showed in the previous section, depictive predicates in Japanese are followed by a particle *-de*. In addition, the Japanese language has some other types of phrases with this particle. Some locative phrases have *de*-particles, as in (3), and other phrases such as instrumental phrases are often followed by the *de*-particle, and the particle also appears after temporal adverbs that delimit events. Furthermore, they appear with material phrases and reason phrases. See (5).

(5) a. Instrumental *de*-phrases
*Taroo-ga* ***fooku-de*** *niku-o* *tabeta.*
Taro-NOM fork-with meat-ACC ate
'Taro ate the meat with a fork.'

b. Temporal *de*-phrases
*Taroo-ga* ***iti-jikan-de*** *niku-o* *tabeta.*
Taro-NOM one-hour-in meat-ACC ate
'Taro ate the meat in an hour'

c. Material *de*-phrases
*Taroo-ga* ***gyuunyuu-de*** *bataa-o* *tukutta.*
Taro-NOM milk-from butter-ACC made
'Taro made butter from milk.'

d. Reason *de*-phrases
*Taro-ga* ***kaze-de*** *gakkoo-o* *yasunda.*
Taro-NOM cold-because school-ACC missed
'Taro was absent from school because of a cold.'

The examples in (5) include the cases in which four kinds of phrases with *de*-particles are employed, namely *fooku-de* 'with a fork,' *iti-jikan-de* 'in an hour,' *gyuunyuu-de* 'from milk,' and *kaze-de* 'because of a cold', which describe an instrument, a delimiting time, a material, and a reason, respectively.

These phrases with the *de*-particles have different linguistic properties from depictive predicates and *de*-locative phrases. A crucial difference is that depictive predicates and *de*-locative phrases can be associated with subjects or objects, but instrumental, temporal, material, and reason *de*-phrases do not have this property; they may modify the whole event denoted by the verbs. They cannot specify the instrument, time, material, or time related only to the subject or to the object. However, as we already claimed in Section 1, *de*-locative phrases have the same ability as that of a depictive predicate at this point. Therefore, we compare the locative phrases with depictive predicates, and we do not delve into the syntactic and semantic properties of other *de*-phrases any further because they may not share linguistic properties with depictive predicates and *de*-locative phrases.

# 3 Similarities of depictive predicates and *de*-locatives

In this section, we present the similarities between depictive predicates and *de*-locative phrases and argue that these two types of *de*-phrases are equipped with the same syntactic properties with respect to *v*P-fronting, *soo-su* 'do so' replacement, cleft constructions, multiple occurrences, intervention by verbal adverbs, and the restriction on the word order.

## 3.1 *v*P-fronting

The first similarity concerns the possibility of accompanying *v*P when it is fronted to the sentence-initial position. As Koizumi (1994) observes, SDPs can be pied-piped with *v*P or can be stranded in their base-GENerated position, whereas ODPs must move along with *v*P. As for *de*-locatives, SLPs show the same result as SDPs, and OLPs behave similarly to ODPs. These facts are indicated in the examples from (6) to (9).

(6) SDPs

a. [$_{vP}$ ***Hadaka-de*** *katuo-o* *tabe-sae*]$_i$ *Taroo-ga* $t_i$ *sita.*
naked-DE bonito-ACC eat-even Taro-NOM did
'Even eat the bonito naked, Taro did.'
(Koizumi 1994: 34)

b. [$_{vP}$ *Katuo-o tabe-sae*] *Taroo-ga* ***hadaka-de*** $t_i$ *sita.*

(7) *ODPs*

a. [$_{vP}$ ***Nama-de*** *katuo-o* *tabe-sae*]$_i$ *Taroo-ga* $t_i$ *sita.*
raw-DE bonito-ACC eat-even Taro-NOM did
'Even eat the bonito raw, Taroo did'
(Koizumi 1994: 35)

b. * [$_{vP}$ *Katuo-o tabe-sae*] *Taroo-ga nama-de* $t_i$ *sita.*

(8) SLPs

a. [$_{vP}$ ***Tenmondai-de*** *koosei-o* *kansoku-si-sae*]$_i$ *Taroo-ga*
observatory-DE fixed.star-ACC observation-do-even Taro-NOM
$t_i$ *sita.*
did
'Even observe a fixed star in an observatory, Taro did.'

b. [$_{vP}$ *Koosei-o kansoku-si-sae*]$_i$ *Taroo-ga* ***tenmondai-de*** $t_i$ *sita.*

(9) *OLPs*

a. [$_{vP}$ ***Iti*** ***koonen*** ***saki-no*** ***ten-de*** *koosei-o*
one light.year away-GEN point-DE fixed.star-ACC
*kansoku-si-sae*] *Taroo-ga* $t_i$ *sita*
observation-do-even Taro-NOM did
'Even observe a fixed star at the point one light year away (from the earth), Taro did.'

b. * [$_{vP}$ *Koosei-o kansoku si-sae*] *Taroo-ga* ***iti koonen saki-no ten-de*** $t_i$ *sita.*

The examples in (6) include an SDP *hadaka-de* 'naked' and show that the SDP can be moved along with or can stay out of *v*P. ODPs have a different property from that of SDPs in this respect. As shown in (7), ODPs have to be inside and moved with *v*P. If they are not, the sentence results in ungrammaticality. The cases of *de*-locative phrases are illustrated in (8) and (9). The SLP *tenmondai-de* 'in an observatory' in (8) is the location of the subject *Taroo*, not the object *koosei* 'a fixed star,' and similarly to SDPs, the grammaticality does not change whether the SLP is inside or outside *v*P. In contrast, the OLP in (9) *iti koonen saki-no ten-de* 'one light year away from the earth' must be inside *v*P, as in the case of ODPs; otherwise, the results are

ungrammatical. From these examples, we may claim that depictive predicates and *de*-locatives share the same syntactic property with respect to *v*P-fronting.

## 3.2 *Soo-su* replacement

The second similarity is related to *soo-su* 'do so' replacement. *Soo-su* replacement in Japanese targets *v*P-levels, as instantiated by the following examples.

(10) *Taroo-wa* [$_{vP}$ *Hanako-kara* *hon-o* *kari*] *-ta.*
Taro-TOP Hanako-from book-ACC borrow PST
'Taro borrowed a book from Hanako'
a. *Ziroo-mo* *soo-sita.*
Ziro-also so-did
'Ziro did so, too.'
b. * *Ziroo-mo* *Momoko-kara* *soo-sita.*
Ziro-also Momoko-from so-did
'Ziro did so from Momoko, too.'

Applying *soo-su* replacement to the base sentence *Taroo-wa Hanako-kara hon-o kari-ta* 'Taro borrowed a book from Hanako' generates (10a) and (10b). The examples of (10) illustrate that a source PP *Hanako-kara* 'from Hanako' and *Momoko-kara* 'from Momoko' must be replaced by *soo-su*, together with the elements in *v*P *hon-o kari* 'borrow a book'. Stranded source PPs yield ungrammatical results, as shown in (10). Following a general assumption that source PPs reside in *v*P, the contrast in (10) indicates that *soo-su* replacement targets *v*P.

Now let us focus on depictive predicates and *de*-locative. Accompanying *v*P, SDPs and SLPs can be replaced by *soo-su*, and the sentences are grammatical even if they do not undergo *soo-su* replacement along *v*P. However, in the case of ODPs and OLPs, neither of them allows stranding; they must be replaced with *soo-su*, along with *v*P.

(11) SDPs
*Hanako-ga* ***kimono-sugata-de*** *suika-o* *tabeta.*
Hanako-NOM kimono-figure-DE watermelon-ACC ate
'Hanako ate a watermelon in kimono.'
a. *Ziroo-mo* *soo-sita.*
Ziro-also so-did
'Ziro did so, too. (ate watermelon in kimono)'

(Koizumi 1994: 37)

b. *Ziroo-wa* ***hadaka-de*** *soo-sita.*
Ziro-also naked-DE so-did
'Ziro did so naked. (ate watermelon naked)'
(Koizumi 1994: 37)

(12) ODPs
*Hanako-ga* *kuruma-o* ***sinsya-de*** *katta.*
Hanako-NOM car-ACC new.car-DE bought
'Hanako bought a new car.'
a. *Ziroo-mo* *soo-sita.*
Ziro-also so-did
'Ziro did so, too. (bought a new car)'
(Koizumi 1994: 38)
b. * *Ziroo-wa* ***tyuuko-de*** *soo-sita.*
Ziro-also used-DE so-did
'Ziro did so used. (bought a used car)'
(Koizumi 1994: 38)

(13) SLPs
*Hanako-ga* ***nihon-no*** ***tenmondai-de*** *koosei-o* *kansoku-sita.*
Hanako-NOM Japan-GEN observatory-DE fixed.star-ACC observation-did
'Hanako observed a fixed star in an observatory of Japan.'
a. *Ziroo-mo* *soo-sita.*
Ziro-also so-did
'Ziro did so, too. (observed a fixed star in an observatory of Japan)'
b. *Ziroo-wa* ***hawai-no*** ***tenmondai-de*** *soo-sita.*
Ziro-also Hawaii-GEN observatory-DE so-did
'Ziro did so in an observatory of Hawaii.
(observed a fixed star in an observatory of Hawaii)'

(14) OLPs
*Hanako-ga* ***iti*** ***koonen*** ***saki-no*** ***ten-de*** ***koosei-o***
Hanako-NOM one light.year away-GEN point-DE fixed.star-ACC
*kansoku-sita.*
observation-did
'Hanako observed a fixed star at the point a light year away (from the earth).'
a. *Ziroo-mo* *soo-sita.*
Ziro-also so-did
'Ziro did so, too.
(observed a fixed star at the point a light year away from the earth)'

b. * *Ziroo-wa* ***hyaku*** ***koonen*** ***saki-no*** ***ten-de*** *soo-sita.*
Ziro-TOP one.hundred light.year away-GEN point-DE so-did
'Ziro did so one hundred light years away (from the earth).
(observed a fixed star at the point one hundred light years away from the earth)'

The examples in (11) and (13) show that SDPs and SLPs can be replaced by *soo-su* 'do so', together with *v*P, and different depictive predicates and locative phrases are also allowed out of the *soo-su* phrase, as illustrated in the examples in (11) and (13). However, ODPs and OLPs must undergo *soo-su* replacement along with *v*P, as shown in (12) and (14). The discussion here also indicates that depictive predicates and *de*-locative phrases have the same syntactic property.

## 3.3 Cleft-constructions

The third similarity is that SDPs and SLPs may or may not appear in the focus position of *v*P-cleft constructions, but ODPs and OLPs must be in the focused clause with *v*P.[2] Kishimoto (2016) argues that Japanese pseudo-cleft constructions involve *v*P-clefting and have the representation in (15b).

(15) a. *Kare-ga* *hon-o* *yonda.*
he-NOM book-ACC read
'He read a book.'
b. [$_{CP}$ Op$_i$ [$_{TP}$ *Kare-ga* [$_{vP}$ $t_j$ *si*] *-ta*] *no-wa*] [$_{vP}$ *PRO*
he-NOM do PST COMP-TOP
*hon-o* *yomu*]$_j$ *koto* *da.*
book-ACC fact fact COP
'What he did is read the book.'

(Kishimoto 2016: 133)

In (15b), the vP *PRO hon-o yomu* 'PRO read a book' is in a focused position, while the presuppositional clause includes a TP-structure *Kare-ga si-ta no-wa* 'What he did.' Details aside, elements in the presuppositional clause must be in TP or at least adjoined to the *v*P-projection, and those in the focused clause are located inside *v*P.

Now let us observe the examples of depictive predicates and *de*-locatives from (16) to (19).

2 See Kishimoto (2015) for a discussion of depictive predicates and *v*P-cleft constructions.

(16) SDPs
a. *Hanako-ga* ***kimono-sugata-de*** *sita no-wa* [$_{vP}$ *niku-o taberu*] *koto da.*
Hanako-NOM kimono-figure-DE did COMP-TOP meat-ACC eat fact COP
'What Hanako did in kimono is eat the meat.'
b. *Hanako-ga sita no-wa* [$_{vP}$ ***kimono-sugata-de*** *niku-o taberu*] *koto da.*

(17) ODPs
a. * *Hanako-ga* ***nama-de*** *sita no-wa* [$_{vP}$ *niku-o taberu*] *koto da.*
Hanako-NOM raw-DE did comp-TOP meat-ACC eat fact COP
'What Hanako did raw is eat the meat.'
b. *Hanako-ga sita no-wa* [$_{vP}$ ***nama-de*** *niku-o taberu*] *koto da.*

(18) SLPs
a. *Hanako-ga* ***tenmondai-de*** *sita no-wa* [$_{vP}$ *koosei-o kansoku-suru*] *koto da.*
Hanako-NOM observatory-DE did COMP-TOP fixed.star-ACC observation-do thing COP
'What Hanako did in an observatory is observe a fixed star.'
b. *Hanako-ga sita no-wa* [$_{vP}$ ***tenmondai-de*** *koosei-o kansoku suru*] *koto da.*

(19) OLPs
a. * *Hanako-ga* ***iti koonen saki-no ten-de*** *sita no-wa* [$_{vP}$ *koosei-o kansoku-suru*] *koto da.*
Hanako-NOM one light.year away-GEN point-DE did COMP-TOP fixed.star-ACC observation-do thing COP
'What Hanako did at the point one light year away (from the earth) is observe a fixed star.'
b. *Hanako-ga sita no-wa* [$_{vP}$ ***iti koonen saki-no ten-de*** *koosei-o kansoku suru*] *koto da.*

As shown in (16) and (18), the grammaticality does not change whether the SDP *kimono-sugata-de* 'in kimono' and the SLP *tenmondai-de* 'in an observatory' are in the focus position with *v*P or they are in the presuppositional clause. On the other hand, the ODP *nama-de* 'raw' and the OLP *iti koonen saki-no ten-de* 'one light year away from the earth' must be with *v*P in the focus position; otherwise, it is ungrammatical, as (17) and (19) illustrate.

## 3.4 Multiple occurrences

The fourth similarity is that it is possible for depictive predicates to appear more than once in one clause, as are *de*-locative phrases. See (20).

(20) a. *Hanako-ga* ***kimono-sugata-de*** *nama-de* *katuo-o* *tabeta.*
Hanako-NOM kimono-figure-DE raw-DE bonito-ACC ate
'Hanako ate the bonito raw in kimono.'

b. *Hanako-ga* ***tenmondai-de*** ***hyaku*** ***koonen*** ***saki-no***
Hanako-NOM observatory-DE one.hundred light.year away-GEN
***ten-de*** *koosei-o* *kansoku-sita.*
point-DE fixed.star-ACC observation-did
'Hanako observed a fixed star at the point one hundred light years away from the earth in an observatory.'

As shown in (20a), both the SDP *kimono-sugata-de* 'in kimono' and the ODP *nama-de* 'raw' are allowed to be in the same clause, and the example in (20b) illustrates that *de*-locatives have the same property; the SLP *tenmondai-de* 'in an observatory' and the OLP *hyaku koonen saki-no ten-de* 'at the point one hundred light years away from the earth' both appear in one clause.

The examples in (20) include different types of depictive predicates and *de*-locative phrases, but it is actually the case that the same types of predicates and locative phrases are allowed in the same clause. See (21).

(21) a. SDP-SDP
? *Taroo-ga* ***tyakui-de*** ***huku-o-kita-jootai-de*** *niku-o*
Taroo-NOM in.clothes-DE clothes-ACC-have.worn-state-DE meat-ACC
*tabeta.*[3]
ate
'Taro ate the meat with his clothes on.' [lit 'Taro ate meat in clothes with his clothes on.']

**3** The examples in (21a) and (21b) are slightly marginal because the depictive predicates employed express identical meanings, and hence the multiple use of the depictive predicates may sound redundant.

b. ODP-ODP
? *Taroo-ga* *kaden-o* ***teika-de***
Taroo-NOM home.appliance-ACC standard.price-DE
***furupuraisu-de*** *katta.*
regular.price-DE bought
'Taro bought an home appliance for the standard price.' [lit. 'Taro bought a new home appliance for the standard price for the regular price.']

c. SLP-SLP
*Taroo-ga* ***kaijoo-de*** ***aru-sima-no*** ***higasi-gawa-de***
Taroo-NOM on.the.sea-DE certain-island-GEN east-side-DE
*koosei-o* *kansoku-sita.*[4]
fixed.star-ACC observation-did
'Taro observed a fixed star on the sea on the east side of a certain island.'

d. OLP-OLP
*Taroo-ga* ***hyaku*** ***koonen*** ***saki-no*** ***ten-de***
Taroo-NOM one.hundred light.year away-GEN point-DE
***aru-hosi-no*** ***tikaku-de*** *koosei-o* *kansoku-sita.*
cartain-star-GEN vicinity-DE fixed.star-ACC observation-did
'Taro observed a fixed star at the point one hundred light years away from the earth in the vicinity of a certain star.'

All the examples in (21) have two *de*-phrases of the same type. These examples are all grammatical, indicating that the number of depictive predicates and *de*-locative phrases in a clause is not limited to one.

## 3.5 Intervention by verbal adverbs

The fifth similarity pertains to intervention by verbal adverbs. ODPs and OLPs are associated with objects, and therefore they seem to have a relationship that is also found in the case of small clauses. That is, objects and *de*-phrases are within a larger functional projection, forming a constituent. However, verbal adverbs such as *suguni* 'immediately' can intervene in the word order of object-oriented *de*-phrases and their associated NPs, so that small clause analysis may not be plausible. This property is instantiated by (22), (23) and (24).

**4** I am grateful for an anonymous reviewer for providing the examples in (21c) and (21d).

(22) a. *Taroo-ga* *suguni* ***nama-de*** *niku-o* *tabeta.*
Taroo-NOM immediately raw-DE meat-ACC ate
'Taroo immediately ate the meat raw.'
b. *Taroo-ga* ***nama-de*** *suguni niku-o tabeta.*

(23) a. *Taroo-ga* *suguni* ***hyaku*** ***koonen*** ***saki-no*** ***ten-de***
Taroo-NOM immediately one.hundred light.year away-GEN point-DE
*koosei-o* *kansoku-sita.*
fixed.star-ACC observation-did
'Taro immediately observed a fixed star at the point one hundred light years away
(from the earth).'
b. *Taroo-ga* ***hyaku koonen saki-no ten-de*** *suguni koosei-o kansoku-sita.*

(24) a. *Taroo-ga* *tuyoku* *[sc* *kono-heya-o* *tukaiyasuku]*
Taroo-NOM immediately this-room-ACC useful
*kanzita.*
felt
'Taroo immediately ate the meat raw.'
b. * *Taroo-ga kono-heya-o tuyoku tukaiyasuku kanzita.*

The examples in (22) include a depictive predicate *nama-de* 'raw' and a verbal adverb *suguni* 'immediately.' These two phrases can switch their positions, showing that both word orders in the example in (22) are acceptable; verbal adverbs can intervene the word order of depictive predicates and the NPs that they are predicated of. The intervention effect is also not observed in the case of *de*-locative phrases, as shown in (23). On the other hand, the examples in (24) indicate that the predicates in the small clause structure and their semantic subject cannot be intervened by a verbal adverb. The contrast illustrates that depictive predicates and *de*-locatives behave similarly, but they are different from the predicates of small clauses.

## 3.6 Restricted word orders between the *de*-phrases

The sixth similarity concerns the word order. We observed in Section 3.4 that the *de*-phrases in question can appear more than once in a clause. When both SDPs and ODPs are employed in the same clause, it is not the case that the word order is completely free. The word orders between SDPs and ODPs and between SLPs

and OLPs are restricted to SDP-ODP and SLP-OLP when they are adjacent. This restriction is observed in (25) and (26).

(25) a. *Taroo-ga* ***hadaka-de*** ***nama-de*** *niku-o* *tabeta.*
Taroo-NOM naked-DE raw-DE meat-ACC ate
'Taro ate the meat raw naked.'
b. ?? *Taroo-ga* ***nama-de hadaka-de*** *niku-o tabeta.*

(26) a. *Taroo-ga* ***tenmondai-de*** ***hyaku*** ***koonen*** *saki-no*
Taroo-NOM observatory-DE one.hundred fixed.star-ACC away-GEN
***ten-de*** *koosei-o* *kansoku-sita.*
point-DE fixed.star-ACC observation-did
'Taro observed a fixed star at the point one hundred light years away from the earth in an observatory.'
b. ?? *Taroo-ga* ***hyaku koonen saki-no ten-de tenmondai-de*** *koosei-o kansoku-sita.*

In (25), depictive predicates *hadaka-de* 'naked' and *nama-de* 'raw' are employed. Their word orders are acceptable in the case of the SDP-ODP order, as in (25a), but (25b) has the switched word order ODP-SDP, and this word order yields a marginal result. The same property is also observed in the case of *de*-locative phrases in (26); the SLP *tenmondai-de* 'in an observatory' and the OLP *hyaku koonen saki-no ten-de* 'at the point one hundred years away from the earth' must be in the SLP-PLP word order.

This restriction becomes complex when the word orders in (25) and (26) are changed as in (27).

(27) a. *Taroo-ga* ***nama-de*** *niku-o* ***hadaka-de*** *tabeta.*
Taroo-NOM raw-DE meat-ACC naked-DE ate
'Taro ate the meat raw naked.'
b. *Taroo-ga* ***hyaku*** ***koonen*** ***saki-no*** ***ten-de***
Taroo-NOM one.hundred light.year away-GEN point-DE
*koosei-o* ***tenmondai-de*** *kansoku-sita.*
fixed.star-ACC observatory-DE observation-did
'Taro observed a fixed star at the point one hundred light years away from the in an observatory.'

The examples in (27) have the word orders of ODP / OLP – Object – SDP / SLP. If the objects are linearized after SDPs and SLPs, the sentences become ungrammatical, as in (25) and (26). The observations in this subsection lead us to claim that the word orders of depictive predicates and *de*-locative phrases have some restrictions.

This section has shown that depictive predicates and *de*-locative phrases have the same syntactic properties. Hence, it is reasonable to conclude that they are equipped with syntactically identical properties at least with respect to those observed in this section. However, it will be shown in the section below that these phrases are not completely the same linguistic objects, and that there is a difference between depictive predicates and *de*-locative phrases, which indicates that they should not completely be treated in the same manner.

# 4 Differences between depictive predicates and *de*-locative phrases

Section 3 has shown some of the syntactic identities between *de*-locative phrases and depictive predicates in Japanese. One may claim that these two phrases are equipped with completely the same linguistic properties, and hence treated identically. However, there is actually at least one difference between them.

The fourth similarity observed in Section 3 concerns the multiple uses of *de*-phrases; they can appear more than once in a clause. We also saw that the same type of depictive predicates and *de*-locative phrases are allowed in one clause. However, different restrictions are imposed on these phrases when they appear more than once in the same clause.

## 4.1 An inclusive relationship

First, when there is an inclusive relationship between depictive predicates and between *de*-locative phrases, the *de*-phrases behave differently: multiple depictive predicates are not totally allowed at all. On the other hand, multiple *de*-locatives are permitted in this case, although the word order is restricted. See (28) and (29).

(28) a. SDP-SDP

* *Hanako-ga* ***kimono-sugata-de*** ***hurisode-de*** *kuruma-o*
Hanako-NOM kimono-figure-DE long-sleeved.kimono-DE car-ACC
*unten-sita.*
drive-did
'Hanako drove a car in kimono in hurisode.'

b. ODP-ODP
* *Taroo-ga* ***yaketa-jootai-de*** ***midiamu-de*** *niku-o* *tabeta.*
Taroo-NOM grilled-state-DE medium-DE meat-ACC ate
'Taro ate meat grilled medium.'

(29) a. SLP-SLP
*Taroo-ga* ***nihon-de*** ***Tookyoo-de*** *koosei-o* *kansoku-sita.*
Taroo-NOM Japan-DE Tokyo-DE fixed.star-ACC observation-did
'Taro observed a fixed star in Tokyo in Japan.'

b. OLP-OLP
*Taroo-ga* ***ano-ginga-de*** ***hyaku*** ***koonen*** ***saki-no***
Taroo-NOM that-galaxy-DE one.hundred light.year away-GEN
***ten-de*** *koosei-o* *kansoku-sita.*
point-DE fixed.star-ACC observation-did
'Taro observed a fixed star at the point one hundred light years away from the earth in that galaxy.'

As shown in (28a), there is an inclusion relationship between two SDPs *kimono-sugata-de* 'in kimono' and *hurisode-de* 'in hurisode' because *hurisode* is a subtype of kimono that has long sleeves. Also in the case of multiple ODPs in (28b), the ODP *yaketa-jootai-de* 'grilled' semantically includes the ODP *midiamu-de* 'medium'. These examples instantiate the fact that if an inclusive relationship between depictive predicates is established, they cannot be used more than once. On the other hand, the examples in (29) show that *de*-locatives can be used more than once in a clause without any problem when one of the *de*-locatives includes the other; the SLPs *nihon-de* 'in Japan' and *Tookyoo-de* 'in Tokyo' are allowed in the same clause, and the OLPs *ano-ginga-de* 'in that galaxy' and *hyaku-koonen saki-no ten-de* 'at the point one hundred light years away from the earth' can both appear in one clause, and the first SLP and OLP can include the second locatives in each example; Japan can spatially include Tokyo, and the point one light year away from the earth can be included in a galaxy.

## 4.2 An exclusive relationship

Second, in other cases of multiple depictive predicates being used, there is no problem if an exclusive relationship is held, and they represent completely different states. However, in the case of *de*-locatives, it is forbidden to use phrases expressing different locations in the same clause.

(30) a. SDP-SDP
*Taroo-ga* ***kimono-sugata-de*** ***deisui-zyootai-de*** *kuruma-o*
Taroo-NOM kimono-figure-DE dead.drunk-state-DE car-ACC
*unten-sita.*
drive-did
'Taro drove a car in kimono dead drunk.'

b. ODP-ODP
*Taroo-ga* *kaden-o* ***sinpin-de*** ***teika-de***
Taroo-NOM home.appliance-ACC new-DE standard.price-DE
*katta.*
bought
'Taro bought a new home appliance for the standard price.'

c. SLP-SLP
* *Taroo-ga* ***nihon-no tenmondai-de*** ***hawai-no tenmondai-de***
Taroo-NOM Japan-GEN observatory-DE Hawaii-GEN observatory-DE
*koosei-o* *kansoku-sita.*
fixed.star-ACC observation-did
'Taro observed a fixed star in an observatory of Japan in an observatory of Hawaii.'

d. OLP-OLP
* *Taroo-ga* ***ano-ginga-de*** ***tiykuu-no aru taityookei-de***
Taroo-NOM that-galaxy-DE earth-GEN BE solar.system-DE
*wakusei-o* *kansoku-sita.*
planet-ACC observation-did
'Taro observed a planet in that galaxy in the solar system where the earth is located.'

The examples in (30a) and (30b) shows the cases of depictive predicates. The SDPs in (30a) *kimono-sugata-de* 'in kimono' and *deisui-zyootai-de* 'dead drunk' express different states related to the subject. This property is also found in the case of ODPs, as shown in (30b); the ODPs *sinpin-de* 'new' and *teika-de* 'for the standard price' differ from each other. However, multiple *de*-locatives expressing different locations are not allowed in one clause, as (30c) and (30d) indicate; *de*-locatives in (30c) *nihon-no tenmondai-de* 'in an observatory of Japan' and *hawai-no tenmondai-de* 'in an observatory of Hawaii' specifies different locations for a subject, and those in (30d) *ano-ginga-de* 'in that galaxy' and *tikyuu-no aru taiyookei-de* 'in the solar system where the earth is located' describes the different positions for an object.

The discussion in this section demonstrates the fact that depictive predicates and *de*-locatives do not show completely the same linguistic behavior and differ when used multiple times in one clause. In an inclusive relationship, depictive

predicates are more restricted than *de*-locatives, but *de*-locatives are more constrained than depictive predicates when the phrases express totally different states or locations. This difference is not predictable if we assume that the two kinds of *de*-phrases are completely identical.

In the next section, we present a theoretical analysis to capture the similarities and differences between depictive predicates and *de*-locative phrases and argue that *de*-particles of these two phrases are different.

# 5 Capturing the properties

Before we provide an analysis, let us generalize the properties of Japanese depictive predicates and *de*-locative phrases we observed in Section 3 and 4. The first, second and third similarities between these two types of *de*-phrases are all related to *v*P, and they partly show the positions of these phrases. In addition, the fourth and fifth similarities indicate that multiple *de*-phrases are allowed in one clause and that their word order is relatively free with respect to the relation with verbal adverbs. These similarities show that the *de*-phrases are syntactic adjuncts. The sixth similarity illustrates that the word orders of the *de*-phrases in question are not completely free. Finally, a difference between the two types of *de*-phrase demonstrates that depictive predicates cannot mutually include each other, and *de*-locatives of the same type must not exclude others. In summary, we have the following generalizations regarding the *de*-phrases in question.

(31) a. Generalization 1
SDPs and SLPs may or may not be located inside *v*P, but ODPs and OLPs must be inside *v*P.
b. Generalization 2
Depictive predicates and *de*-locative phrases are syntactic adjuncts.
c. Generalization 3
Some restrictions are imposed on the word order of *de*-phrases.
d. Generalization 4
Multiple depictive predicates of the same type does not allow an inclusive relationship, while multiple *de*-locatives of the same type must not express independent locations.

In the following sections, we present a proposal to capture the generalizations.

## 5.1 A further argument for adjuncthood

Before we introduce a proposal, we would like to provide a further argument for the adjuncthood of depictive predicates and *de*-locatives in Japanese. Generalization 2 is further instantiated by the fact that depictive predicates and *de*-locative phrases, as well as adjuncts, cannot undergo ellipsis. It has been claimed since Kuroda (1965) and Oku (1998), in Japanese, arguments-adjuncts asymmetry is observable in terms of ellipsis; adjuncts are impossible to elide. See (32) and (33).

(32) *Context: A salesman came to Mary's house and John's house.*
   a. *Seerusuman-ga Mearii-no uchi-ni kita.*
      salesman-NOM Mary-GEN house-to came
      'A salesman came to Mary's house.'
   b. ~~*Seerusuman-ga*~~ *Jon-no uchi-ni-mo kita.*
      salesman-NOM John-GEN house-to-also came
      'A salesman also came to John's house.' [lit. '[e] also came to John's house.']
      (Oku 1998: 166)

(33) *Context: Bill washed a car with attentive care, and John also washed a car but not with care.*
   a. *Biru-wa kuruma-o teinei-ni aratta.*
      Bill-TOP car-ACC carefully washed
      'Bill washed a car carefully.'
   b. * *Jon-wa kuruma-o* ~~*teinei-ni*~~ *araw-anak-atta.*
      John-TOP car-ACC carefully wash-NEG-PST
      'John did not wash a car.'
      (Oku 1998: 173)

The strikeout-lines serve as marks of ellipsis. The subject in (32), *Seerusuman-ga* 'a salesman,' is elided and is still grammatical on the interpretation that a salesman also came to John's house, although the referents of a salesman may be different. The example in (33), however, cannot be interpreted as 'John did not wash a car carefully.' The interpretations is that John did not wash a car at all. The contrast indicates that arguments in Japanese can undergo ellipsis, but adjuncts are not resistible to being elided. Now let us see how depictive predicates and *de*-locatives behave in terms of ellipsis. Observe the examples from (34) to (37).

(34) *SDPs*
*Context: Taro ate the meat naked, and Hanako also ate the meat, but she was not naked when she ate it.*
a. *Taroo-wa hadaka-de niku-o tabeta.*
Taro-TOP naked-DE meat-ACC ate
'Taro ate the meat naked.'
b. * *Hanako-wa ~~hadaka-de~~ niku-o tabe-nak-atta.*
Hanako-TOP naked-DE meat-ACC eat-NEG-PST
'Hanako did not eat the meat.'

(35) *ODPs*
*Context: Taro ate the meat raw, and Hanako also ate the meat, but it was not raw when she ate it.*
a. *Taroo-wa nama-de niku-o tabeta.*
Taro-TOP raw-DE meat-ACC ate
'Taro ate the meat raw.'
b. * *Hanako-wa ~~nama-de~~ niku-o tabe-nak-atta.*
Hanako-TOP raw-DE meat-ACC eat-NEG-PST
'Hanako did not eat the meat.'

(36) *SLPs*
*Context: Taro observed a fixed star in Japan, and Hanako also observed a fixed star, but she was not in Japan when she observed it.*
a. *Taroo-wa nihon-de koosei-o kansoku-sita.*
Taro-TOP Japan-DE fixed.star-ACC observation-did
'Taro observed a fixed star in Japan.'
b. * *Hanako-wa ~~nihon-de~~ koosei-o kansoku-si-nakat-ta.*
Hanako-TOP Japan-DE fixed.star-ACC observation-do-NEG-PST
'Hanako did not observe a fixed star.'

(37) *OLPs*
*Context: Taro observed a fixed star in that galaxy, and Hanako also observed a fixed star, the star she observed was not in that galaxy.*
a. *Taroo-wa ano-ginga-de koosei-o kansoku-sita.*
Taro-TOP that-galaxy-DE fixed.star-ACC observation-did
'Taro observed a fixed star in that galaxy.'
b. * *Hanako-wa ~~ano-ginga-de~~ koosei-o kansoku-si-nak-atta.*
Hanako-TOP that-galaxy-DE fixed.star-ACC observation-do-NEG-PST
'Hanako did not observe a fixed star.'

All the b-examples from (34) to (37) include depictive predicates or *de*-locatives that underwent ellipsis. The examples cannot be interpreted with the elided phrases recovered; Hanako did not eat the meat or observe a fixed star at all. The fact that the depictive predicates and *de*-locatives behave identically to adjuncts demonstrates that they are syntactic adjuncts.

## 5.2 Prerequisites

### 5.2.1 The position of *de*-phrases

Now we begin the discussion by considering the syntactic positions of the *de*-phrases. According to Generalization 1 in (31), SDPs and SLPs can be inside or outside of *v*P, and ODPs and OLPs have to be at least inside *v*P because ungrammatical results are yielded when they are outside the *v*P level. The fact about SDPs and SLPs can be explained if we assume that these phrases are in *v*P or in a higher projection, namely TP. The following examples further instantiate the claim. See (38).

(38) a. *Taroo-ga sensei-ni **doyagao-de** **hakusi-de***
Taroo-NOM teacher-DAT smug.face-DE blank-DE
*tooan-o teisyutu-sita.*
answer.sheet-ACC submit-did
'Taro submitted a blank answer sheet to his teacher with a smug face.'

b. ?? *Taroo-ga sensei-ni **hakusi-de doyagao-de** tooan-o teisyutu-sita.*

c. ?? *Taroo-ga sensei-ni tooan-o **doyagao-de hakusi-de** teisyutu-sita.*

d. *Taroo-ga sensei-ni tooan-o **hakusi-de doyagao-de** teisyutu-sita.*

e. *Taroo-ga sensei-ni **doyagao-de** tooan-o **hakusi-de** teisyutu-sita.*

f. *Taroo-ga sensei-ni **hakusi-de** tooan-o **doyagao-de** teisyutu-sita.*

The examples in (38) have a dative phrase *sensei-ni* 'to his teacher,' an ODP *hakusi-de* 'blank,' an object *tooan-o* 'answer sheet,' and an SDP *doyagao-de* 'with a smug face.' The marginality of (38) and (38) implies that the word order of depictive predicates is not completely free despite their status as adjuncts. In addition, the position of dative phrases is indicated by the examples in (39), where the dative phrase *Hanako-ni* 'to Hanako' can be stranded or replaced by *soo-su* along with *v*P.

(39) *Taroo-wa Hanako-ni hanataba-o okutta.*
Taroo-TOP Hanako-DAT bouquet-ACC sent
'Taro presented a bouquet to Hanako.'

a. *Ziroo-mo soo-sita.*
Ziroo-also so-did
'Ziro did so, too. (presented a bouquet to Hanako.)'
b. *Ziroo-wa Momoko-ni soo-sita.*
Ziroo-TOP Momoko-DAT so-did
'Ziro did so to Momoko. (presented a bouquet to Momoko.)'

The *soo-su* replacement test reveals that dative phrases are in *v*P or TP. Assuming that the dative phrase in (38) *sensei-ni* 'to his teacher' is adjoined to *v*P as its base-generated position and serves as a maker of *v*P edge, we can conclude that the following word orders are prohibited when they are in *v*P:

(40) a. [$_{vP}$ ODP – SDP – Object] (= (38c))
b. [$_{vP}$ Object – SDP – ODP] (= (38d))

That is, ODPs and objects must be adjacent.[5] In order for the requirement to be valid, ODPs needs to be adjoined to VP, where objects are base-generated.

In addition, we also need to pay attention to the fact that some examples have ODPs separate from objects, as in (41b) and (41c).

(41) a. *Taroo-ga sensei-ni* ***hakusi-de*** ***tooan-o***
Taroo-NOM teacher-DAT blank-DE answer.sheet-ACC
*teisyutu-sita.*
submit-did
'Taro submitted a blank answer sheet to his teacher.'
b. ***Tooan-o*** *Taroo-ga sensei-ni* ***hakusi-de*** *teisyutu-sita.*
c. ***Hakusi-de*** *Taroo-ga sensei-ni* ***tooan-o*** *teisyutu-sita.*

The examples in (41b) and (41c) have an object *tooan-o* 'an answer sheet' separated from an ODP *hakusi-de* 'blank,' but it is grammatical, similarly to (41a), where the ODP and the object are adjacent. This is readily accounted for because in (41b), *tooan-o* is originally merged with V and undergoes scrambling to the sentence-initial position, and in (41), the ODP is scrambled sentence-initially but is adjacent to

**5** We do not discuss adjacency constraints on SDP because it is not necessary to mention the requirement regarding SDP in order to clarify the structural position of depictive predicates, but the adjacency requirement may also hold for the case of SDPs and the subjects. We would like to thank one of the anonymous reviewers for the possibility of adjacency requirement on both kinds of depictive predicates.

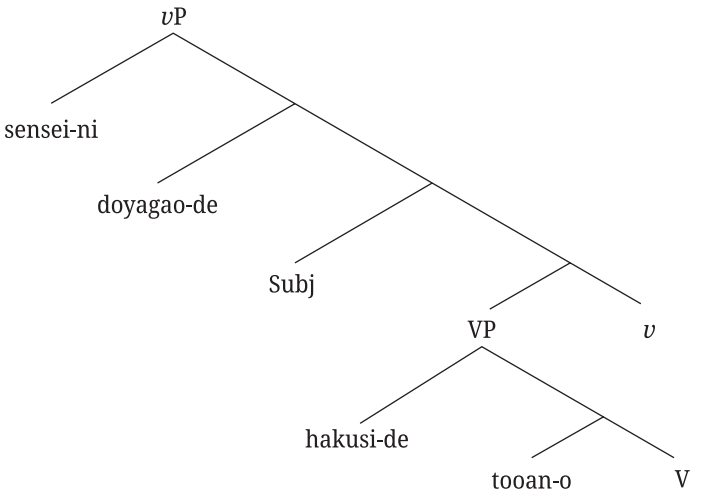
the object befoe the scrambling. The adjacency requirement is adhered to in the base position.[6]

(42) a. ***Tooan-o***$_i$ *Taroo-ga* *sensei-ni* ***hakusi-de*** $t_i$
answer.sheet-ACC Taroo-NOM teacher-DAT blank-DE
*teisyutu-sita.*
submit-did
'Taro submitted a blank answer sheet to his teacher.'
***Hakusi-de***$_i$ *Taroo-ga sensei-ni* $t_i$ *tooan-o teisytu-sita.*

The plausibility of scrambling depictive predicates will be discussed in Section 5.4.2

From the discussion above, it is plausible to conclude that SDPs are in a higher projection than ODPs. As SDPs are adjoined to *v*P, a reasonable conclusion is that ODPs are adjoined to VP.

(43)




Regarding the adjacency requirement, one may argue that ODPs and objects needs to be adjacent because they form a constituent. However, in the following subsection, we present an argument in favor of the claim that ODPs and objects do not form a constituent even though they need to be adjacent.

**6** We would like to thank one of the anonymous reviewers for bringing the necessity of showing the data in (41b) to our attention.

### 5.2.2 An argument for Independent Constituent Analysis of depictive predicates

As we observed in the previous subsection, ODPs and objects must be adjacent in their base positions. In this regard, one might think that the ODP *hakusi-de* 'blank' and the object *tooan* 'the answer sheet' form a constituent, and a disjoint structure in (43) is not theoretically correct; that is, the ODP or the object may have undergone scrambling to a structurally higher position, creating a correct word order. However, this idea is not empirically plausible. If ODPs and objects form a constituent, the word string of an object and an ODP can be elided, but this prediction is not borne out.

(44) *Context: Taro and Hanako both bought a car from Jiro. Taro bought a used car, but Hanako did not buy a used car but bought a new car.*
* *Taroo-wa* ***kuruma-o*** ***tyuuko-de*** *Jiroo-kara katta-ga,*
Taro-TOP car-ACC used-DE Jiro-from bought-but
*Hanako-wa* ~~*kuruma-o*~~ ~~*tyuuko-de*~~ *Jiroo-kara kawa-nakat-ta.*
Hanako-TOP car-ACC used-DE Jiro-from buy-NEG-PST
'Taro bought a car used from Jiro, but Hanako did not buy a car from Jiro.' [lit. Taro bought a car used from Jiro, but Hanako did not buy.]

The example in (44) includes an object *kuruma-o* 'a car' and an ODP *tyuuko-de* 'used'. If they form one constituent, it is possible for the constituent to undergo ellipsis, which is indicated by the strikeout lines. However, the second clause in (44) cannot be interpreted as 'Hanako bought a car used from Jiro'. Its interpretation is that Hanako did not buy a car from Jiro after all. This data shows that the a ODP and its semantic subject cannot undergo ellipsis, indicating that they do not form a constituent.

This property is also found in the case of SDPs. See (45).

(45) *Context: Taro and Jiro both know that Hanako went to Kyoto, but only Taro knows that she wore a kimono at that time.*
* *Taroo-wa* ***Hanako-ga*** ***kimono-sugata-de*** *Kyooto-ni itta*
Taroo-TOP Hanako-ACC kimono-figure-DE Kyoto-DAT went
*koto-o sitteiru-ga, Jiroo-wa* ~~*Hanako-ga*~~ ~~*kimono-sugata-de*~~
thing-ACC know-but Jiroo-TOP Hanako-NOM kimono-figure-DE
*Kyooto-ni itta koto-o sira-nai.*
Kyoto-DAT went thing-ACC know-NEG
(Lit.) 'Taro knows that Hanako went to Kyoto in kimono, but Jiro does not know that (Hanako) went to Kyoto (in kimono).'

As exemplified in (45), an SDP *kimono-sugatga-de* 'in kimono' and its semantic subject *Hanako* in the second clause cannot be restored. As in the case of ODPs, this fact is not accounted for by a constituent analysis, but it should receive an independent constituent analysis in which depictive predicates and their semantic subjects are interpreted as separated elements in syntax.

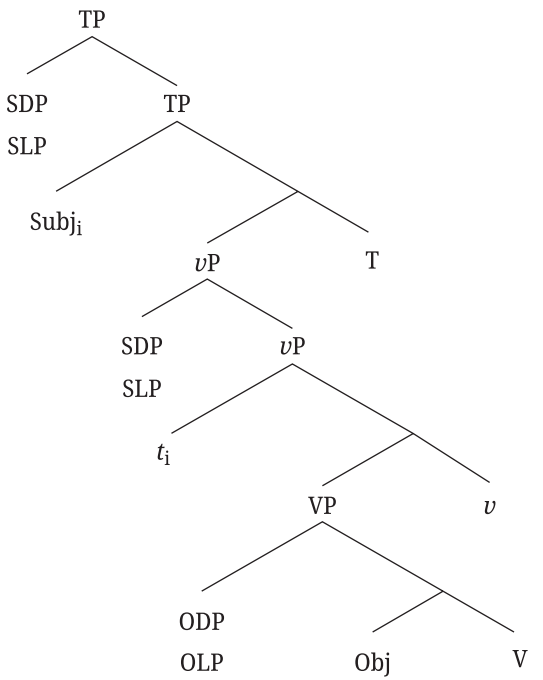
The following subsection presents a structure and semantics of depictive predicates and *de*-locative phrases to capture their properties.

## 5.3 Proposal

### 5.3.1 Structures and semantics

Within the minimalist framework of generative grammar (Chomsky 1995, 2000, 2001, 2008), we propose the following structure for depictive predicates and *de*-locative phrases.

(46)



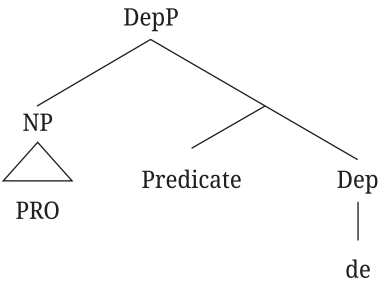

The structure in (46) has SDPs and SLPs adjoined to TP and *v*P, and ODPs and OLPs adjoined to VP.

Furthermore, in this chapter, we argue that depictive predicates and *de*-locative phrases are not directly adjoined to the syntactic configuration, but they are embedded within larger projections. We also argue that different projections are employed for depictive predicates and *de*-locative phrases. Intuitively, *de*-locatives are not predicated of their associated NPs, but rather they modify an event denoted by the VP level or sentence level and specify the location of an argument engaged in the event. In other words, the locative expressions indicate where an argument is located during the events denoted by VP, *v*P, or TP. On the other hand, depictive predicates are predicated of their associated NP; events expressed by VP, *v*P or TP overlap with those expressed by depictive predicates, and the overlapping events share one argument. We claim that these meanings are denoted by a functional head Dep for depictive predicates and a postpositional head for *de*-locative phrases. Under the Neo-Davidsonian event semantics (Davidson 1967, Champollion 2014), we propose the semantics for the two *de*-phrases in (47) and (48) and the structure of depictive predicates in (49) and that of *de*-locative phrases in (50).

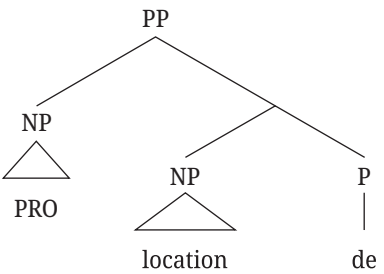
(47) $[\![de_{\text{depictive}}]\!] = \lambda P_{<v,\,t>}\lambda x_{<e>}\lambda Q_{<v,\,t>}\lambda e.\ \exists e'\ [e \circ e' \wedge P(e') \wedge Q(e) \wedge \text{Th}(e', x)]$

(48) a. $[\![de_{\text{locative}}]\!] = \lambda x_{<e>}\lambda y_{<e>}\lambda e.\ \text{Location}(e, x) \wedge \text{IN}(e, y, x)$
b. $\text{IN}(e, y, x) = x$ is in $y$ in an event $e$

(49)




(50)



The structures in (49) and (50) include an implicit argument PRO in Spec, DepP and Spec, PP. The PROs serve as semantic subjects of depictive predicates and *de*-locative phrases, controlled by an argument in the event denoted by main verbs.[7]

One motivation for assuming PRO comes from the fact that *de*-phrases are available without overt semantic subjects, as shown in (51).

(51) a. *Niku-ga* ***kimono-sugata-de*** *tabe-rare-ta.*
meat-NOM kimono-figure-DE eat-PASS-PST
'The meat was eaten in kimono.'
b. *Koosei-ga* ***tenmondai-de*** *kansoku-sare-ta.*
fixed.star-NOM observatory-DE observe-PASS-PST
'A fixed star was observed in an observatory.'

In (51), a depictive predicate *kimono-sugata-de* 'in kimono' expresses the state of the implicit subject and does not establish a subject-predicate relationship with the passive subject *niku* 'the meat'. Also, the *de*-locative *tenmondai-de* 'in an observatory' in (51) represents the location of the implicit subject, namely, the observer, not the location of the fixed star. These data can be explained by assuming that PRO is included in each *de*-phrase and PRO is interpreted as an implicit argument.

Another piece of evidence for PRO is provided by Kishimoto (2022). He argues that PRO serves as a semantic subjects of depictive predicates, and, as evidence for this claim, provides the examples in which depictive predicates have a subject-honorific marker regardless of whether they are predicated of subjects or objects. HON stands for 'honorification' in the gloss of the following examples.

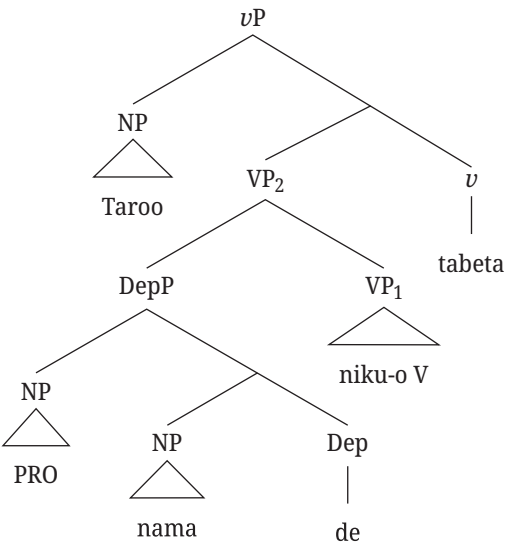
(52) a. *Sato-sensei-ga* [***kimono-no*** ***o-sugata-de***] *hanasite* *iru*
Sato-teacher-NOM kimono-GEN HON-figure-DE talk be-PRS
'Professor Sato is talking in kimono.'
b. *Kyuukyuusya-ga* *Sato-sensei-o* [***kimono-no*** ***o-sugata-de***]
ambulance-NOM Sato-teacher-ACC kimono-GEN HON-figure-DE
*hakon-da.*
carry-PST
'The ambulance carried Professor Sato in kimono.'
(Kishimoto 2022: 51)

7 We leave as an open issue how the control operation is actually conducted. It is often claimed that c-command does not suffice for the control into adjuncts, so at least we do not assume the c-command relation between PRO and the controllers in narrow syntax. See Landau (2021), for example.

He argues that there must be a grammatical subject for a phrase to have a subject-honorific marker, and that the examples in (i) serves as a piece of evidence that depictive predicates, both SDPs and ODPs, have an implicit subject, namely, PRO.

The concrete semantic composition of a sentence with a depictive predicate is shown in (53).

(53) a. *Taroo-ga* ***nama-de*** *niku-o* *tabeta.*
Taroo-NOM raw-DE meat-ACC ate
'Taro ate the meat raw.'

b. 


c. ⟦nama⟧ = λ*e*. raw (*e*)

d. ⟦DepP⟧ = $\lambda Q_{<v,\,t>}\lambda e.\ \exists e'[e \circ e' \wedge \text{raw}(e') \wedge Q(e) \wedge \text{Th}(e', \text{PRO})]$

e. $[\![\text{VP}_1]\!] = \lambda e.\ \text{eat}(e) \wedge \text{Th}(e, x) = \text{meat}$

f. $[\![\text{VP}_2]\!] = \lambda e.\ \exists e'[e \circ e' \wedge \text{raw}(e') \wedge \text{eat}(e') \wedge \text{Th}(e', \text{PRO} = \text{meat}) \wedge \text{Th}(e, x) = \text{meat}]$

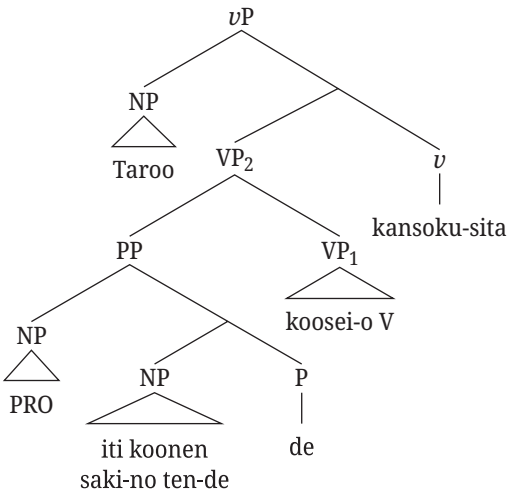
g. After Existential Closure
$\exists e, e'\ [e \circ e' \wedge \text{raw}(e') \wedge \text{eat}(e) \wedge \text{Ag}(e, \text{Taro}) \wedge \text{Th}(e', \text{PRO} = \text{meat}) \wedge \text{Th}(e, x = \text{meat})]$

In prose, (53) denotes that there are events *e* and *e′* such that *e* temporally overlaps *e′* and *e* is an event of eating the meat, and *e′* is a state of being raw, and the agent of *e* is *Taro*, and the theme of *e′* is PRO that is interpreted as *the meat*, and the theme of *e* is *the meat*. In this interpretation, the agent argument is introduced by *v*.

Sentences with *de*-locatives are compositionally interpreted as illustrated in (54).[8]

(54) a. *Taroo-ga* ***iti*** ***koonen*** ***saki-no*** ***ten-de*** *koosei-o*
Taroo-NOM one light.year away-GEN point-DE fixed.star-ACC
*kansoku-sita.*
observation-did
'Taro observed a fixed star at the point one light year away (from the earth).'

b.




c. ⟦iti koonen saki-no ten⟧ = [the point one light year away]

d. ⟦PP⟧ = λ*e*. Location(*e*, the point one light year away) ⋀ IN(*e*, PRO, the point one light year away)

e. ⟦$VP_1$⟧ = λ*e*. observe(*e*) ⋀ Th(*e*, *x*) = fixed star

f. ⟦$VP_2$⟧ = λ*e*. observe(*e*) ⋀ Th(*e*, fixed star) ⋀ Location(*e*, the point one light year away) ⋀ IN(*e*, PRO = fixed star, the point one light year away) via Predicate Modification

g. After Existential Closure
∃*e*[observe(*e*) ⋀ Ag(*e*, Taro) ⋀ Th(*e*, fixed star) ⋀ Location(*e*, the point one light year away) ⋀ IN(*e*, PRO, the point one light year away)]

**8** In (54), the verb *kansoku-suru* 'observe' is assumed to be in *v*, but it is also possible to consider that *kansoku* 'observation' and *suru* 'do' are separated in syntax, and *kansoku* may be in V and *v* is occupied by a light verb *suru*. Either view does not affect the main argument of this chapter. See Ivana and Sakai (2007), for example.

The denotation of (54) reads as follows; there is an event *e* such that *e* is an event of observing a fixed star, the agent of *e* is Taro, the point one light year away is a location related to *e*, and in *e*, the fixed star is located at the point one light year away from the earth. In this case, too, the agent is introduced by *v*.

In the following section, we conduct analyses to account for the properties of depictive predicates and *de*-locative phrases that we observed in Sections 3 and 4.

## 5.4 Analysis

With the structure proposed in the previous section, the syntactic properties of *de*-phrases can be correctly accounted for.

### 5.4.1 Generalization 1: The syntactic positions of the *de*-phrases

Generalization 1, regarding the first, second, and third similarities, as we claimed, is correctly explained by the structure in (46), as SDPs and SLPs can be outside *v*P projections so that they do not always have to be inside *v*P. Moreover, ODPs and OLPs are adjoined to VP and they have to be inside *v*P in every case, as long as the *v*P levels are fronted, undergo *soo-su* replacement, or are focused in cleft-constructions.

### 5.4.2 Generalization 2: Adjuncthood of the *de*-phrases

Generalization 2, which states that the *de*-phrases are syntactic adjuncts, can be fully captured with (46). Relevant examples are repeated in (55) and (56).

(55) *Hanako-ga* ***kimono-sugata-de*** ***nama-de*** *katuo-o* *tabeta.*
Hanako-NOM kimono-figure-DE raw-DE bonito-ACC ate
'Hanako ate the bonito raw in a kimono.'

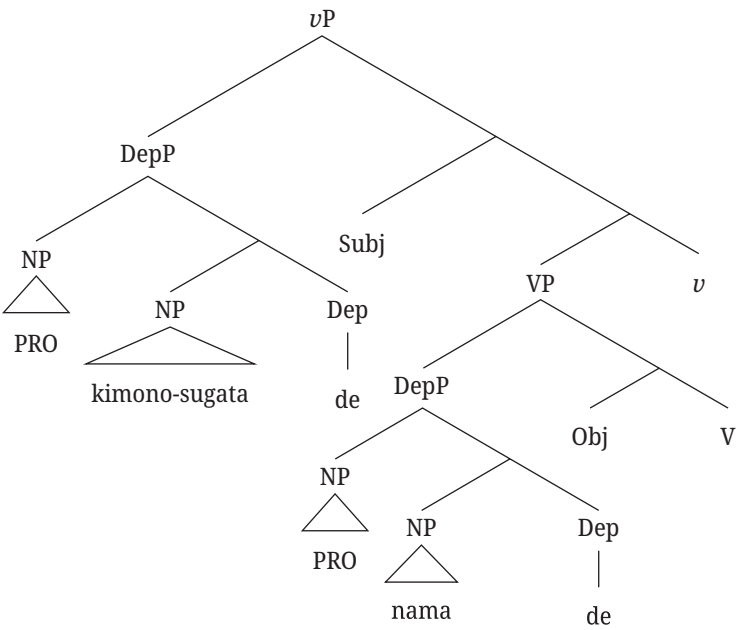
(56) *Hanako-ga* ***tenmondai-de*** ***hyaku*** ***koonen*** ***saki-no***
Hanako-NOM observatory-DE one.hundred light.year away-GEN
***ten-de*** *koosei-o* *kansoku-sita.*
point-DE fixed.star-ACC observation-did
'Hanako observed a fixed star one hundred light years away from the earth in an observatory.'

As we argued, the *de*-phrases are syntactic adjuncts, and adjuncts are generally allowed to appear in one clause more than once, even if they are not contradictory to each other.

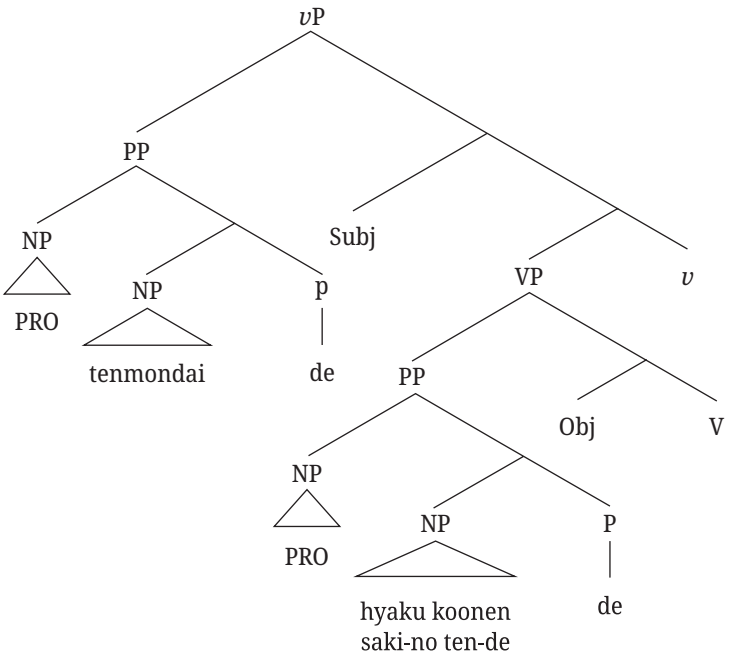
(57) *Taroo-ga* ***yukkuri*** ***yuugani*** *odotta.*
Taroo-NOM slowly elegantly danced
'Taro slowly danced elegantly.'

The example includes two manner adverbs, *yukkuri* 'slowly' and *yuugani* 'elegantly.' The possibility of multiple uses is a typical property of adjuncts. The examples in (55) and (56) have the following structures.

(58) a.



b.




Let us see how the proposal of this chapter accounts for the fifth property: intervention by verbal adverbs. The relevant examples are repeated in (59) and (60):

(59) a. *Taroo-ga* *suguni* ***nama-de*** *niku-o* *tabeta.*
Taroo-NOM immediately raw-DE meat-ACC ate
'Taroo immediately ate the meat raw.'
b. *Taroo-ga* ***nama-de*** *suguni niku-o tabeta.*

(60) a. *Taroo-ga* *suguni* ***hyaku*** ***koonen*** ***saki-no*** ***ten-de***
Taroo-NOM immediately one.hundred light.year away-GEN point-DE
*koosei-o* *kansoku-sita.*
fixed.star-ACC observation-did
'Taro immediately observed a fixed star at the point one hundred light years away (from the earth).'
b. *Taroo-ga* ***hyaku koonen saki-no ten-de*** *suguni koosei-o kansoku-sita.*

Recall that this property is not observable in an example that includes a small clause structure, which has a similar word order and properties. Observe (61).

(61) a. *Taroo-ga* *tuyoku* [$_{SC}$ *kono* *heya-o* *tukaiyasuku*] *kanzita.*[9]
Taroo-NOM strongly this room-ACC useful felt
'Taro strongly felt this room useful.'
b. * *Taroo-ga kono-heya-o tuyoku tukaiyasuku kanjita.*
c. * *Taroo-ga tukaiyasuku tuyoku kono heya-o kanzita.*

The examples in (61) include a small clause structure *[$_{sc}$ kono heya-o tukaiyasuku]* 'this room useful' and a verbal adverb *tuyoku* 'strongly.' In (61), the verbal adverb intervenes the word order of *kono-heya-o* and *tukaiyasuku*. The word order indicates that the verbal adverb must be inside the small clause, and the adverb cannot modify the verb because it is not directly in verbal projection, VP or *v*P. The word

**9** One of the anonymous reviewers suggested that the example in (61) may receive an analysis of object-raising, as proposed by Kuno (1976) and others. The example in (ia) is cited from Kuno (1976) with a slight modification, and the one in (ib) is provided from the reviewer.

(i) a. *Yamada-wa* *Tanaka-o*$_i$ *orokanimo* [$t_i$ *tensai* *da* *to*]
Yamada-TOP Tanaka-ACC stupidly genius is that
*omotte* *ita.*
thinking was
'Yamada stupidly thought Tanaka to be a genius.'
(cf. Kuno 1976: 25)
b. *Taroo-wa* *Hanako-o* *orokanimo* [$t_i$ *kasikoku*] *kanzita.*
Taroo-TOP Hanako-ACC stupidly wise felt
'Taro stupidly felt that Hanako was wise.'

The examples are perfectly acceptable, but it is not certain that the same analysis is possible for (61). First, the adverb *orokanimo* 'stupidly' is interpreted out of the scope of negation, but *tuyoku* 'strongly' in (61) is not.

(ii) a. *Taroo-wa* *orokanimo* *Hanako-o* *kasikoku* *kanzi-nakat-ta.*
Taroo-TOP stupidly Hanako-ACC wise feel-NEG-PST
'It was stupid of Taro not to feel that Hanako was wise.'
b. *Taroo-wa* *tuyoku* *Hanako-o* *kasikoku* *kanzi-nakat-ta.*
Taroo-TOP strongly Hanako-ACC wise feel-NEG-PST
'Taro did not strongly feel that Hanako was wise.'

Therefore, it is not clear whether *orokanimo* is a VP-adverb of the same kind as *tuyoku*. Second, the word order in (ib) becomes awkward with the adverb *tuyoku*.

(iii) * *Taroo-wa* *Hanako-o* *tuyoku* *kasikoku* *kanzita.*
Taroo-TOP Hanako-ACC strongly wise felt
'Taro strongly felt that Hanako was wise.'

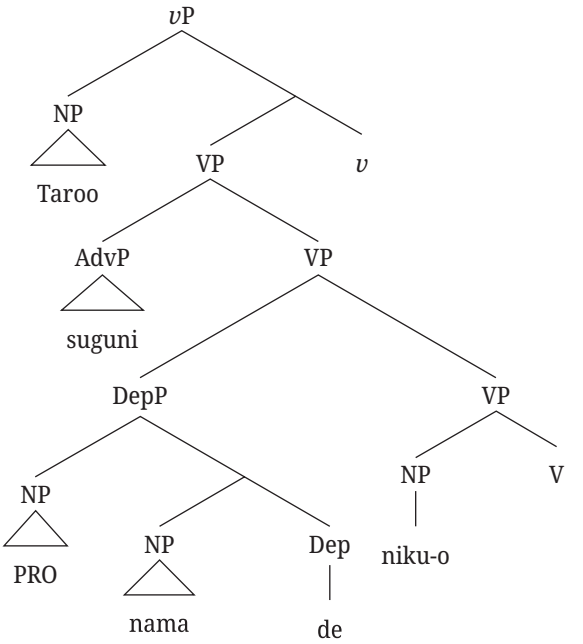
If *orokanimo* and *tuyoku* are both VP-adverbs of the same type, the example in (iii) should be grammatical, similar to (ib). Therefore, the adverbs *orokanimo* and *tuyoku* have different properties.

Even assuming the differences, we have not ruled out the possibility of analyzing the data (61) as the sentence containing object-raising. We will leave this issue for the future research.

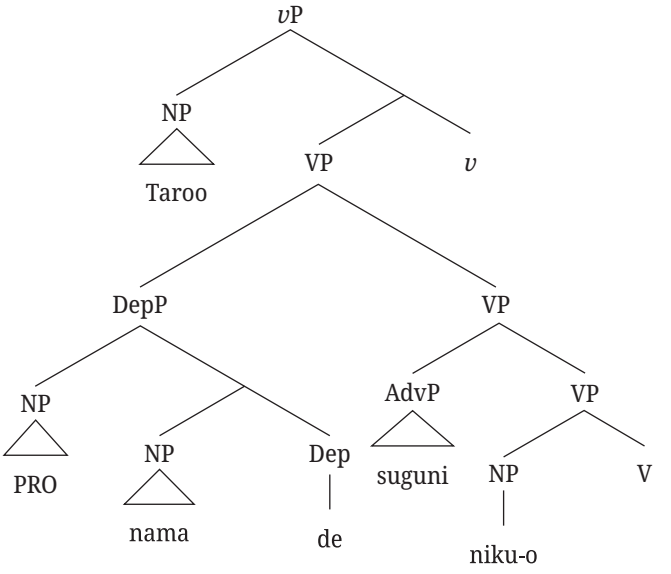
order of *tuyoku* 'strongly' and *tukaiyasuku* 'useful' is switched to *tukaiyasuku–tuyoku* in (61), and this is ungrammatical. because the predicate of the small clause cannot be associated with the subject of the small clause, namely, *kono heya-o* 'this room.'

The cases of *de*-phrases are illustrated in (62).

(62) a.




b.



On the assumption that the verbal adverbs are adjoined to VP or so that they can modify the verb, the word order can be correctly explained if a depictive predicate is scrambled VP internally or to *v*P, creating the word order of (59)b, and the same analysis also accounts for the word order of (60)b.

Note that the plausibility of this explanation is supported by the fact that the *de*-phrases can undergo scrambling. See (63).

(63) a. *Taroo-wa* [*Hanako$_1$-ga* ***kanozyo-zisin$_1$-no*** ***kimono-de*** *kyooto-e*
Taro-TOP Hanako-NOM her-self-GEN kimono-DE Kyoto-to
*itta*] *to* *kiita.*
went COMP heard
'Taro heard that Hanako went to Kyoto in her kimono.' [lit. Taro heard that Hanako went to Kyoto in herself's kimono.]

b. [***Kanozyo-zisin$_1$-no*** ***kimono-de***]$_i$ *Taroo-wa* [*Hanako$_1$-ga* $t_i$
her-self-GEN kimono-DE Taro-TOP Hanako-NOM
*kyooto-e* *itta*] *to* *kiita.*
Kyoto-to went COMP heard
'Taro heard that Hanako went to Kyoto in her kimono.' [lit. In herself's kimono Taro heard that Hanako went to Kyoto.]

The examples in (63) include a depictive predicate *kanozyo-zisin-no kimono-de* 'in her kimono,' which includes a reflexive pronoun *kanozyo-zisin* 'herself.' The reflexive pronoun, as in English, requires a c-command relation from its antecedent, which is traditionally established as Condition A of Binding Theory (Chomsky 1981).

(64) *Condition A of Biding Theory*
An anaphor is bound in its governing category.
(Chomsky 1981: 12)

Although it is an open issue what forms a governing category in the minimalist framework, the c-command requirement between the anaphor and its antecedent is actually held. The requirement is illustrated in (65) and (66), where *Hanako* is an antecedent of *kanozyo-zisin* 'herself'.

(65) a. * *Kanozyo-zisin$_1$-no* *hahaoya-ga* *Hanako$_1$-ni* *denwa-sita.*
her-self-GEN mother-NOM Hanako-DAT phone-did
'Her mother called Hanako.' [lit. Herself's mother called Hanako.]

b. *Hanako$_1$-ni$_i$* *kanozyo-zisin$_1$-no* *hahaoya-ga* $t_i$ *denwa-sita.*
Hanako-DAT her-self-GEN mother-NOM phone-did
'Her mother called Hanako.' [lit. Hanako, herself's mother called.]

(66) a. *Hanako-ga kanozyo-zisin-no hahaoya-ni denwa-sita.*
Hanako-NOM her-self-GEN mother-DAT phone-did
'Hanako called her mother.' [lit. Hanako called herself's mother.]
b. *Kanozyo-zisin-no hahaoya-ni Hanako-ga denwa-sita.*
her-self-GEN mother-DAT Hanako-NOM phone-did
'Hanako called her mother.' [lit. Herself's mother Hanako called.]

In (65a), *kanozyo-zisin* 'herself' is not c-commanded by its antecedent *Hanako*, and the sentence is ungrammatical. In (65b), a dative argument *Hanako-ni* is scrambled to the sentence-initial position. Assuming with Saito (1992) that *Hanako-ni* in (65b) is adjoined to Spec, TP, it can c-command the reflexive, which yield a grammatical result. The examples in (66) further demonstrate the fact. The subject *Hanako* also serves as the antecedent of the anaphor *kanozyo-zisin* 'herself' in both (66a) and (66b), which indicates that Hanako c-commands *kanozyo-zisin*. In (66b), it appears that the anaphor is not c-commanded by its antecedent because the anaphor precedes the antecedent. However, if we assume that the c-command requirement is satisfied before the anaphor is scrambled to sentence-initial position, the grammatical result is correctly explained. Based on the discussion here, therefore, it is reasonable to conclude that *kanozyo-zisin* in (63b) is c-commanded by its antecedent, *Hanako*, and this fact indicates that the depictive predicate *kanozyo-zisin-no kimono-de* 'in her kimono' is first situated in the embedded clause and is scrambled to the sentence-initial position. That is to say, the discussion here support the claim that depictive predicates can undergo scrambling.

The examples in (63) illustrate the case of SDPs, and the following examples indicate that scrambling of ODPs and OLPs is also permitted.

(67) a. *Taroo-ga Hanako$_1$-o* ***kanozyo-zisin$_1$-no kimono-sugata-de*** *egaita.*
Taro-NOM Hanako-ACC her-self-GEN kimono-figure-DE painted
'Taro painted Hanako in her kimono.' [lit. Taro painted Hanako in herself's kimono.]
b. *Taroo-ga* ***kanozyo-zisin$_1$-no kimono-sugata-de*** *Hanako$_1$-o egaita.*
c. ***Kanozyo-zisin1-no kimono-sugata-de*** *Taroo-ga Hanako$_1$-o egaita.*

(68) a. *Doroon-o tukat-te Taroo-ga mezurasii doobutu$_1$-o*
drone-ACC using-by Taro-NOM rare animal-ACC
*sore-zisin$_1$-no sumika-DE satuei-sita.*
it-self-GEN den-DE take.picture-did
'Taro took a picture of a rare animal in its den by using drones.' [lit. Taro took a picture of a rare animal in itself's den by using drones.]

b. *Doroon-o tukat-te Taroo-ga* ***sore-zisin$_I$-no sumika-de*** *mezuresii doobutu$_I$-o satuei-sita.*
c. *Doroon-o tukat-te* ***sore-zisin$_I$-no sumika-de*** *Taroo-ga mezuresii doobutu$_I$-o satuei-sita.*

In all of the examples above in (67) and (68), ODPs and OLPs contain the reflexive pronouns *kanozyo-zisin* 'herself' and *sore-zisin* 'itself,' respectively, and all of the reflexives are properly licensed. This means that the reflexives are c-commanded by their antecedents, namely, *Hanako* and *mezurasii doobutu* 'a rare animal.' In (67) and (68), the ODP and OLPs precede the objects *Hanako* and *mezurasii doobutu*, but the reflexives must be c-commanded by the objects. In order for the objects to c-command the ODPs and OLPs, the predicates must be positioned in structurally lower positions than objects. On the discussion above, the word orders of (67) and (68) are correctly explained if the ODPs and OLPs undergoes scrambling VP-internally or to *v*P in so as to generate (67) and (68), and to TP to produce (67) and (68). Therefore, both depictive predicates and *de*-locative phrases are allowed to be scrambled. To conclude the subsection, the grammaticality of (59) and (60) is correctly predicted because *de*-phrases can actually be scrambled.

### 5.4.3 Generalization 3: The word order of *de*-phrases

Generalization 3, concerning the word order of *de*-phrases, can be correctly accounted for under the proposal of this chapter. As we observed in Section 5.1, *de*-phrases associated with subjects are adjoined to *v*P or TP and those associated with objects are located in VP, and we concluded that when in *v*P, ODPs and OLPs are adjacent to their associated NPs. The relevant marginal examples in (25b) and (26b), repeated here as (69), are correctly explained. These examples include the invalid word order of ODP-SDP and OLP-SLP, and the invalidity is caused because the ODP *nama-de* 'raw' and the OLP *hyaku koonen saki-no ten-de* 'at the point one hundred light years away from the earth' are not adjacent to their associated NPs *niku-o* 'the meat' and *koosei-o* 'the fixed stars,' and violate the adjacency requirement.

(69) a. ?? *Taroo-ga* ***nama-de*** ***hadaka-de*** *niku-o* *tabeta.*
Taroo-NOM raw-DE naked-DE meat-ACC ate
'Taro ate the meat raw naked.'

b. ?? *Taroo-ga* ***hyaku*** ***koonen*** ***saki-no*** ***ten-de***
Taroo-NOM one.hundred light.year away-GEN point-DE
***tenmondai-de*** *koosei-o* *kansoku-sita.*
observatory-DE fixed.star-ACC observation-did
'Taro observed a fixed star one hundred light years away from the earth in an observatory.'

The grammaticality of the examples above can be correctly accounted for in terms of adjacency violation.

Notice that scrambling of ODPs and OLPs may not be applicable to sentences with multiple *de*-phrases of different kinds. We suggest that this is because of the heavy burden on processing the association of depictive predicate and *de*-locatives with their associated NPs. In (69), the depictive predicates and *de*-locatives are linearly adjacent to the elements that cannot be selected as arguments for their own interpretation; the SDP and SLP are adjacent to the objects *niku-o* 'the meat' and *koosei-o* 'a fixed star,' respectively, and the ODP and OLP are to *Taro*o in both examples. Although the semantic composition does not cause any problem because the ODP and OLP is reconstructed to its base-position, associating the de-phrases with the adjacent arguments are pragmatically preferred, and processing the semantic relations between the *de*-phrases and their semantic subjects requires burden. Therefore, the examples in (69) are marginal. This processing problem does not occur in the case of VP-adverbs in (59) and (60) since adverbs cannot be an argument of depictive predicates and *de*-locatives. The examples in (69) are marginal, because the SDP and SLPs are adjacent to the objects *niku-o* 'the meat' and *koosei-o* 'a fixed star,' respectively, and in addition, the ODP and OLP are also adjacent to the sentential subjects *Taro*, so that they are more easily associated with these subjects.

The more seemingly complex cases can also be explained under adjacency requirement on ODP and OLPs. Recall that the grammaticality improves when the both ODPs and OLPs precede SDPs and SLPs. The relevant data is repeated in (70).

(70) a. *Taroo-ga* ***nama-de*** *niku-o* ***hadaka-de*** *tabeta.*
Taroo-NOM raw-DE meat-ACC naked-DE ate
'Taro ate the meat raw naked.'

b. *Taroo-ga* ***hyaku*** ***koonen*** ***saki-no*** ***ten-de***
Taroo-NOM one.hundred light.year away-GEN point-DE
*koosei-o* ***tenmondai-de*** *kansoku-sita.*
fixed.star-ACC observatory-DE observation-did
'Taro observed a fixed star at the point one hundred light years away from the earth in an observatory.'

In these examples, the ODP *nama-de* 'raw' and OLP *hyaku koonen saki-no ten-de* 'at the point one hundred years away from the earth' are adjacent to their semantic subjects *niku-o* 'the meat' and *koosei-o* 'a fixed star.' The semantic composition proceeds without any problem, and the linear orders in which these elements are adjacent render the association of the *de*-phrases with objects pragmatically easy. Therefore, grammaticality of the examples in (70) improves.

The proposed structure can capture the syntactic similarities between depictive predicates and *de*-locatives, which shows the validity of our proposal.

### 5.4.4 Generalization 4: The inclusive relationship

In this section thus far, we have focused on the similarities between depictive predicates in Japanese and *de*-locative phrases and witnessed that our proposal can explain their similar properties. Another linguistic property that the proposal needs to account for is related to Generalization 4 in (31), the differences between these two types of *de*-phrases. The relevant examples of Generalization 4 are repeated in (71) and in (72).

(71) a. SDP-SDP
* *Hanako-ga* ***kimono-sugata-de*** ***hurisode-de*** *kuruma-o*
Hanako-NOM kimono-figure-DE long-sleeved.kimono-DE car-ACC
*unten-sita.*
drive-did
'Hanako drove a car in kimono in hurisode, or long-sleeved kimono.'

b. ODP-ODP
* *Taroo-ga* ***yaketa-jootai-de*** ***werudan-de*** *niku-o* *tabeta.*
Taroo-NOM grilled-state-DE well-done-DE meat-ACC ate
'Taro ate meat grilled well-done.'

c. SLP-SLP
*Taroo-ga* ***nihon-de*** ***Tookyoo-de*** *koosei-o* *kansoku-sita*
Taroo-NOM Japan-DE Tokyo-DE fixed.star-ACC observation-did
'Taro observed a fixed star in an observatory in Japan.'

d. OLP-OLP
*Taroo-ga* ***ano-ginga-de*** ***hyaku*** ***koonen*** ***saki-no***
Taroo-NOM that-galaxy-DE one.hundred light.year away-GEN
***ten-de*** *koosei-o* *kansoku-sita.*
point-DE fixed.star-ACC observation-did
'Taro observed a fixed star at the point one hundred light years away from the earth in that galaxy.'

(72) a. SDP-SDP
*Taroo-ga* ***kimono-sugata-de*** ***deisui-jootai-de*** *kuruma-o*
Taroo-NOM kimono-figure-DE dead.drunk-state-DE car-ACC
*unten-sita.*
drive-did
'Taro drove a car in kimono dead drunk.'

b. ODP-ODP
*Taroo-ga* *kaden-o* ***sinpin-de*** ***teika-de***
Taroo-NOM home.appliance-ACC new-DE standard.price-DE
*katta.*
bought
'Taro bought a new home appliance for the standard price.'

c. SLP-SLP
* *Taroo-ga* ***nihon-de*** ***hawai-de*** *koosei-o* *kansoku-sita.*
Taroo-NOM Japan-DE Hawaii-DE fixed.star-ACC observation-did
'Taro observed a fixed star in Japan in Hawaii.'

d. OLP-OLP
* *Taroo-ga* ***ano-ginga-de*** ***tikyuu-no-aru*** ***taityookei-de***
Taroo-NOM that-galaxy-DE earth-GEN-be solar.system-DE
*wakusei-o* *kansoku-sita.*
planet-ACC observation-did
'Taro observed a planet in that galaxy in the solar system where the earth is.'

We argue that this contrast is caused by the semantic difference of the heads of the *de*-phrases. This claim is supported by the fact that these grammatical differences are generally due to the semantic relationship between the multiple *de*-phrases. No inclusive relationship is required between multiple depictive predicates, and the locations that multiple *de*-phrases refer to should not be independent of each other. To account for the contrast, we propose that the semantics of *de*-phrases are equipped with presuppositions.

(73) a. $[\![de_{\text{depictive}}]\!] = \lambda P_{<v,\,t>}\lambda x_{<e>}\lambda Q_{<v,\,t>}\lambda e{:}\forall R_{<v,\,t>}[R(e'') \wedge e \circ e' \circ e'' \rightarrow R \not\supset P \wedge P \not\supset R].$
$\exists e'[e \circ e' \wedge P(e') \wedge Q(e) \wedge \text{Th}(e', x)]$

b. $[\![de_{\text{locative}}]\!] = \lambda x_{<e>}\lambda y_{<e>}\lambda e{:}\forall z_{<e>}[\text{Location}(z, e) \wedge \text{IN}(e, y, z) \rightarrow z \supseteq x].$
$\text{Location}(e, x) \wedge \text{IN}(e, y, x)$

The presupposition of depictive predicates in (73) requires that all depictive predicates *R* other than a depictive predicate *P*, if there is one, should not contain *P* or vice versa. In the case of *de*-locatives, as shown in (73b), it is presupposed that if there

are other locative phrases of the event, and the locative phrases refer to a place that other locative phrases express, the location includes the different location.

The proposed semantic denotations in (73) allow Generalization 4 to be correctly captured. The examples in (71) and (71) are ungrammatical because the depictive predicates in these examples stand in a relationship where the one predicate includes the other, which leads to the presupposition failure in (73). The multiple *de*-locatives in (71) and (71) also stand in an inclusion relationship, but this does not yield ungrammatical result because it does not induce the presupposition failure in (73). The examples in (72) can be explained in the opposite way. The multiple depictive predicates in (72) and (72) express independent states, so that no presupposition failure occurs. On the other hand, the locative phrases in (72) and (72) represent different locations, and there is no inclusion relationship between them; therefore, the sentences become unacceptable due to the presupposition failure.

The differences between depictive and locative can be explained by assuming that different presuppositions are imposed on each. Therefore, these data provide an argument for the claim that depictive and locative are different representations.

## 6 Conclusion

In conclusion, we argue that depictive predicates and *de*-locatives in Japanese behave syntactically the same, but they are equipped with homophonous but different *de*-particles that denote different semantics. We propose that depictive predicates are headed by a functional head that carries a semantics for the meaning of depictive constructions, and the functional head is phonetically realized as *de*. *De*-locative phrases, on the other hand, have a postposition head *de*, and the head is equipped with a restriction regarding a spatial extent. The contribution of this chapter is that expressions that have been considered the same in the previous studies are shown to be semantically different, and the difference can be theoretically accounted for with the assumption that functional heads denote different semantics.

The difference between depictive predicates and *de*-locatives are captured by the differences in their semantic denotations. However, it is not certain why the *de*-phrases differ with respect to their presuppositions. In addition, there is a linguistic difference between the two kinds of *de*-phrases that are difficult to explain by the semantic difference alone. We observed that one case in which multiple *de*-locatives are allowed is when an inclusion relationship is established. The relevant data are repeated in (74).

(74) a. SLP-SLP
*Taroo-ga* ***nihon-de*** ***tenmondai-de*** *koosei-o*
Taroo-NOM Japan-DE observatory-DE fixed.star-ACC
*kansoku-sita.*
observation-did
'Taro observed a fixed star in an observatory in Japan.'

b. OLP-OLP
*Taroo-ga* ***ano-ginga-de*** ***hyaku*** ***koonen*** ***saki-no***
Taroo-NOM that-galaxy-DE one.hundred light.year away-GEN
***ten-de*** *koosei-o* *kansoku-sita.*
point-DE fixed.star-ACC observation-did
'Taro observed a fixed star at the point one hundred light years away from the earth in that galaxy.'

These examples are grammatical because the preceding locative in each includes the latter. However, when the word orders of locative expressions in these examples are interchanged, the grammaticality is significantly reduced. Observe (75).

(75) a. SLP-SLP
* *Taroo-ga* ***tenmondai-de*** ***nihon-de*** *koosei-o*
Taroo-NOM observatory-DE Japan-DE fixed.star-ACC
*kansoku-sita.*
observation-did
'Taro observed a fixed star in an observatory in Japan.'

b. OLP-OLP
* *Taroo-ga* ***hyaku*** ***koonen*** ***saki-no*** ***ten-de***
Taroo-NOM one.hundred light.year away-GEN point-DE
***ano-ginga-de*** *koosei-o* *kansoku-sita.*
that-galaxy-DE fixed.star-ACC observation-did
'Taro observed a fixed star at the point one hundred light years away from the
earth in that galaxy.'

The *de*-locatives in (75) still stand in an inclusion relationships as in the cases of (74), but the sentences are very awkward. The ungrammaticality of (75) cannot be explained under the proposal of this chapter.

One possibility to account for the fact theoretically is to consider as frame-setting modifiers the locative expressions that express spatially larger locations *nihon-de* 'in Japan' or *ano-ginga-de* 'in that galaxy' in (75). Maienborn (2001) classifies locative expressions into three categories, as in (76), and claims that frame-set-

ting modifiers in German have a topic-like status and located in a position syntactically higher than that of subjects, showing the hierarchy in (77).

(76) a. *Eva signed the contract in Argentina. (external modifier)*
b. *Eva signed the contract on the last page. (internal modifier)*
c. *In Argentina, Eva still is very popular.*
(Maienborn 2001: 1)

(77) frame-setting modifier > subject > external modifier (Maienborn 2001: 9)

If we apply her analysis to the locatives in Japanese and assume that *nihon-de* 'in Japan' in (74a) and *ano-ginga-de* 'in that galaxy' in (74b) are frame-setting modifiers, the ungrammaticality of (75) may receive syntactic explanations that the frame setting modifiers *nihon-de* and *ano-ginga-de* must be located structurally higher than external or internal modifiers *tenmondai-de* 'in an observatory' and *hyaku koonen saki-no ten-de* 'one hundred light years away from the earth,' but the examples in (75) violate this restriction.

Another possibility, suggested by one of the anonymous reviewers, is to assume that if a phrase holds a part-whole relation with another phrase, the former is merged with the latter and then undergoes extraction to derive the word order, but the extraction is carried out from an adjunct, which leads to an adjunct constrain violation. In the cases of (75), the two locatives *nihon-de* and *tenmondai-de* are merged first, and t*enmondai-de* moves out of the whole locative phrase to make the ungrammatical word order of *tenmondai-de nihon-de*.

(78) [$_{PP}$ *tenmondai-de*] . . . [$_{PP}$ *nihon-de* [$_{PP}$ *tenmonda-de*]]

Both explanations may correctly capture the ungrammaticality of (75). Which explanation is more theoretically valid and whether the other explanation is preferred will be subjects for future research.

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# Chapter 10
# Spanish depictives and aspectual *consecutio* in non-verbal environments

**Abstract:** This chapter is devoted to the study of depictive secondary predicates in the domain of copular clauses and the so called "aspectual *consecutio*" phenomenon in Spanish. Aspectual *consecutio* refers to a requirement of equivalence between the primary predication and the depictive according to which both elements must be Stage-Level (SL) predications. As a consequence, in order for Individual-Level (IL) predicates to serve as depictives, they must be coerced into an SL-reading.

Several studies have addressed the aspectual *consecutio*, but the analysis of the IL-to-SL coercion phenomenon has largely been unattended when it comes to secondary predication. The same happens in the case of depictives when they appear as adjuncts of non-verbal primary predications (that is, copular clauses), which have not been addressed by previous analyses, because depictives have traditionally been studied as adjuncts of verbal predications.

This study focuses on Spanish, where the IL/SL contrast is overtly marked by two different copulas (namely, *ser* and *estar*), and illustrates that depictive secondary predications are also found in copular clauses (*e.g. Ana está de vacaciones sola*, 'Ana is on vacation alone'). Moreover, taking on recent developments in the study of the IL/SL contrast and Spanish copulas, an alternative analysis of the aspectual *consecutio* phenomenon is put forward. The $SL_{primary} - SL_{depictive}$ requirement is analysed as the result of an agreement operation between an uninterpretable [uStage] feature located on the SL-depictive and its interpretable counterpart [iStage] on the *estar* copula. Moreover, the [iStage] feature on *estar* is taken as the trigger for coercion on IL-depictives.

**Keywords:** *ser*, *estar*, Individual-Level, Stage-Level, depictives, agreement

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# 1 Introduction

Secondary predication is a complex topic in linguistics that has been examined from several points of view. The main issues raised over the years include the range of secondary predication constructions, their inner structure, their merging positions, as well as their multiple interpretations.

When it comes to the aspectual nature of secondary predicates, and more specifically, adjunct predicates (also known as *depictives*), it has been observed that their occurrence in the structure is subject to a specific restriction according to which both the primary and the secondary predications must be of the Stage-Level (SL) type – Individual-Level (IL) predications being excluded, as shown in (1).

(1) Spanish
*Ana* {*preparó la cena*$_{SL}$ / **sabe chino*$_{IL}$} {*muy enfadada*$_{SL}$ /
Ana prepared dinner / knows Chinese very angry /
**zurda*$_{IL}$}.
left-handed
'Ana {prepared dinner / knows Chinese} {while angry / left-handed}'

As a consequence, for an Individual-Level Predicate (ILP) to appear as a depictive, it must receive an SL interpretation, as shown in (2). In this case, for example, the ILPs *elegante* 'elegant' and *guapa* 'beautiful' are not understood as intrinsic qualities of the subject (as in their original IL-meaning), but as conditions in which the subject finds herself, that is, as typical Stage-Level Predicates (SLPs): "while giving the lecture, Ana looked elegant / beautiful" or "while giving the lecture, Ana was dressed in elegant / beautiful clothes".[1]

(2) Spanish
*Ana* *dio la clase* *muy* {*elegante* / *guapa*}.
'Ana gave the lecture {very elegant / beautiful}'

**1** The fact that some secondary predicates can look like adverbials (as in the case of *elegante* [2], which can also be interpreted as *elegantemente* 'elegantly') is not related to the phenomenon mentioned above. First of all, for an ILP to appear as a depictive, it need not necessarily be equivalent to an adverb, as shown by *guapa*, which cannot be understood as an adverbial. Second, adjectives and adverbs are not exactly equivalent; in fact, while *elegantly* just refers to a way of behaving, *elegant* mainly refers to a way of looking. On the apparent analogy between predicative and adverbial adjuncts, see Hernanz (1988: 15–16).

The abovementioned restriction regarding the aspectual equivalence between the SL-nature of the primary and the secondary predications has also received the name of "*consecutio*" (Hernanz 1988: 15) and has been thoroughly discussed by linguists (see Bosque 1990; Campbell 1992; Demonte and Masullo 1999; Ferreira 2017, 2020; Hernanz 1988; Jiménez Fernández 2000; McNally 1993; Miyamoto 1994; Rapoport 1991, 1993; Rothstein 1983; Zagona 2003; a.m.o.). Great attention has been given to the IL/SL nature of non-verbal predicates in Spanish, since in this language the IL/SL distinction in the domain of non-verbal predication is overtly marked by two different copulas, namely *ser* and *estar* 'to be'. Conventionally, particular attention has been given to depictives (as well as the related phenomenon of aspectual *consecutio*) as adjuncts of verbal primary predications, but very little has been said about depictives when they appear with primary predications of the non-verbal type, that is, copular phrases (CopPs), as shown in (3).

(3) Spanish
a. *Ana está en su cama {muy cansada / enferma}.*
Ana is in her bed very tired sick
'Ana is lying in her bed {very tired / sick}'
b. *Juan está de vacaciones {solo / sin dinero}.*
'Juan is on vacation {alone / without money}'
c. *La sandía ya está a la venta muy barata.*
'The watermelon is already for sale very cheap'

It can be observed that aspectual *consecutio* is still at play in these structures: only SL primary predications (that is, *estar*-phrases) can allow for depictives, and depictive predicates must be of the SL type, as shown in (4).

(4) Spanish
*Ana {está en el hospital$_{SL}$ / *es inteligente$_{IL}$} {enferma$_{SL}$ / *rubia$_{IL}$}.*
'Ana {is$_{estar}$ in the hospital / is$_{ser}$ intelligent} {sick / blonde}'

This study focuses on the aspectual *consecutio* phenomenon of depictive secondary predication in the domain of copular clauses in Spanish. The chapter is organized as follows: after this brief introduction, sections 2 and 3 describe the object of investigation. In section 2, I go over the general properties of depictives, with particular attention to the aspectual *consecutio* phenomenon. In section 3, I examine depictive predication and aspectual *consecutio* in the domain of copular clauses; I also describe alternative attributive structures with two or more predicates that are not true depictives and therefore are not expected to observe the same restrictions on *consecutio*. Sections 4 and 5 are devoted to the formal analysis. In section 4, after

reviewing some mainstream proposals on the aspectual behavior of depictives, I set out the theoretical assumptions of this study. Finally, in section 5, I put forward an analysis of the aspectual *consecutio* phenomenon in copular clauses.

## 2 Depictives and aspectual *consecutio*

Depictives are predicative adjuncts that can be attributed to the subject (5a) or the object (5b) of the primary predication. Hence, depictives come in two shapes: as subject-oriented or object-oriented attributes.

(5) Spanish
a. *Juan*$_i$ *paseaba* *(desnudo$_i$)*
'Juan was taking a walk naked'
b. *Juan compró la cerveza*$_j$ *(barata$_j$)*
'Juan bought the beer cheap'

As for the grammatical category of depictive secondary predicates, they can be adjectives (A), prepositional phrases (PP) and gerunds.[2] Some examples are given in (6).

(6) Spanish
a. *Juan entrenó* {*enfermo*$_A$ / *con fiebre*$_{PP}$}.
'Juan trained {sick / with fever}'
b. *Ana comió la carne* {*cruda*$_A$ / *sin sal*$_{PP}$}.
'Ana ate the meat {raw / without salt}'
c. *Mi hermana vio la peli chateando con su amiga*$_{GerP}$.
'My sister watched the movie chatting with her friend'

From a semantic point of view, the relation established between the primary and the secondary predications is that of temporal coincidence, that is, depictives express a state of affairs that temporally overlaps the running time of the event expressed by the primary predication. In other words, the events referred to by the primary and the secondary predications are interpreted as happening at the same time (den Dikken 2021; Demonte and Masullo 1999: 2474; Dowty 1979; Fernández Leborans 1999: 2363; Green 1970; Halliday 1967: 63–64; RAE and ASALE 2009: 2880;

2 Due to the hybrid (non-)verbal nature of gerunds, I leave them aside in this study, which is devoted to non-verbal predication.

Rapoport 1991: 164, 1993: 169; Schultze-Berndt and Himmelmann 2004; a.o.). In fact, the connection between the two predications can be overtly expressed by the *meanwhile* modifier, or by a *when*/*while*-clause (cf. paraphrases of [5] in [7]).

(7) Spanish

a. *Juan paseaba desnudo.*

= *Juan paseaba* *y, mientras tanto, estaba desnudo.*
'Juan was taking a walk and, meanwhile, he was naked'

= *Mientras Juan paseaba,* *estaba desnudo.*
'While Juan was taking a walk, he was naked'

b. *Juan compró la cerveza barata.*

= *Juan compró la cerveza,* *la cual, mientras tanto, estaba barata.*
'Juan bought the beer, which, meanwhile, was cheap'

= *Cuando Juan compró la cerveza,* *estaba barata.*
'When Juan bought the beer, it was cheap'

It should be noted that, even if the primary and the depictive predications are understood as temporally coincident, their logical relation is not that of a sequence of simultaneous events,[3] but rather the primary event includes the event expressed by the depictive. Depictives are adjuncts of a primary predication, hence they are interpreted as a circumstance for it. They describe a condition of the subject or the object of the primary predication, which is interpreted as included in the event expressed by the primary predication (that is, the main event). In other words, depictives say how the subject or the object of the main predication finds itself while the main event is taking place. For example, as shown by the paraphrases in (7), the structures above describe that there is a state of affairs of Juan being naked (depictive) that is included in the event of Juan taking a walk (main event) (7a): "Juan was taking a walk (main event), and the way he finds himself while walking is naked (depictive)". Similarly, the structure in (7b) says that there is a state of affairs of the beer being cheap (depictive) that is included in the event of Juan buying it (main event): "Juan bought a beer (main event), and the price of the beer while Juan bought it was low (depictive)".

**3** This is a clear difference between depictive constructions and coordination. When two or more predicates are coordinated, they are interpreted just as a sequence of coexisting events. For example, a sentence like *Juan paseó y cantó* 'Juan walked and sang' introduces two events (one of Juan walking and another of Juan singing), none of which depends on the other. Conversely, in the case of a depictive predication construction such as *Juan paseó cantando* 'Juan walked singing' (literal translation), the event of Juan singing is included in the event of Juan walking: "Juan was walking and what he was doing while walking was singing". I come back to this difference in section 3.2.

When it comes to the aspectual nature of the predicates involved in these constructions, it is a very well-known fact that the emergence of depictives in the structure is subject to, at least, two conditions. First, only SL-predications allow for depictives; IL-predications, in contrast, do not admit predicative adjuncts, as shown in (8). Second, only SLPs – but not ILPs – can function as depictives, as shown in (9) (Campbell 1992; Demonte and Masullo 1999; Hernanz 1988; Miyamoto 1994; RAE and ASALE 2009; Rapoport 1991, 1993; Rothstein 1983; a.o.).[4]

(8) Spanish

a. *Ana* {*bailó*$_{SL}$ / **sabe francés*$_{IL}$} *sentada.*
'Ana {danced / knew French} sitting'

b. *Juan* {*nadó en la piscina*$_{SL}$ / **odia a su esposa*$_{IL}$} *desnudo.*
'Juan {swam in the swimming pool / hates his wife} naked'

**4** The occurrence of ILPs such as *compulsivo* 'compulsive' or *francés* 'French' in sentences like *Mi padre nació compulsivo* 'My dad was born compulsive' (McNally 1993) or *Juan vivió en Francia muchos años y volvió a España francés* 'Juan lived in France for many years and came back to Spain French' should not be considered counterexamples to the generalisation regarding the SL-nature of depictives. In fact, secondary predicates of this type do not look like authentic depictives, but rather seem to be a sort of resultative (see Jaque Hidalgo 2011; Silvagni 2017a: 496–502). First, these secondary predicates inform about a property of the subject as displayed after the accomplishment of the primary event (not meanwhile, as in the case of depictives). In fact, the previous examples do not mean that "*#mientras nacía, era compulsivo*" 'while my father was coming into existence, he was compulsive' nor that "*#mientras volvía a España, era francés*" 'while Juan was coming back to Spain, he was French' (depictive readings). Rather, they tell that "*al nacer* / *tras nacer, era compulsivo*" 'at the moment he was born / after being born, he was compulsive' and "*a su vuelta* / *tras volver, era francés*" 'on his return / after coming back, he was French'. Second, this type of IL-secondary predicate can appear exclusively with telic primary predications and can be predicated exclusively of the internal argument, just like resultatives (Levin and Rappaport Hovav 1995; Mateu 2005; Rothstein 2004; Simpson 1983; a.o.). In this regard, it should be noted that even if the predicates of the previous examples are subject-oriented, they appear with unaccusative verbs, that is, they are attributed to the internal argument. An anonymous reviewer points out that in resultative predications the resultant state is brought about by the event denoted by the verb, which is not the case of these examples, where *compulsive* or *French* do not result from the event of being born or coming back. Of course, these predicates cannot be fully assimilated to regular resultatives and deserve further investigation. However, even if in these cases the main event does not lead to the quality described by the secondary predicate, what is important here is that these constructions do not present the primary and the secondary eventualities as occurring at the same time, but the secondary predicate is described as appearing at the end of the primary event. I come back to the reading of secondary predication constructions in section 3.2 and footnote 10.

(9) Spanish

a. *Ana bailó* {*sentada*$_{SL}$ / *hambrienta*$_{SL}$ / **modesta*$_{IL}$ / **hábil*$_{IL}$}.
'Ana danced {sitting / hungry / humble / clever}'

b. *Juan nadó* {*desnudo*$_{SL}$ / *enfermo*$_{SL}$ / **inteligente*$_{IL}$ / **meticuloso*$_{IL}$}.
'Juan swam {naked / sick / intelligent / meticulous}'

Hence, the aspectual equivalence (SL – SL) between the primary and the secondary predications is a fundamental requirement for the depictive predication to take place, which has been named as *consecutio* in the literature on Spanish (Hernanz 1988: 15).[5]

Turning now to ILPs, it is worth observing that they are not definitively excluded from depictive constructions: when ILPs appear as depictives, they lose their original property-descriptive (IL) meaning and are interpreted as situation-descriptive predicates, that is, as SLPs. For example, the depictives in (10) (*tranquilo* 'calm', *sonriente* 'smiley', *soñador* 'dreamy', *nervioso* 'nervous', *elegante* 'elegant', *barato* 'cheap', *amarillo* 'yellow') are not interpreted as an intrinsic characteristic of their subject. In fact, the secondary predications in (10) do not refer to any property of the subjects, such as whether they are more or less calm, smiley, dreamy, nervous or elegant individuals (10a–d), or to the characterizing yellow colour of bananas (10e) or the typical low price of watermelon (10f). What the depictives in (10) describe is rather a condition of the subject at the time when the primary event occurs: the child looks calm while sleeping (10a), they look smiley, calm and dreamy while looking at us (10b), Juan looked nervous at the time he yawned (10c), Ana looked elegant during the lecture (10d), the price of the watermelon was low when I bought it (10e), and bananas must be very ripe so that she eats them (10f).

(10) Spanish

a. *El niño* *duerme* *tranquilo.*
The child sleeps calm
'The child is sleeping peacefully' (Hernanz 1988: 15)

**5** Beyond aspectual *consecutio*, it is worth remembering that secondary predication is also subject to a more general semantic compatibility between the primary predication and the depictive. For this reason, for example, we can say *María le habló agresiva* 'María talked to him aggressively', but not **María durmió agresiva* 'María slept aggressively', even though in both examples the primary and the secondary predicates are SL. In the second case, the predicate *agresiva* is not congruent with the event of sleeping and the role of the subject (cf. Hernanz 1988: 14; Demonte and Masullo 1999: 2473–2489 on this point).

b. *Nos miraban sonrientes y tranquilos, soñadores. . .*
'They were looking at us smiley and calm, dreamy'
(RAE and ASALE 2009: 2866)

c. *Juan bostezó nervioso.*
Juan yawned nervous
'Juan yawned, looking nervous'
(Demonte and Masullo 1999: 2475)

d. *Ana dio la conferencia muy elegante.*
Ana gave the lecture very elegant
'Ana gave the lecture looking very elegant'

e. *Compré la sandía baratísima.*
'I bought the watermelon very cheap'

f. *Ella come los plátanos bien amarillos.*
She eats the bananas well yellow
'She eats bananas being very yellow'

The SL-reading of IL-depictives can be clearly observed in Spanish, where the IL/SL distinction in the domain of non-verbal predication is overtly marked by the copulas *ser* and *estar*, respectively (I will focus on the *ser*-IL/*estar*-SL relations in section 4.2). Coming back to the examples in (10), the IL-nature of the depictives can be grasped not only from the fact that their lexical meaning refers to a property, but mainly because they can be attributed to a subject via the copula *ser*, which is typical of ILPs (cf. section 4.2): *El niño es tranquilo* 'The child is$_{ser}$ calm'; *Ellos son* {*sonrientes* / *tranquilos* / *soñadores*} 'They are$_{ser}$ {smiley / calm / dreamy} people'; *Juan es nervioso* 'Juan is$_{ser}$ nervous'; *Ana es elegante* 'Ana is$_{ser}$ elegant'; *La sandía es barata* 'The watermelon is$_{ser}$ cheap'; *Los plátanos son amarillos* 'Bananas are$_{ser}$ yellow'. However, the depictive predications in (10) are not interpreted as *ser*-phrases (that is, as IL-predications), but rather as *estar*-phrases, that is to say, as SL-predications (cf. paraphrases of [10] in [11]) (also Hernanz 1988: 18–21; Luján 1981; RAE and ASALE 2009: 2071, 2866–2867, 2879–2880).

(11) Spanish
a. *Mientras duerme,* {*está* / *#es*} *tranquilo.*[6]
'While sleeping, he {is$_{estar}$ / is$_{ser}$} calm'

**6** The copula *ser* could be possible under a behavioral reading equivalent to a Vendlerian activity, but this is not the reading we are referring to here. On behavioral predications with *ser*, see Arche (2011), Fernández Leborans (2007) and Silvagni (2017a: 427–437, 2021: 71–74).

| | | | | | |
|---|---|---|---|---|---|
| b. | *Mientras nos miraban,* | {*estaban* | / | *#eran*} | *sonrientes, tranquilos y soñadores.* |
| | 'While looking at us, they | {were$_{estar}$ | / | were$_{ser}$} | smiley, calm and dreamy' |
| c. | *Cuando bostezó,* | {*estaba* | / | *#era*} | *nervioso.* |
| | 'When yawning, he | {was$_{estar}$ | / | was$_{ser}$} | nervous' |
| d. | *En la conferencia,* | {*estaba* | / | *#era*} | *muy elegante.* |
| | 'At the conference, she | {was$_{estar}$ | / | was$_{ser}$} | very elegant' |
| e. | *Cuando compré la sandía,* | {*estaba* | / | *#era*} | *baratísima.* |
| | 'When I bought the watermelon, it | {was$_{estar}$ | / | was$_{ser}$} | very cheap' |
| f. | *Cuando ella come un plátano,* | {*está* | / | *#es*} | *bien amarillo.* |
| | 'Whenever she eats a banana, it | {is$_{estar}$ | / | is$_{ser}$} | very yellow' |

The fact that ILPs can receive an SL-interpretation when they appear in an SL-environment is a very well-known phenomenon, which has been largely studied in the literature as a case of aspectual *coercion* (Escandell and Leonetti 2002; Escandell 2018a, 2018b; Fernald 1999, 2000; Fernández Leborans 1999: 2430–2431; a.o.). The concept of "coercion" refers to a process of reinterpretation of an element which arises from a feature mismatch between two elements in a structure, a selector and a selected element. As a result, the features of the selector are "imposed" on the selected element, which is reinterpreted (hence, "coerced") according to these features (Dowty 1986; Fernald 2000; Jackendoff 1997; Lauwers and Willems 2011; Pustejovsky 1995; a.o.). Coercion has been related to a large number of phenomena, such as argument selection and aspectual shifts, and even to pragmatic functions such as the illocutionary force of sentences, metonymic reference and metaphors (see Lauwers and Willems 2011; Michaelis 2004; a.o.). The SL-interpretation of ILPs, especially when an ILP is selected by *estar* in Spanish, has also been addressed as one of the aspectual manifestations of coercion (I will come back to coercion in the next sections).

In sum, when an ILP appears as a depictive, it receives an SL-reading. Note that this phenomenon is totally compatible with the aspectual equivalence requirement observed above, according to which both the primary and the secondary predications must be SL. More exactly, the IL-to-SL coercion of IL-depictives could be interpreted as a consequence, or an extension, of the $SL_{primary} - SL_{depictive}$ requirement. Hence, it can be concluded that aspectual *consecutio* is made up of two related phenomena: the $SL_{primary} - SL_{depictive}$ equivalence condition, and the IL-to-SL coercion, as defined in (12).

(12) Aspectual *consecutio*:
   a. $SL_{primary}$ = $SL_{depictive}$: both the primary and the secondary predications must be SL.
   b. IL > SL coercion: when an ILP appears as a depictive, it receives an SL-interpretation.

# 3 Secondary predication in non-verbal environments

## 3.1 Depictives

As mentioned in the introduction, depictives have usually been studied as adjuncts of verbal predications. This is, in fact, how secondary predication has traditionally been defined by grammarians. Some relevant definitions are given in (13).

(13) a. Denominamos 'complementos predicativos' a *aquellos constituyentes que modifican simultáneamente al predicado verbal* [emphasis mine] y a un sintagma nominal de la misma oración (típicamente, al sujeto y al objeto directo sintáctico), con cuyo núcleo concuerdan en género y número. [We call 'predicative complements' those constituents that simultaneously modify the verbal predicate and a noun phrase of the same sentence (typically, the subject or the direct syntactic object), with whose head they agree in gender and number.] (Demonte and Masullo 1999: 2463)
   b. [. . .] los complementos predicativos [. . .], es decir, las expresiones atributivas que se predican de un grupo nominal o de una oración *a través de un verbo principal o pleno, por tanto, de un verbo que no sea copulativo ni semicopulativo* [emphasis mine]. [Predicative complements, namely, those attributive expressions that are predicated of a noun phrase or a sentence through a principal or full verb, hence, a verb that is neither copular nor pseudo-copular.] (RAE and ASALE 2009: 2779)

However, depictive secondary predications are also found in copular sentences, that is, as adjuncts of non-verbal primary predications, as shown in (14).[7]

7 Similar examples in English are given in Maienborn (2019): *The dress was on the clothesline wet* (Maienborn 2019: 41). Even though the author does not study depictive predication, she considers the possibility of having SL depictives with copular phrases.

(14) Spanish

a. *Ana está en su cama {enferma / borracha}.*
Ana is$_{estar}$ in her bed sick drunk
'Ana is lying in her bed {sick / drunk}'

b. *Ana está de paseo con su nuevo bolso.*
Ana is$_{estar}$ of walk with her new bag
'Ana is having a walk with her new bag'

c. *Ana estuvo de vacaciones sin documentación.*
Ana was$_{estar}$ of holidays without documentation
'Ana went on vacation without documentation'

d. *La víctima estaba en el suelo {desnuda / de rodillas / sin aliento}.*
The victim was$_{estar}$on the floor naked of knees without breath
'The victim was on the floor {naked / on her knees / breathless}'

There appears to be no reason to exclude these constructions from depictive predication. From a syntactic point of view, a predicate is adjoined to a primary predication and attributed to its subject, exactly as in the case of any other subject-oriented depictive. The only difference between canonical depictive predication constructions and the structures in (14) is that, in the former case, the primary predicate is a full verb, while in the latter variant, the primary predicate is a non-verbal category. In other words, the former depictives are adjuncts of a full VP, while the latter are adjuncts of a copular VP. However, inasmuch as copular phrases are VPs, no structural difference is found from a syntactic point of view (cf. section 4.3).

From a semantic point of view, these constructions receive the typical interpretation of depictive predication constructions: the primary and the secondary predications describe two events that temporally overlap, as shown by the paraphrases of (14) in (15).

(15) Spanish

a. *Ana está en su cama y, a la vez, está {enferma / borracha}.*
'Ana is lying in her bed, and meanwhile, she is {sick / drunk}'

b. *Ana está de paseo y, mientras tanto, lleva su nuevo bolso.*
'Ana is taking a walk, and meanwhile, she is carrying her new bag'

c. *Cuando estuvo de vacaciones, Ana estuvo sin documentación.*
'While on vacation, Ana was without her documentation'

d. *La víctima estaba en el suelo y, al mismo tiempo, estaba {desnuda /*
'The victim was on the floor, and meanwhile, she was {naked /
*de rodillas / sin aliento}.*
on her knees / breathless}'

As for the aspectual nature of the predications involved, it should be observed that aspectual *consecutio* is still at play in these structures. On the one hand, according to the $SL_{primary}$ – $SL_{depictive}$ equivalence condition, only SL-primary predications allow for depictives, and only SLPs can function as depictives, as shown in (16). In fact, depictives can exclusively appear when the primary predication is an *estar*P (that is, an SL-copular phrase). Consequently, they are excluded with *ser*Ps (hence, IL-CopPs) (16). In the same way, the depictives involved in these structures (14)–(16) are *estar*-predicates (hence, SLPs): *(estar / *ser)* {*enferma / con hambre / borracha / desnuda / sin su cartera / sin documentación / de rodillas / sin aliento*} 'to $be_{estar}$ {sick / hungry / drunk / naked / without her wallet / without documentation / on her knees / breathless}'.

(16) Spanish
*Ana {está en su cama$_{SL}$ / *es estudiante$_{IL}$} {enferma$_{SL}$ / con hambre$_{SL}$ /*
Ana $is_{estar}$ in her bed $is_{ser}$ a student sick with hunger
**inteligente$_{IL}$ / *española$_{IL}$}.*
intelligent Spanish
'Ana {is lying in her bed / is a student} {sick / hungry / intelligent / Spanish}'

On the other hand, the IL-to-SL coercion phenomenon is also at play in these constructions. As shown in (16), *ser*-predicates (that is, ILPs, such as *inteligente* 'intelligent' or *española* 'Spanish') are excluded from depictive predications under their canonical IL-interpretation. However, ILPs can appear as depictives, provided that they are reinterpreted as SLPs, that is, as if they were predicated of their subject through *estar*. Some relevant examples are provided in (17). Here, the predicates that appear as depictives (*roja* 'red', *tranquila* 'calm', *barata* 'cheap') are lexical ILPs, which, in fact, are usually attributed to a subject through *ser* in order to describe an intrinsic property of the subject: *La camiseta es roja* 'The t-shirt $is_{ser}$ red'; *Ana es tranquila* 'Ana $is_{ser}$ a calm person'; *La sandía es barata* 'Watermelon $is_{ser}$ a cheap fruit'. However, this is not the meaning they receive in (17). In (17), these predicates are interpreted as a condition of the subject (that is, as SLPs): the t-shirt is not a red t-shirt, but it looks to be covered in red spots (maybe, blood) (17a); Ana looks very calm while lying in her bed (17b); and the price of the watermelon is now very low (17c). This can be clearly appreciated in the paraphrases of (17) in (18), where the depictives are interpreted as *estar*Ps, not as *ser*Ps.

(17) Spanish
a. *Cuando llegó la policía, la camiseta estaba en el suelo totalmente roja.*
'When the police came, the t-shirt was on the floor all red'
b. *Ahora Ana está en su cama muy tranquila.*
'Now Ana is in her bed very calm'
c. *La sandía ya está a la venta muy barata.*
'The watermelon is now for sale very cheap'

(18) Spanish
a. *La camiseta estaba en el suelo y, a la vez, (estaba / #era) totalmente roja.*
The t-shirt was on the floor and, at the same time, was$_{estar}$ / was$_{ser}$ all red
'The t-shirt was lying on the floor and, at the same time, it was all red'
b. *Ahora Ana está en su cama y, mientras tanto, (está / #es) muy tranquila.*
Now Ana is in her bed and, meanwhile, is$_{estar}$ / is$_{ser}$ very calm
'Now Ana is lying in her bed and, meanwhile, she is very calm'
c. *La sandía está a la venta y, ahora, ya (está / #es) muy barata.*
The watermelon is for sale and, now, already is$_{estar}$ / is$_{ser}$ very cheap
'The watermelon is for sale, and it is already very cheap'

Some notes on coercion are needed at this point. Even if, in principle, it should be possible for any ILP to be coerced into an SL-reading, it has been observed that the IL-to-SL coercion phenomenon is subject to several grammatical and pragmatic restrictions. Regarding grammatical restrictions, the syntactic category of predicates is a condition for coercion: only qualifying IL adjectives and PPs can be coerced into an SL-reading, contrary to nouns, relational adjectives, and relational PPs, which are not coercible elements (Fernández Leborans 1999: 2369–2377, 2428–2432; Hernanz 1988: 17–18; Rapoport 1991: 168–169; Silvagni 2017a: 294–427, 2021: 59–63; Stump 1985).[8] As for discursive restrictions, it has been observed that the

**8** As for nouns and relational adjectives, they can receive an SL-interpretation, but in this case they are recategorised as qualifying adjectives (cf. RAE and ASALE 2009: 2818; Silvagni 2017a: 358–366, 375–377). It happens, for example, to the noun *niño* 'child' or the adjective *italiano* 'Italian' in sentences like *Ana está muy niña últimamente* 'Ana is$_{estar}$ very childish lately' or *¡Qué italiano estás hoy!* 'How Italian you are$_{estar}$ today!'. With *estar*, *niño* is interpreted as a quality ("childish", "irrespon-

naturalness of the IL-to-SL coercion operation on a specific predicate depends, at least, on two elements: on one hand, speakers' conceptual restrictions, that is, their capacity to grasp a relevant SL-interpretation from the meaning of the ILP; on the other hand, the frequency of the structure (Escandell and Leonetti 2002: 167–168; Fernald 1999: 43, 59–61). For this reason, the acceptability of those constructions where an ILP appears in an SL-context (such as, for example the <*estar* + ILP> group or, as in the cases above, the ILP depictive) varies considerably across Spanish dialects (cf. Alfaraz 2015; Escandell and Leonetti 2016; Sánchez-Alonso 2018; a.o.), and even among individuals (cf. Hernanz 1988: 20).

Coming back to the case of ILPs depictives, in light of the evidence above, it should be observed that typical restrictions on coercion are at play when an ILP appears as a depictive. First, only coercible ILPs can function as depictives, that is, qualifying adjectives and PPs, but not nouns, or relational adjectives or PPs, as shown in (19).

(19) Spanish

a. *Ana le besó el rostro* {*pálido*$_{qual.A}$ / *sin color*$_{qual.PP}$ /
'Ana kissed his face {pale / without colour /
**humano*$_{rel.A}$}.
human}'

b. *Ana está en escena* {*guapísima*$_{qual.A}$ / *de muy buen talante*$_{qual.PP}$ /
Ana is on stage beautiful of very good humor
**bailarina*$_{N}$ / **alcohólica*$_{rel.A}$ / **del Ballet Nacional*$_{rel.PP}$}.
dancer alcoholic of the National Ballet
'Ana is on stage {beautiful / looking nice / a dancer / alcoholic / of the National Ballet}'

Second, these constructions usually include elements that help to interpret the secondary predicate as a condition or a situation in which the subject is involved (that is, the SL-reading), such as degree modifiers on the predicate (*completamente* 'completely' [17a], *muy* 'very' [17b–c]), as well as temporal markers (*ya* 'already' [17c]). Note that this is not a condition for IL-to-SL coercion; in fact, we can find structures without these elements (such as [19a] and [10a–c]). However, it is also true that sentences with these kinds of markers are more natural. This is not surprising, considering that depictives are weak predications (in the sense that they

sible", "nervous", etc.) and is modified by the adjectival modifier *muy*, not the nominal modifier *mucho*; as for *italiano*, it doesn't have the relational interpretation "from Italy" but is interpreted as a quality or a set of qualities typically related to Italians (namely, "well-dressed", "screamer", "glutton", etc.).

are not headed by a verb), hence no overt element coercing the ILPs is found inside the depictive predication.

In sum, both the $SL_{primary} - SL_{depictive}$ equivalence condition and IL-to-SL coercion are at play in the case of depictive predication constructions with a primary non-verbal predication, which means that these structures are built according to the aspectual *consecutio*.

## 3.2 On non-depictive attributes

Before moving on, it is worth pointing out that depictive predication constructions in copular clauses must not be confused with other possible constructions where, next to the primary attribute, an additional attribute is found. In fact, at least four possible "double-attribute" constructions can be distinguished in Spanish: depictive predication constructions (20a), frame-predications (20b), internal predicates (20c) and coordinated attributes (20d).

(20) Spanish
- a. *Ana estuvo de viaje sola.*
  Ana was of trip alone
  'Ana was travelling alone'
- b. *Ana está satisfecha con dinero.*
  'Ana is satisfied with money'
- c. *El jamón está cortado en lonchas.*
  'The ham is cut in slices'
- d. *Ana está sola, cansada (y enferma).*
  'Ana is alone, tired (and sick)'

In the case of frame-predication constructions, the secondary predication is not an adjunct of the primary predication (as in the case of depictives), but it is rather a sentential adjunct. Sentential adjuncts are also known as *frame-setters*, since they provide a domain to which the whole proposition is claimed to hold true (indeed, a "frame"). They can be modifiers (such as locatives, temporals, instrumentals, etc.) (21) or predications (22).[9] As sentential adjuncts, they can appear both in the left-

**9** Frame-predications fall into "absolute constructions" in a wide sense. Absolute constructions come in many shapes, depending on their constitutive elements (e.g., the subject – overt or cataphoric, the head of the phrase, etc.) and their possible interpretations. On absolute constructions in Spanish, see RAE and ASALE (2009: 2895–2908), Hernanz and Suñer (1999: 2525–2560), among others.

most position (21a)–(22a) or to the right of the VP (21b)–(22b). This kind of adjuncts can receive multiple interpretations, mainly temporal and conditional, as shown by the paraphrases in (21), but also causal, and even epistemic (cf. Hole 2015; Maienborn 2001, 2019; Maienborn and Schäfer 2011 for more details on frame-setting adjuncts).

(21) Spanish
a. *En los conciertos,* *se sabe todas las canciones.*
'At concerts, he knows all the songs'
b. *Se sabe todas las canciones* *en los conciertos.*
'He knows all the songs at concerts'
= {*Cuando* / *Si*} *está en un concierto,* *se sabe todas las canciones.*
'{When / If} he is at a concert, he knows all the songs'

(22) Spanish
a. *Desnudo,* *se siente más libre.*
'Naked, he feels freer'
b. *Se siente más libre* *desnudo.*
'He feels freer naked'
= {*Cuando* / *Si*} *está desnudo,* *se siente más libre.*
'{When / If} he is naked, he feels freer'

When adjuncts appear in the postverbal position, their interpretation can help to distinguish frame-setters from event-related adjuncts (23), such as event-related modifiers (locatives, comitatives, etc.) (23a) or depictives (23b). Unlike frame-setters, event-related adjuncts are not interpreted as a frame for the proposition, but rather as elements that specify further information about the event introduced by the primary predication, as shown by the paraphrases in (23).

(23) Spanish
a. *Juan cenó* *con su hermana.*
'Juan had dinner with his sister'
= Event-related interpretation: *Juan cenó, y lo hizo con su hermana.*
'Juan had dinner, and he did it with his sister'
≠ Frame-setting interpretation: *#Cuando estaba con su hermana, Juan cenó.*
'When he was with his sister, he had dinner'

b. *Juan cantó desnudo.*
'Juan sang naked'
= Depictive interpretation: *Juan cantó, y lo hizo estando desnudo.*
'Juan sang, and he did it naked'
≠ Frame-setting interpretation: *#Cuando estaba desnudo, Juan cantó.*
'When he was naked, Juan sang'

Focusing on the differences between depictives and frame-predications, we can observe that they are interpreted exactly in the opposite way. As already observed in section 2, depictives are interpreted as events included in the event of the primary predication, while frame-predications provide a domain for the primary event. This can be overtly observed by comparing their possible paraphrases: in the case of depictives, the *when/while*-clause is headed by the primary predication (24a), while in the case of frame-predications, the *when*/*if*-clause is headed by the secondary predication (24b).

(24) Spanish
a. *Juan cantó desnudo.*
'Juan sang naked'
= {*Cuando cantó* / *mientras cantaba*}*, estaba desnudo.*
'{When he sang / While singing}, he was naked'
b. *Juan se siente más libre desnudo.*
'Juan feels freer naked'
= {*Cuando* / *Si*} *está desnudo, Juan se siente más libre.*
'{When / If} he is naked, Juan feels freer'

When it comes to the different readings of depictives and frame-predications, it is worth keeping world knowledge separate from linguistic information. Both depictive and frame-predication constructions refer to two events that, despite their specific instantiation in the world (namely, starting and ending points, and duration), are temporally coincident at least at one point in time. However, even though the two events co-occur in the world, they are presented in a different way by each structure: in depictive constructions, the event denoted by the depictive is subordinated to the event of the primary predication, while in frame-predication constructions, the event described by the primary predication is subordinated to the event described by the frame-predication. Returning to the examples in (24), we observe that both sentences enclose an event of "being naked" (described by the depictive [24a] or the frame-predication [24b]) and an additional event of "singing" (24a) or "feeling free" (24b), described by the primary predications. In both cases, we know that in the real world the event of being naked begins before the begin-

ning of the event described by the primary predication and lasts longer than it: Juan was naked before starting to sing and was naked during at least the entire event of singing (24a); the event of Juan being naked is a condition for the event of feeling free, hence it is previous to feeling free and must hold during all the time-span feeling free is true for Juan (24b). In any case, regardless of how the events happen in the world, the information given by a depictive predication construction is that as the primary event develops, a second event (described by the depictive) takes place simultaneously ("During the event of Juan singing, the event of Juan being naked also happens" [24a]). Conversely, in the case of frame-predication, the construction informs that during the happening of the frame-event, the event of the primary predication also happens ("During the event of Juan being naked, the event of Juan feeling free takes place" [24b]). In sum, depictive and frame-predication constructions differ in how they connect the events, regardless of their specific realization in the world.[10]

Another important difference between the two structures is the aspectual nature of their constituents. As examined above, depictive constructions are subject to aspectual *consecutio*. This is not the case for frame-predication constructions. Since frame-predications are merged VP-externally, they are not sensitive to the aspectual nature of the primary predication. As a result, both IL and SL primary predications can allow for frame-predications (25a), and both IL and SL-predications can function as frame-adjuncts (25b).

(25) Spanish

a. *Con ese disfraz, Juan {es el más guapo$_{IL}$ / se siente mejor$_{SL}$}.*
'With that costume, Juan {is the most handsome / feels better}'

b. *{Guapo$_{IL}$ / Bien vestido$_{SL}$}, tienes más posibilidades de éxito.*[11]
'{Handsome / Well-dressed}, you have more chances of success'

**10** The same observations regarding the difference between world knowledge and the information enclosed by the structure apply to the cases of almost-resultative predicates in sentences such as *My dad was born compulsive* or *Juan came back to Spain French* (cf. footnote 4). Even though in the real world the quality described by the secondary predicate ('being compulsive' and 'being French') is temporally coincident with the event of the primary predication (namely, the subject holds the property of being compulsive both before and during all the process of being born, and in the same way he holds the quality of being French before and during the event of coming back to Spain), this is not what these structures describe. These structures inform that a property of the subject is manifested after the complete realisation of the primary event, not in the meanwhile.

**11** When an ILP appears in a frame-predication, the appearance of the verb makes the sentence more natural: *Siendo guapo, tienes más posibilidades de éxito* 'Being$_{ser}$ handsome, you have more chances of success'.

Coming back to the case of secondary predication with copular clauses, it can be observed that not only depictives, but also frame-predications, can appear in copular clauses. This is the difference between the examples in (20a–b), repeated here as (26a–b). While in (26a) the secondary predicate is a depictive that describes a condition of the subject while the primary event takes place, in (26b) the secondary predicate is a frame-setter that introduces a domain for the occurrence of the primary predication, as shown by the respective paraphrases.[12]

(26) Spanish

a. *Ana estuvo de viaje sola.*
'Ana was travelling alone'

= Depictive interpretation: {*Mientras* / *Cuando*} *Ana estuvo de viaje, estuvo sola.*
'{While / When} Ana was travelling, she was alone'

≠ Frame-setting interpretation: #{*Cuando* / *Si*} *Ana estuvo sola, estuvo de viaje.*
'{When / If} Ana was alone, she was travelling'

b. *Ana está satisfecha con dinero.*
'Ana is satisfied with money'

= Frame-setting interpretation: {*Cuando* / *Si*} *tiene dinero, está satisfecha.*
'{When / If} she has money, she is satisfied'

≠ Depictive interpretation: #{*Mientras* / *Cuando*} *está satisfecha, tiene dinero.*
'{While / When} she is satisfied, she has money'

The fact that the secondary predication is a frame-predication (and not a depictive) in structures like (26b) can be also proven by observing that aspectual *consecutio* is not at play here. Even if in (26b) both the primary and the secondary predications are SL, IL-CopPs can still appear as primary predications with the frame-predication *con dinero* 'with money' (27a), and IL frame-predications are allowed (27b). The relevant interpretations appear along with the examples in (27).

**12** Miyamoto (1994), following Campbell (1992), considers some examples of secondary predicates with copular clauses. However, his baseline example (*John is happy tired*) looks more like a case of frame predication ("When John is tired, he looks happy") rather than like a case of depictive predication ("#While John is happy, he is tired").

(27) Spanish
a. *Ana* {*es otra persona*$_{IL}$ / *será libre*$_{IL}$} *con dinero.*
'Ana {is a different person / will be free} with money'
= *Cuando* {*tiene* / *tenga*} *dinero, Ana* {*es otra persona* / *será libre*}.
'When Ana {has / will have} money, she {is a different person / will be free}'
b. *(Siendo / Ya)* {*Española*$_{IL}$ / *famosa*$_{IL}$}, *Ana está satisfecha.*
'(Being / Already) {Spanish / famous}, Ana is satisfied'
= *Ahora que es* {*española* / *famosa*}*, Ana está satisfecha.*
'Now that Ana is {Spanish / famous}, she is satisfied'

Two predicates are also found in structures like (20c), repeated here as (28a) together with additional examples. In these cases, the predicate that appears in second place is not a depictive nor a frame-setting predicative, as shown by the paraphrases in (28).

(28) Spanish
a. *El jamón está cortado en lonchas.*
'The ham is cut in slices'
≠ Depictive interpretation: *#Mientras el jamón está cortado, está en lonchas.*
'While the ham is cut, it is in slices'
≠ Frame-setting interpretation: *#*{*Cuando* / *si*} *el jamón está en lonchas, está cortado.*
'{When / If} the ham is in slices, it is cut'
b. *El documento está impreso en color.*
'The document is printed in colour'
≠ Depictive interpretation: *#Mientras el documento está impreso, está en color.*
'While the document is printed, it is in colour'
≠ Frame-setting interpretation: *#*{*Cuando* / *Si*} *el documento está en color, está impreso.*
'{When / If} the document is in colour, it is printed'
c. *El pescado está sellado al vacío.*
The fish is packed in a vacuum
'The fish is vacuum-packed'
≠ Depictive interpretation: *#Mientras el pescado está sellado, está al vacío.*
'While the fish is packed, it is in a vacuum'
≠ Frame-setting interpretation: *#*{*Cuando* / *si*} *el pescado está al vacío, está sellado.*
'{When / If} the fish is in a vacuum, it is packed'

Here, the first predicate is a participle, and the second predicate is its modifier. In fact, the second predicate restricts the event referred to by the verb from which the participle derives: *en lonchas* 'in slices', *en color* 'in colour' and *al vacío* 'in a vacuum' further specify the result state that follows from the cutting, printing and packing events, respectively. In other words, these PPs provide a specific state that the subject holds as a result of the event denoted by the verb (on result XPs, see Beavers 2011 and references therein). Hence, the predicates under discussion are not secondary predications (either depictive or frame-setting) adjoined to a non-verbal primary predication. In these structures, the predicate that appears in second place is rather a modifier of the main predicate (hence, it is an "internal predicate") creating a complex predicate, which is attributed as a whole to the subject. The segmentation of these structures would thus be as (29), where the second predicate is part of the main predicate, hence a single complex attribute is found in the copular clause.

(29) Spanish
   a. El jamón [está [cortado en lonchas]].
   b. El documento [está [impreso en color]].
   c. El pescado [está [sellado al vacío]].

These internal predicates are not subject to aspectual *consecutio*: they can be SL, as in the above examples (*en lonchas* 'in slices', *en color* 'in colour', *al vacío* 'in a vacuum'), but also ILPs are allowed, when the first predicate derives from a verb that selects ILPs, as shown in (30). In this case, of course, the internal predicate does not describe a resultant state, but a property that holds for the subject as a consequence of the event denoted by the participle.

(30) Spanish
   a. *Esa plaza está denominada lugar de interés histórico*$_{ILP}$.
      'This square is named site of historical interest'
   b. *Él está considerado culpable*$_{ILP}$.
      'He is considered guilty'

An alternative structure in which more than one attribute is found in a copular clause is the case of coordinated attributes ([20c], repeated here as [31]). Contrary to depictive predication, structures with coordinated attributes display a list of properties or conditions which do not show any relation between each other except the fact they all apply to the same subject, as shown in the paraphrases in (31).

(31) Spanish
*Ana está sola, cansada (y enferma).*
'Ana is alone, tired (and sick)'
= Coordinated attributes: *Ana está sola, también está cansada (y también está enferma).* 'Ana is alone, she is also tired (and she is also sick)'.
≠ Depictive interpretation: *#Mientras Ana está sola, está cansada. . .* 'While Ana is alone, she is tired. . .'

As coordinated attributes, all the predicates are licensed by the same copula, hence they must be aspectually coincident. For example, all predicates in (31) (*sola* 'alone', *cansada* 'tired', *enferma* 'sick') are SLPs. However, what really matters when comparing coordinated attributes with depictive predication is that ILPs are allowed in the former case. First, ILPs can be coordinated, as shown in (32a). Second, SLPs and ILPs can also be coordinated, in which case the relevant copula must appear each time the IL/SL nature of the predicate changes (32b). As already seen, this is not possible in depictive constructions, where IL-predications are neither permitted (33a), nor capable of being combined with SL-predications, even if the relevant copula (*ser* or *estar*) emerges (33b).[13]

(32) Spanish
a. *Ana es alta, simpática, de Madrid, rica. . .*
'Ana is tall, nice, from Madrid, rich'
b. *Ana es simpática$_{IL}$, educada$_{IL}$, rica$_{IL}$, está soltera$_{SL}$, sana$_{SL}$, es abogada$_{IL}$ y famosa$_{IL}$.*
'Ana is$_{ser}$ nice, polite, rich, is$_{estar}$ single, healty, is$_{ser}$ a lawyer and famous'

(33) Spanish
a. **Ana está de vacaciones$_{SL}$ española$_{IL}$.*
'Ana is$_{estar}$ on vacation Spanish'
b. **Ana está de vacaciones siendo española.*
'Ana is$_{estar}$ on vacation being$_{ser}$ Spanish'

**13** The copula cannot emerge in depictive predications (cf. Hernanz 1988: 18). It is important not to confuse this evidence (33b) with frame predications (or absolute constructions), which can show both *ser* and *estar* copulas: {*Siendo española* / *Estando de vacaciones*}, *pudo votar* '{Being$_{ser}$ Spanish / Being$_{estar}$ on vacation}, she could vote'.

An interesting difference between coordinated attributes and depictives is that when attributes are coordinated, they can refer to the same semantic field. In (34), for example, all the predicates refer to physical conditions (34a), states of mind (34b) or physical qualities (34c). The same does not happen in depictive constructions. Depictives provide the sentence with a circumstance that is different from the circumstance of the primary predication. Usually, in depictive constructions we find a location, an abstract location or a figurative condition in the primary predication, and a different sort of condition in the secondary predication. Some typical combinations in depictive constructions are, for example, <location$_{primary}$ – state of mind$_{depictive}$> (35a), <location$_{primary}$ – physical condition$_{depictive}$> (35b), <abstract location$_{primary}$ – general condition$_{depictive}$> (35c), <general condition$_{primary}$ – price$_{depictive}$> (35d). This seems to be a consequence of the different structures under discussion: while coordinated attributes are just a sequence of predicates added to each other successively, depictives are interpreted as circumstances of the primary predication, hence the information they provide must be different from the information provided by the primary predication.

(34) Spanish
a. *Ana está cansada, enferma y muy delgada.*
'Ana is tired, sick and very thin'
b. *Ana está aburrida, triste y decepcionada.*
'Ana is bored, sad and disappointed'
c. *Ana es alta, rubia y delgada.*
'Ana is tall, blonde and thin'

(35) Spanish
a. *Ana está en su habitación enfadada.*
'Ana is in her room angry'
b. *Ana está en el hospital enferma.*
'Ana is at the hospital sick'
c. *Ana está fuera sin su cartera.*
'Ana is out without her wallet'
d. *Las entradas ya están disponibles muy baratas.*
'The tickets are already available very cheap'

In sum, different constructions can be at play when two or more predicates appear in a copular sentence. In these cases, it is important to distinguish depictive constructions from other possible constructions, such as frame-predications, internal predicates and coordinated attributes. As observed above, only depictive constructions are subject to aspectual *consecutio*.

# 4 Theoretical background

## 4.1 Previous analyses

In order to provide an overview of previous studies and place our analysis within the general state of research, some relevant proposals on the phenomenon of aspectual *consecutio* are discussed in what follows.

Under the classical assumption that SLPs are endowed with an extra <e> role (Diesing 1992; Kratzer 1988; a.o.), some linguists have analysed the aspectual *consecutio* as a consequence of argument saturation. Hernanz (1988) suggests that the $SL_{primary} - SL_{depictive}$ equivalence condition for depictive predication is the result of an operation of theta-identification (following Higginbotham 1985) between the <e> role of the verb and the <e> role of the depictive. On one hand, the necessary SL-nature of the primary predication follows from the fact that the <e> role of the verb is the only position in the structure with which the <e> role of the secondary predicate can be theta-identified, as shown in (36). On the other hand, the necessary SL-nature of the depictive stems from conceiving of theta-identification as a condition for predicate-adjunction. Since ILPs lack an <e> role, theta-identification does not take place with secondary predicates of the IL type, hence ILPs cannot function as depictives, as shown in (37).[14]

(36) *Los niños* *juegan* *contentos.*
'The children play happy'
Theta-identification: [[jugar < 1, e >] contento < 1, e >]

(Hernanz 1988: 25)

(37) **Tus amigos* *viven* <1, e> *modestos* <1>
'Your friends live modest'

(Hernanz 1988: 26)

Similarly, Rapoport (1991, 1993) argues that SL-depictives are licensed through a theta-linking between the <e> role in their theta-structure and the <e> role of the main verb. Again, in order to justify the ungrammaticality of ILPs, Rapoport

**14** Theta-identification has been considered to be responsible for the licensing of depictives also by Culicover (1988), Miyamoto (1994) and Speas (1990).

assumes that the necessary condition for the licensing of adjunct predicates is the link between the <e> slot of the secondary predicate and the verb.[15]

It should be noted that in Hernanz's (1988) model, the <e> identification operation is considered a condition for predicate saturation. In fact, Hernanz (1988: 25–26) studies the eventual lack of <e> identification as a problem not only for the depictive, but also for the verb. This assumption has at least two major problems. On one hand, it leads to the wrong prediction that depictives are compulsory elements (or at least that some additional element endowed with an <e> role and identifying with the verbal <e> role must always appear in the structure). On the other hand, it is not clear how the <e> role of the verb is discharged when a depictive is not present. Even if one could imagine alternative modes of thematic discharge for the verb,[16] Hernanz (1988) does not provide any explanation concerning the effects the absence of an adjunct predicate would have on the theta-licensing of the primary predicate.

It should also be noted that while these theories can justify the $SL_{primary}$ – $SL_{depictive}$ equivalence, they do not provide a solid explanation for the IL-to-SL coercion phenomenon. Hernanz (1988: 17–20) divides non-verbal predicates into three classes: [+ perfective] (that is, SLPs endowed with a <e> role), [– perfective] (that is, ILPs), and [± perfectives], namely, those ILPs that can also receive an SL-reading. Nevertheless, no mention of [± perfectives] predicates is made in the formal analysis of aspectual *consecutio*. Rapoport (1991: 166; 1993: 173) refers to predicates that are SL "or can be interpreted as such", yet she does not analyse how the SL-interpretation of ILPs takes place. The only possibility we are left with from these proposals, where the <e> identification (Hernanz 1988) and the <e> linking operations (Rapoport 1991, 1993) are interpreted as a necessary condition for the licensing of depictives, is to assume that each coercible ILP has two different lexical entries, one of them endowed with an <e> role. In any case, this option would imply a huge proliferation of lexical ambiguity, which on the contrary could be avoided under alternative analyses, such as the one proposed in this chapter.[17]

An alternative trend of research justifies the SL-nature of depictives by assuming that secondary depictive predications are AspPs (Bosque 1990; Jiménez Fernán-

**15** Rapoport (1993: 175) openly postulates that the theta-role assignment of predication is not enough to license the secondary predications.

**16** Den Dikken (p.c.) observes that the <e> role of the verb could be discharged higher in the structure, for example, on T.

**17** Finally, it is difficult to assume that the <e> role of SLPs is responsible for the aspectual *consecutio* under the neo-Davidsonian view, according to which the event argument is not restricted to eventive predicates.

dez 2000).[18] In order to analyse the inner construction of depictive AspPs, Jiménez Fernández (2000) suggests that secondary predicates are endowed with a [+ perfective] feature and are legitimated in the structure through aspectual concord between their [+ perfective] feature and a [+ perfective] feature on Asp (38).

(38) $[_{VP}\ [_{DP}\ They_i]\quad [_{VP}\ [_{V'}\ [_{V}\ painted]\ [_{DP}\ the\ house]]$
$[_{AspP}\ PRO_i\ [_{Asp'}\ Asp_{[+perf]}\ [_{AP}\ [_{DP}\ t_i]\ [_{A}\ undressed_{[+perf]}]]]]]]$

(Jiménez Fernández 2000: 175)

Leaving aside the concept of "perfectivity", which today we know is not related to the IL/SL distinction,[19] the core problem of this proposal is that it focuses on the aspectual nature of secondary predications, hence it does not provide an in-depth analysis for the phenomenon of aspectual *consecutio*, namely, the $SL_{primary} - SL_{depictive}$ equivalence and the IL-to-SL coercion.

Overall, we observe that previous analyses have focused mainly on the syntax of depictive predications, the $SL_{primary} - SL_{depictive}$ equivalence and verbal predication. As a result, in addition to the specific shortcomings of each proposal, when it comes to depictive predication in copular clauses and the IL-to-SL coercion phenomenon, we are left with a significant gap.

Drawing on previous studies on the IL/SL distinction and recent findings on the nature of Spanish *ser* and *estar* copulas, in what follows I put forward an alternative analysis of the aspectual *consecutio* of depictive predication in copular clauses. This analysis will take into account the phenomenon as a whole, that is, both as to the $SL_{primary} - SL_{depictive}$ equivalence and to the IL-to-SL coercion.

## 4.2 The Individual/Stage-Level distinction and Spanish copulas

Since Carlson's (1977) and Milsark's (1974) works, the IL/SL distinction has been largely investigated and has received multiple interpretations. At present, most linguists agree on the aspectual nature of the IL/SL paradigm,[20] but they disagree on the aspectual content involved in the distinction as well as on its formal analysis (see Arche 2006, 2012; Fábregas 2012; Fernald 2000 for an overview). In the liter-

**18** The same has been proposed for Portuguese in Ferreira (2017; 2020).

**19** See Arche (2012) and Silvagni (2017a) on this point.

**20** Alternatively, some linguists also suggest that the IL/SL contrast is pragmatic and has no grammatical foundations (De Swart 1993; Jager 2001; Maienborn 2005; a.o.).

ature, the IL/SL distinction is commonly described as a vague contrast between permanent (IL) and transient (SL) qualities. However, it has been well known since Carlson (1977: 72–73) that the "duration" (permanent or transient) is not a defining feature of IL/SL-ness (see also Arche 2012; Silvagni 2018: 22–25 on this point).

In this work, I assume a theory of the IL/SL distinction that has recently been put forward in Silvagni (2017a) based on the classical understanding of ILPs as "property-descriptive" predicates and of SLPs as "happening-descriptive" predicates (Carlson 1977: 75; Milsark 1974: 211). Here, the word *property* designates an "intrinsic quality", a "characteristic" of an entity. In other words, the label *property-descriptive* refers to predicates that describe a characteristic of the subject, that is, "characterising predicates" (also Fernández Leborans 1999: 2366, 2426; Escandell and Leonetti 2002: 160). Hence, property-descriptive predicates (ILPs) differ from happening-descriptive predicates (SLPs) in that the latter do not describe a property of their subject, but an event in which the subject is involved.

As for the aspectual nature of the IL/SL dichotomy, here the distinction is understood as the first parameter of inner aspect, that is, as the basic distinction between non-eventive and eventive predicates. According to this view, ILPs and SLPs differ with respect to the presence (SLPs) or the lack (ILPs) of inner aspect: ILPs, as non-eventive predicates, lack any aspectual content, while SLPs, as events, are characterised by inner aspect (also Hoekstra 1992).[21] The aspectual primitive of SL-ness (or eventivity), is defined in this theory as a space-time point, understood as a non-discrete intersection of time and space,[22] and is labelled as *Stage* for the sake of coherence (also Silvagni 2017b).

Syntactically, SL-structures are AspPs (also Becker 2002; Bosque and Gutiérrez-Rexach 2009: 313–320; Fábregas 2012; Hernanz 1991), unlike IL-structures, which lack the Asp projection. According to this proposal, the Asp head delimits the syntactic domain of inner aspect, is located between vP and VP (also MacDonald 2008a, 2008b; Travis 2010)[23] and carries a "Stage" feature [S], that is, the

**21** This theory gives rise to a new concept of "event", independent of dynamicity, which is instead understood as a secondary content of eventivity. Hence, SL-ness is considered the primitive of eventivity, and events can be subsequently classified as non-dynamic or dynamic.

**22** The concept is taken from modern (post-Einsteinian/Minkowskian) physics and philosophy, which study reality as a four-dimensional continuum (three Space + one Time dimensions) (Einstein 1916; Minkowski 1909; Sider 2001; a.o.).

**23** The Asp head is not equivalent across the cited studies. The common idea is that inner aspect has a syntactic representation, which is vP-internal and different from the Asp projection related to the outer aspect.

primitive of eventivity. In short, under this theory, the IL/SL distinction is defined as in (39).

(39) IL = property-descriptive = lack of inner aspect = VP
SL = happening-descriptive = inner aspect: "spacetime point" (Stage) = $[_{AspP}\ Asp_{[S]}\ [VP]]$

As for non-verbal predication, it is well known that copular clauses in Spanish (but also in Catalan, Galician and Portuguese, for example) can be headed by two different copulas, namely, *ser* or *estar* 'to be'. This phenomenon, also referred to as "copular alternation", has been extensively studied in the literature, and in the last three decades, it has commonly been related to the IL/SL dichotomy (Arche 2006, 2012; Bosque and Gutiérrez-Rexach 2009: 313–320; Brucart 2005; Escandell and Leonetti 2002; Fábregas 2012; Fernández Leborans 1999; Fernández Leborans and Sánchez López 2015; Leonetti 1994, 2015; RAE and ASALE 2009: 2811–2815; Silvagni 2017a, 2018, 2021; a.o.).[24] Under this approach, *ser* and *estar* are studied as syntactic exponents of IL and SL-predications: on the one hand, *ser* heads IL-CopPs, that is, predications that describe a characteristic, an intrinsic quality, of the subject (40a); on the other hand, *estar* heads SL-CopPs, that is, predications that denote a happening in which the subject is involved.[25] The kind of happening described by *estar*Ps is a non-dynamic situation (40b). For this reason, focusing on the subject, in the literature, *estar*Ps are also referred to as structures that describe a condition, a state, or a manifestation of the subject.

(40) a. *ser*Ps: property-descriptive = IL
*Ana* *es*$_{ø}$ {*bailarina* / *oriental* / *alta* / *inteligente* / *de Madrid*}.
'Ana is$_{ser}$ {dancer / oriental / tall / intelligent / from Madrid}'

b. *estar*Ps: situation-descriptive = SL
*Ana* *está*$_{(=se\ encuentra\ /\ se\ halla\ /\ se\ siente)}$ {*de vacaciones* / *en casa* /
'Ana is$_{estar\ (=finds\ herself\ /\ feels)}$ {on vacation / at home /
*harta* / *enfadada* / *bien*}.
fed up / angry / fine}'

**24** On Catalan and Portuguese, see Cunha (2011, 2021: 598–600), Institut d'Estudis Catalans (2016: 862–871), Ramos (2002: 2005–2017), Raposo (2013: 1304–1312).

**25** For more details on the relation between *ser*/*estar*-phrases and the IL/SL-predication, see Silvagni (2017a: 294–299).

It has been observed (Silvagni 2015) that the association of non-verbal predicates and copulas in Spanish follows a rigid pattern, which can be summarised as follows: SLPs combine exclusively with *estar*, while ILPs combine with *ser* and, under a proper discourse situation, can be coerced into an SL-reading by combining with *estar* (41).[26]

(41) a. *ser* + ILP: *ser* {*guapo* / *alto* / *joven*}
*estar* + SLP: *estar* {*guapo* / *alto* / *joven*}
'be {handsome / tall / young}'

b. *estar* + SLP: *estar* {*harto* / *lleno* / *ebrio*}
**ser* + SLP: **ser* {*harto* / *lleno* / *ebrio*}
'be {fed up / full / drunk}'

(Silvagni 2017a: 323)

As observed in Silvagni (2017a), a doubling phenomenon with respect to SL-ness is at play in the derivation of *estar*Ps. The first piece of evidence is that lexical SLPs must appear with *estar* and are excluded from *ser*Ps, as shown in (41b) as well as in the contrast between (42a) and (42b). The second piece of evidence is that the interpretation of the event described by *estar*Ps derives from two positions in the structure, namely, the SLP and *estar* (42b). In other words, *estar*Ps are composed of two SL-elements: the SLP, which denotes a situation, and *estar*, which also denotes a situation (synonymous with *to feel*, *to find oneself*; also Roca Pons 1958: 371–374; Salvá [1830] 1988: 208–209). However, the locus of interpretation of SL-ness does not correspond exactly with its morphosyntactic manifestations (i.e., the predicate and *estar*). If that were the case, we would interpret two events, one for *estar* and another for the predicate. Instead, a single event is interpreted in *estar*Ps from the two SL-positions in the structure (42b).

**26** This distribution is maintained across Spanish dialects. In fact, as expected, a widespread use of *estar* with prototypical *ser*-predicates (i.e., ILPs, such as *estar* {*joven* / *alto* / *caro*} 'to be {young/tall/expensive}') has been observed in the literature (cf. Aguilar-Sánchez 2012; Alfaraz 2015; Brown and Cortés-Torres 2012; Cortés-Torres 2004; Díaz-Campos and Geeslin 2011; Juárez-Cummings 2014; Sánchez-Alonso, Deo and Piñango 2016; a.o.). Conversely, CopPs with *ser* and prototypical *estar*-predicates (SLPs) are not found across dialects (e.g., **ser* {*harto* / *lleno* / *ebrio*} 'to be {fed up/full/drunk}'). See Silvagni (2017a: 378; 2021: 60) on apparent counterexamples to this generalisation.

(42) a. **Ana es harta.*
[S]
b. *Ana está harta.*
[S] [S]
'Ana is fed up'

Based on the *Flexible Formal Feature Hypothesis* (Zeijlstra 2008), according to which doubling effects with respect to a single semantic content involve formal features, *estar*Ps are analysed as an instance of syntactic agreement between an uninterpretable [Stage] feature located on the SLP and an interpretable counterpart on the Asp head, which is morpho-phonologically realised as *estar* (43).[27] The [uS] instance on the lexical SLP forces it to appear in a proper agree configuration with the [iS] instance on $Asp_{(estar)}$, which satisfies [uS]s configurational needs.[28] In sum, the derivation of *estar*Ps would be as in (43).

(43) *estar*Ps:
$[_{TP}$ DP $[_{T'}$ T $[_{AspP}$ t $[_{Asp'}$ $[_{Asp}$ estar$_{[iS]}]$ $[_{PredP}$ t $[_{Pred'}$ Pred $[_{AP}$ harto$_{[uS]}]]]]]]]$

In contrast, no formal aspectual features are found in the derivation of *ser*Ps, which are analysed as VPs, like typical IL-structures (44).

(44) *ser*Ps:
$[_{TP}$ DP $[_{T'}$ T $[_{VP}$ t $[_{V'}$ $[_{V}$ ser] $[_{PredP}$ t $[_{Pred'}$ Pred $[_{AP}$ tranquilo]]]]]]]

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**27** Studying *estar* as Asp is motivated by independent facts: (i) *estar* is grammaticalised as an aspectual verb; (ii) *estar* is higher than *ser* and lexical verbs: *estar siendo* vs. **ser estando*; *estar comiendo*; (iii) any SL-VP (i.e., AspP) allows the progressive <*estar* + *-ndo*>. See Silvagni (2017a) for an in-depth study of *estar* as Asp.

**28** This study follows Zeijlstra's version of Agree (i). In this model, (un)interpretability is not taken as a semantic property of the feature, but as a mere syntactic requirement (ii).

(i) Agree:
α can agree with β iff:
a. α carries at least one uninterpretable feature and β carries a matching interpretable feature.
b. β c-commands α.
c. β is the closest goal to α.
(Zeijlstra 2012: 514)

(ii) [uF] encodes a need to stand in a proper Agree configuration with [iF].
[iF] encodes the ability to satisfy [uF]s configurational needs.
(Zeijlstra 2014: 112)

The whole distribution of non-verbal predicates with *ser* and *estar* copulas (41) is derived through this analysis. First, this theory correctly prevents SLPs from appearing with *ser*: in that case, the configurational need of the [uS] feature on the SLP to stand in a proper agree configuration with [iS] would not be satisfied, as displayed in (45).

(45) *<*ser* + SLP>:
[$_{TP}$ DP [$_{T'}$ T [$_{VP}$ t [$_{V'}$ [$_{V}$ ser] [$_{PredP}$ t [$_{Pred'}$ Pred [$_{A}$ harto$_{[uS]}$]]]]]]]

Second, the analysis predicts that the Asp$_{[iS]}$ (*estar*) head can merge above a PredP with an ILP (47), that is, it correctly predicts the possibility to have ILPs with *estar* (46).

(46) a. *Ana* *está* *guapa.*
'Ana is$_{estar}$ beautiful'
b. *El perro* *está* *insoportable.*
'The dog is$_{estar}$ unbearable'
c. *El libro* *está* *nuevo.*
'The book is$_{estar}$ new'

(47) <*estar* + ILP>:
[$_{TP}$ DP [$_{T'}$ T [$_{AspP}$ t [$_{Asp'}$ [$_{Asp}$ estar$_{[iS]}$] [$_{PredP}$ t [$_{Pred'}$ Pred [$_{A}$ guapo]]]]]]]

As mentioned in the previous sections, those constructions in which an ILP is attributed to a subject via *estar* have been studied as cases of aspectual coercion, because in that case a property-descriptive predicate is found in a situation-descriptive predication (Escandell and Leonetti 2002; Fernald 1999; a.o.). In (46), for example, the predication <*estar* + ILP> describes a condition of the subject, who "finds himself/looks" beautiful (46a), unbearable (46b), or new (46c).

Following Escandell and Leonetti (2002), coercion is always triggered by an element in the structure that fulfils two conditions: (i) it imposes semantic or categorial restrictions on its complements; (ii) it has scope over the coerced predicate. In this analysis, IL-to-SL coercion is studied as the consequence of merging *estar*$_{[iS]}$ (i.e., Asp) above a PredP that lacks aspectual features. That is, coercion is understood as a syntactic operation triggered by the [iS] feature on Asp$_{(estar)}$, which fulfils the conditions for triggering an SL-reading out of an ILP: it selects and scopes over PredP. At the same time, this theoretical approach accounts for why the opposite process (namely, SL-to-IL coercion) is not possible: neither ILPs nor IL-structures possess any feature that could impose on predicates and serve as a trigger for coercion.

In sum, the inventory of aspectual elements in Spanish is argued to be as in (48).

(48) Spanish aspectual elements:
Asp (*estar*) [iS]
SLPs (As, Ps, Advs) [uS]

As for the IL/SL nature of non-verbal predicates, as discussed above, from a semantic point of view, ILPs can be described as those predicates that denote a property, while SLPs can be understood as predicates that refer to a situation. Some generalisations can also be made with respect to the relation between the IL/SL nature of predicates and their grammatical category. Nouns and relational adjectives denote classes of entities; thus, they are exclusively ILPs; likewise, adverbs describe circumstances, hence predicative adverbs (e.g., *bien* 'good', *estupendamente* 'extremely good') are SLPs. Qualifying adjectives and PPs are split into the IL and SL classes. These predicates can refer to a property (*alto* 'tall', *con botones* 'with buttons') or a situation (*borracho* 'drunk', *de vacaciones* 'on vacation'). Most SL-adjectives are participles, and they have usually been referred to as "perfective", or "resultative", in the literature. As for SL-PPs, the majority are locative or positional PPs (*en casa* 'at home', *de espaldas* 'on his back') (cf. Fernández Leborans 1999: 2428–2434; RAE and ASALE 2009: 2811–2826; a.o.).[29]

However, it must be stressed that, under this theory, IL-ness and SL-ness are understood as a formal (i.e. syntactic)[30] property of predicates, namely, the absence or the presence of a [uS] feature: those predicates that are endowed with a [uS] feature are SLPs; all the rest are ILPs. Once we assume this approach, the ultimate manifestation of the IL or SL nature of predicates happens to be their distribution with *ser* and *estar*: a predicate that cannot appear with *ser* is endowed with a [uS] feature, hence it is an SLP, while a predicate that can appear with *ser* is an ILP. In this respect, it is also important to point out that the assumption that the IL/SL dichotomy is grammatically encoded by a formal [S] feature entails conceiving of both the presence and the lack of the [uS] feature as a formal property of predicates. Hence, the fact that only SLPs carry a [uS] feature does not mean that ILPs are ambiguous or neutral with respect to the [S] feature, but rather that ILPs are charac-

**29** A location or position is a situation, hence intrinsically SL. In fact, locative PPs are always predicated with *estar* in Spanish (hence, in a SL-structure), even though they are interpreted as permanent locations when attributed to a specific subject (remember that duration is not related to the IL/SL distinction). See Silvagni (2017a: 411–419) on this subject.

**30** Here, formal features are understood as a mere syntactic property of lexical items: [uF] determine a configurational need, and [iF] determine the ability to satisfy this need (Zeijlstra 2014) (see also footnote 28).

terized by the lack of the syntactic configurational need imposed by the [uS] feature. If they were ambiguous, they might be able to carry the [uS] feature, which is never the case under this theory, given that carrying the [uS] feature means being an SLP.

Such a formal approach to the IL/SL dichotomy also has implications on the understanding of coercion. Following the analysis proposed here, when an ILP appears within the scope of an [iS] instance of the [S] feature (that is, *estar*), it receives an SL-interpretation. In these cases, the coerced predicate does not change its lexical nature as an ILP, but is simply interpreted according to the SL-predicative domain in which it appears.[31] In fact, the SL-reading of the ILP stems from the intervention of the [iS] feature on the $\text{Asp}_{(estar)}$ head selecting the PredP, which does not mean that the ILP is formally conversed into an SLP, because it does not inherit any instance of the [S] feature. Again, there is no lexical ambiguity for coerced ILPs: coerced ILPs are lexical ILPs (that is, predicates characterized by the lack of [uS]) that appear in an SL-context, namely, a PredP selected by Asp (47).

In what follows, I will address how these theoretical statements about IL-ness, SL-ness and non-verbal predication can also account for the phenomenon of aspectual *consecutio* of depictive predication constructions in copular clauses.

## 4.3 The syntax of copular structures and depictives

Before moving on to the analysis of the aspectual *consecutio*, some fundamental assumptions about copular and depictive structures are laid out in this section.

As already outlined above while presenting the analysis of *ser*Ps and *estar*Ps, here I assume that non-verbal predications are headed by a Pred head (Baker 2003; Bowers 1993; Svenonius 1994).[32] As for copulas, they are analysed as auxiliary verbs that select for a PredP (Baker 2003; Fernández Leborans and Sánchez López 2015; Gumiel-Molina et al. 2015).[33] Therefore, the structure of Spanish copular sentences would be as follows (49) (cf. also section 4.2):[34]

**31** For more details on the interpretation of estarPs with ILPs, see for example Escandell (2018a, 2018b, 2023), Gumiel et al. (2023, 2024), Silvagni (2017a: 317–322, 2018: 46–48, 2021: 59–63).

**32** The structure of non-verbal predication has been the subject of several formal analyses. Next to the traditional small clause analysis, which has the predicate as the head of the phrase (Stowell 1981, 1983), some authors have proposed alternative functional heads, such as Agr (Raposo and Uriagereka 1990; Guerón and Hoekstra 1995; Sportiche 1995), or Relator (Den Dikken 2006).

**33** Studying copulas as verbs arises from the observation that copulas are found in those languages in which Tense is an affix, hence its host must be a lexical category, as in the case of Spanish (Baker 2003: 46–52; Mikkelsen 2005; Heggie 1988; a.o.).

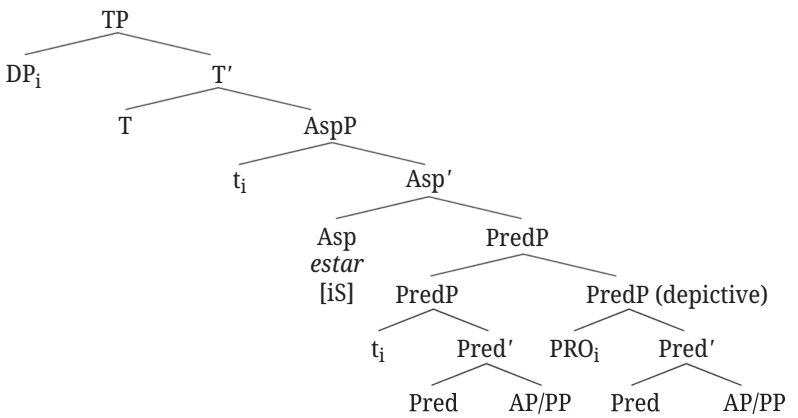
**34** As shown in (49b), VP is absent in *estar*Ps, because the alternative structure [AspP [VP [PredP]]] would have the same interpretation with more syntactic structure, hence it is ruled out for econo-

(49) a. *ser*Ps:
[$_{VP}$ [$_{V}$ ser] [$_{PredP}$ DP [$_{Pred'}$ Pred [NP/AP/PP]]]]
b. *estar*Ps:
[$_{AspP}$ [$_{Asp}$ estar] [$_{PredP}$ DP [$_{Pred'}$ Pred [AP/PP/AdvP]]]]

Regarding the structure of depictives, they are analysed as non-verbal predications (hence, PredPs) with a PRO in the subject position, i.e. the specifier of Pred (Casalicchio 2013, 2016; Koizumi 1994; Stowell 1983; a.o.). As for their locus of adjunction, subject-oriented depictives are assumed to be adjoined to VP (Andrews 1982; Gallego 2010; Jiménez Fernández 2000; Roberts 1988),[35] that is, the PredP projection in the case of copular clauses. In this regard, it is worth remembering that lexical verbs and Pred are syntactically equivalent, since in the same way that a lexical V theta-marks its internal argument as a <Theme>, Pred takes a non-verbal category and converts it to a theta-marking <Theme> category (cf. Baker 2003: 23–94).

In a nutshell, the syntax of copular clauses with depictive secondary predicates would be as in (50), where the Asp$_{estar}$ head (VP$_{ser}$ being impossible, as we will analyse in section 5) selects a complex predication PredP in which a secondary predication is adjoined to the primary predication.

(50)




my of representation (Chomsky 1991, 2000) (cf. Silvagni 2017a: 335–336 on this point).

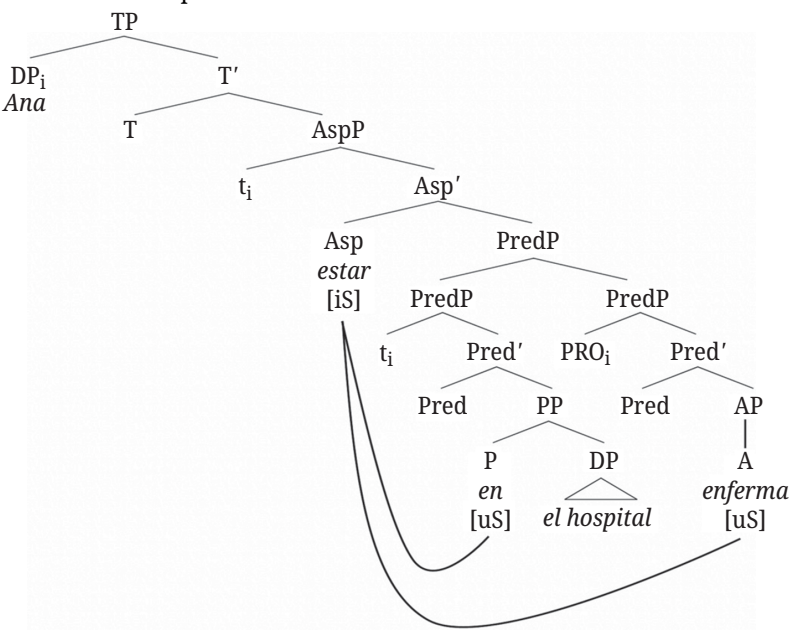
**35** Conversely, object-oriented depictives would be adjoined to V' (Bowers 2001; Demonte 1991; Jiménez Fernández 2000; McNulty 1988; Roberts 1988; a.o.). Object-oriented depictives are not addressed in this work, since they cannot appear in copular clauses.

# 5 Analysis

The theoretical elements assumed above provide an immediate explanation for the phenomenon of aspectual *consecutio* of depictive predication as a whole, that is, both the $SL_{primary} - SL_{depictive}$ equivalence and the IL-to-SL coercion.

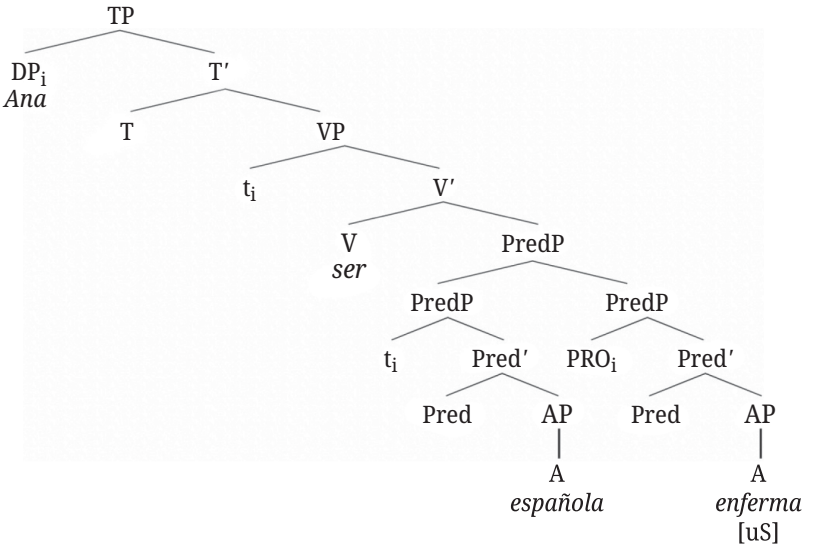
As for the $SL_{primary} - SL_{depictive}$ equivalence, SLPs can appear as depictives with an SL-primary predication (i.e., an *estar*P) because their [uS] feature can be checked by the c-commanding [iS] feature on $Asp_{(estar)}$, as shown in (51).

(51) *Ana está en el hospital enferma.*
'Ana is at the hospital sick'



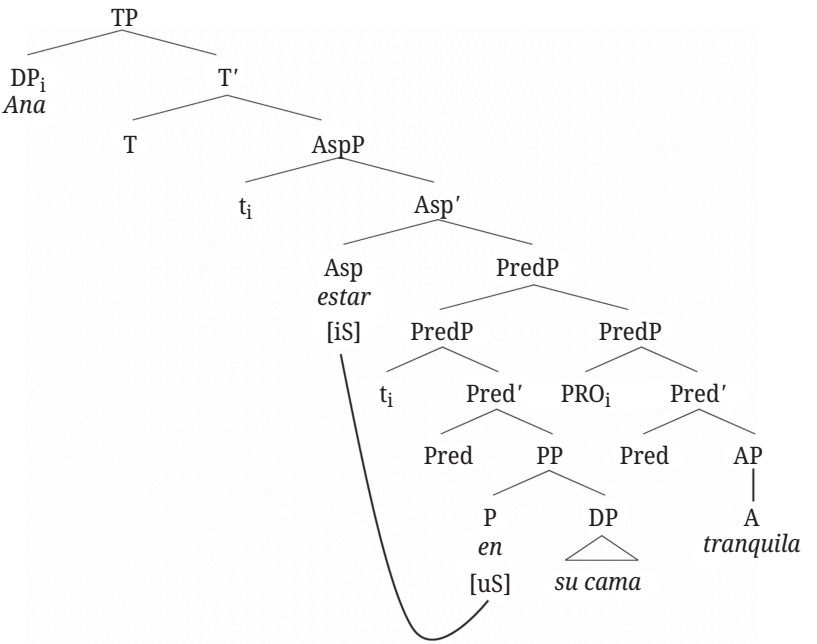

Conversely, SLPs are not permitted with IL-primary predications (*ser*Ps) because their [uS] feature would not find any c-commanding [iS] instance by which to be checked (52).

(52) **Ana es española enferma.*
'Ana is Spanish sick'




As for IL-to-SL coercion, when an ILP appears as a depictive with an SL-primary predication (53), it receives an SL-reading from the [iS] feature on Asp$_{(estar)}$, which acts as a trigger for coercion, exactly as in the case of <*estar* + ILP> copular constructions (cf. [47]).

(53) *Ana está en su cama tranquila.*
'Ana is in her bed calm'




In sum, as far as aspectual *consecutio* is concerned, the set of SL-elements assumed above (48), that is, the [uS] feature of SLPs and the [iS] feature on Asp$_{(estar)}$, drive the derivation of depictive predication constructions. The [uS] feature prevents SLPs from appearing with an IL-primary predication (that is, a *ser*P), at the same time it justifies their necessary adjunction in an SL-primary predication (*estar*P). In turn, the [iS] instance on Asp$_{(estar)}$ allows SLPs to appear as depictives. Moreover, the same [iS] instance on Asp$_{(estar)}$ triggers an SL-interpretation of the predicates in its c-commanding domain, hence it coerces IL-depictives to an SL-reading. In short, both the SL$_{primary}$ – SL$_{depictive}$ equivalence and the IL-to-SL coercion are directly justified by the [iS]-[uS] instances of the [Stage] feature.

# 6 Conclusions

In this work, I have addressed the phenomenon of aspectual *consecutio* of depictive secondary predication in the domain of copular clauses in Spanish. First, I have observed that aspectual *consecutio* consists of two main phenomena, namely, the

$SL_{primary}$ – $SL_{depictive}$ equivalence condition and IL-to-SL coercion. In addition, I have shown that, even though depictives are traditionally understood as adjuncts of verbal predications, they are also found in copular clauses, that is, as adjuncts of non-verbal predications. I have also observed that aspectual *consecutio* is still at play in these constructions. Finally, I have provided an analysis of aspectual *consecutio*, based on a recent analysis of the IL/SL distinction and *ser* and *estar* clauses, which takes the IL/SL dichotomy as an aspectual contrast between non-eventive (IL) and eventive (SL) predications, encoded in grammar through a [Stage] formal feature and an Asp head in SL-structures, which is morpho-phonologically realised as *estar*. More specifically, the $SL_{primary}$ – $SL_{depictive}$ equivalence has been analysed as the result of agreement between a [uS] feature on SLPs and the [iS] feature on Asp (*estar*), and the aspectual coercion of IL depictives to an SL-interpretation has been analysed as triggered by the [iS] feature on the Asp head.

This study has, at least, three major positive consequences. First, the observation that depictives are permitted with copular clauses under the same conditions as with verbal primary predications highlights a significant parallelism between the domains of verbal and non-verbal predication, which had not been thoroughly taken into account by previous studies. Second, unlike earlier analyses, this proposal not only provides an explanation for the $SL_{primary}$ – $SL_{depictive}$ equivalence condition, but also for the IL-to-SL coercion phenomenon. Third, the analysis of the aspectual *consecutio* follows directly from a more general theory of the IL/SL contrast and the *ser* and *estar* copulas, hence it avoids *ad hoc* assumptions for depictive predication constructions.

This study also paves the way for further studies on the IL/SL distinction and secondary predication. As for the non-verbal/verbal parallelism, for example, it would be interesting to examine to what extent this feature-based analysis can be applied to the analysis of depictives of verbal predications. In principle, there should be no impediment to analyse the derivation of SL-verbal predications as a result of the same aspectual agreement phenomenon ($[_{AspP}\ Asp_{[iS]}\ [_{VP}\ V_{[uS]}]]$), hence extending this analysis to the verbal domain. Further investigation is needed on this matter. Another point of interest could be determining whether depictives in copular clauses are found in other Romance (and non-Romance) languages, whether the same aspectual constraints are at play, as well as the extent to which this analysis can be applied to other languages.

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Marcel den Dikken

# Chapter 11
# On the merger and antecedence of depictive secondary predicates

**Abstract:** This paper depicts the way in which subject and object depictives are integrated into the external syntactic structure that contains them as a case of specificational asyndetic coordination. This analysis is shown not only to explain the behaviour of depictives with respect to constituency, extraction and linear order, but also to derive the restrictions on the choice of antecedent for the local null subject of the depictive from syntactic theory.

**Keywords:** subject depictive, object depictive, asyndetic coordination, antecedence restrictions

## 1 Introduction

This paper looks at the way in which depictives are integrated into the external syntactic structure that contains them. Taking for granted the conclusion (argued for extensively in the earlier literature, including a preamble to the present paper: Den Dikken & Dékány 2022) that the internal syntax of depictives is that of a small clause with a PRO-subject, the paper also examines how the constraints on the choice of antecedent for the local null subject of the depictive can be made to fall out from syntactic theory, once a particular perspective on the merger of depictives is in place.

In a departure from the standard treatment in the literature, this paper depicts the syntax of depictives not in terms of adjunction (with the depictive adjoined to some projection of the verb) but as a case of specificational asyndetic coordination. This analysis explains not only the behaviour of depictives with respect to constituency, extraction and linear order but also the restrictions on the choice of antecedent for the PRO-subject of the depictive.

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# 2 Depictives as a case of specificational asyndetic coordination

Semantically, the relationship between a depictive secondary predication structure and its matrix is arguably the same as that between a *when*- or *while*-clause and its matrix. To see this, consider (1) and (2) side by side.

(1) a. *She looks attractive nude.*
*Nude, she looks attractive.*
b. *You should avoid eating this meat raw.*
*Raw, you should avoid eating this meat.*

(2) a. *She looks attractive* [*when*/*while she is nude*].
[*When*/*While she is nude*], *she looks attractive.*
b. *You should avoid eating this meat* [*when*/*while it is raw*].
[*When*/*While it is raw*], *you should avoid eating this meat.*

Syntactically, the relationship between a *when*/*while*-clause and its matrix is that of a correlative, which can be brought out into the open by the use of the temporal adverbial *then* as the overt correlative particle, as illustrated in the examples in (3). When the temporal clause is in clause-final position, the correlative particle is usually left unpronounced in English; but *then* can be overtly realised in the presence of a focus particle, or when the adverbial clause is initial.

(3) a. *She only/even/especially* then *looks attractive* [*when/while she is nude*].
[*When*/*While she is nude*], then *she looks attractive.*
b. *You should especially* then *avoid eating this meat* [*when*/*while it is raw*].
[*When*/*While it is raw*], then *you should avoid eating this meat.*

## 2.1 Modification as direct predication

The syntax of the correlatives in (3) involves a combination of direct predication and asyndetic coordination. The correlative particle *then* (labelled "CorPrt" in (4) and thenceforth) is a modifier of the portion of the clause with which it is construed – minimally the VP. This modification relationship is modelled in the theory of Den Dikken (2006) (which makes no syntactic distinction between what is traditionally called modification and predication) as direct predication in a canonical RELATOR phrase, with the predicate (*then*) in the complement position of the

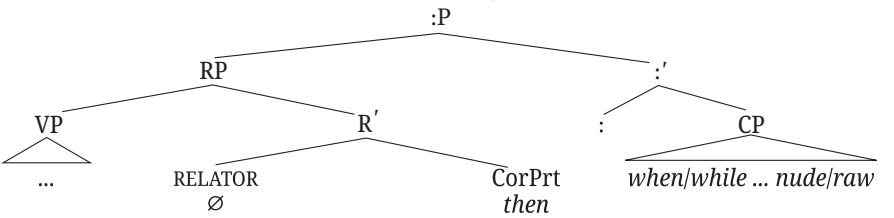
RELATOR head and the subject of predication (the VP or some extended projection thereof) in the RELATOR's specifier. This is schematised in (4).

(4) $[_{RP}\ [_{VP}\ \ldots]\ [_{R'}$ RELATOR=∅ $[_{CorPrt}$ *then*$]]]$

## 2.2 Correlativisation as specificational asyndetic coordination

The adverbial *when*- or *while*-clause specifies the content of the correlative particle. This specification relationship is established under asyndetic coordination, in a structure with a silent "colon" head, as pioneered in Koster (2000), adopted and adapted by De Vries (2006). The **:**P that includes the *when*/*while*-clause merges with a structure containing the correlative particle. Merging **:**P directly with *then* itself would interfere with the direct predication relation between the correlative particle and the (extended) VP. So the first available opportunity for bringing in the asyndetic specifier of the correlative particle arises immediately after the establishment of this direct predication relation, as depicted in (5).

(5) $[_{:P}\ [_{RP}\ [_{VP}$ ...$]\ [_{R'}$ RELATOR=∅ $[_{CorPrt}$ *then*$]]]\ [_{:'}:\ [_{CP}$ *when*/*while* ...*nude*/*raw*$]]]$

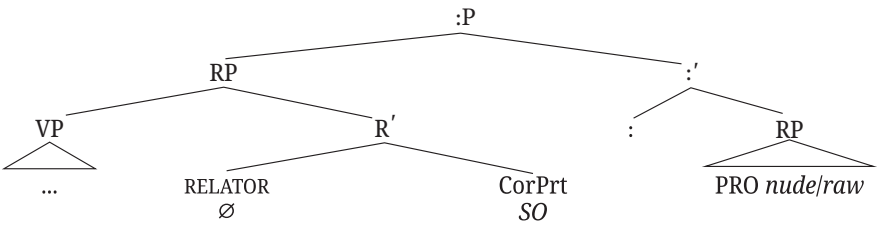



## 2.3 Merging depictives via specificational asyndetic coordination

This analysis of full-clausal correlatives can be carried over to depictive secondary predication constructions. Two differences between the two cases present themselves in tandem: *(i)* the size of the complement of the **:**-head (a CP in the case of full-clausal correlatives; a small clause in depictives), and *(ii)* the form of the correlative particle. In the examples in (6), which feature depictives instead of *when*- or *while*-clauses, using an overt correlative proform is hard or impossible. On a correlativisation approach to depictives, the correlative particle which the depictive secondary predication serves to specify is silent – in (7), I represent it as *so*.

(6) a. *She* (**only* then/thus/so) *looks attractive nude.*
*Nude,* (*then/??thus/??so) *she looks attractive.*
b. *You should* (**especially* then/thus/so) *avoid eating this meat raw.*
*Raw,* (*then/??thus/??so) *you should avoid eating this meat.*

(7)
[$_{:P}$ [$_{RP}$ [$_{VP}$ …] [$_{R'}$ RELATOR=∅ [$_{CorPrt}$ *SO*]]] [$_{:'}$ : [$_{RP}$ PRO *raw*/*nude*]]]




In representing the relationship between the depictive and its host in terms of an asymmetric coordination structure featuring a silent head "**:**", the proposal advanced in this paper is close in spirit (though not in executional details) to the approach to depictives (and a range of other constructions) taken in the work of Cormack and Smith (see, e.g., Cormack & Smith 1994, 1999). They use the symbol "$" for the silent conjunction head connecting the depictive to its host. I will follow Koster's "**:**P" notation here because I find that it captures the specificational nature of the relationship more transparently.

## 2.4 On the form of the correlative particle

The distribution of overt correlative particles across (3) and (6) is not random: it is a function of the size of the correlate. A *when*- or *while*-clause is a CP, and a CP is associable to a D-element (the *th*- of *there*, *then*, or *thus*) *qua* correlative particle. But depictive secondary predications are "bare" small clauses, which are smaller than CP. Because of their limited size, depictives are not combinable with a D-particle. They do have a correlative syntax, on a par with the temporal clauses that paraphrase them, but no correlative D-particle can be used. Instead, the syntax of depictives features an abstract smaller-than-DP correlative particle, serving as an adverbial modifier of the VP: *so* is the predicate of the VP; the depictive specifies the content of *so*.

When depictives are *wh*-questioned, we find the overt *wh*-counterpart to the particle *so*, which is *how*, as shown in (8).

(8) a. *How does she look attractive? – Nude.*
*Nude is how she looks attractive.*
b. *How should you avoid eating this meat? – Raw.*
*Raw is how you avoid eating this meat.*

In question–answer pairs such as these, the specificational relation between the particle born as the complement of the RELATOR and serving as a predicate modifying (an extended projection of) VP in the question and the depictive in the answer is distributed among different discourse interlocutors. If the fragment answers in (8) have elliptical clauses as their underliers, the internal syntax of these clauses is as in (7), with *so* as the pendant of *how*, specified by the depictive.

## 2.5 On the position of the object and the syntax of the 'object of' relation

In the structure in (7), getting the PRO-subject of the depictive controlled by a c-commanding antecedent is a simple matter in the case of a subject depictive (with *nude*): the external argument is merged outside the portion of the structure depicted in (7) (in the specifier position of a projection variously called *v*P or VoiceP). But how does control succeed in object depictives? Answering this question requires a brief excursion on the syntax of the 'object of' relation.

In Den Dikken (2020a) I argue, following in the footsteps of earlier work by myself and others (to which references are provided there), that there exists a position outside VP in which objects can be externally merged – the specifier position of a RELATOR merged outside VP, in the complement of *v*:

(9) $[_{vP}\ v\ [_{RP}\ \langle \text{OBJECT} \rangle\ [_{R'}\ \text{RELATOR}\ [_{VP}\ \ldots\ \langle \text{OBJECT} \rangle\ \ldots]]]]$

Merging the object inside VP allows V to gratify its selection for an object early. The gratification of this selectional relation is delayed when the object is merged in the higher of the two object positions depicted in (9). This is the position exploited in the syntax of "object shift" and "differential object marking".[1]

**1** I borrowed the term "delayed gratification" from Hale & Keyser (2002). Delayed gratification of predication is familiar independently from the syntax of *tough*-movement constructions. See also Ahn (2022) for interesting discussion of the severance of object and predicate, from the perspective of *out*-V constructions (*she outsmarted him*). Note that if the "object shift" or "DOM" position is a position in which the object is *externally* merged in the establishment of a *predication* relation with the minimal VP, it follows immediately that "object shift" and "DOM" are the prerogative of

It is this high object position that comes in handy for the syntax of object depictives. In the structure of *John ate the meat raw*, the object is externally merged in the specifier position of the RP in (9), which, in the presence of an object depictive, finds itself immediately outside the :P introducing the depictive small clause:

(10) $[_{vP}\ v\ [_{RP}$ OBJECT $[_{R'}$ REL $[_{:P}\ [_{RP}\ [_{VP}\ \ldots]\ [_{R'}$ REL $[_{CorPrt}$ *so*]]] $[_{:'}$ : $[_{RP}$ PRO *raw*]]]]]]

In the structure in (10), the object locally c-commands the PRO-subject of the depictive secondary predication structure. Whenever an object depictive is present, the object must be externally merged in the high object position, outside VP.

The following data from Dutch tie in with this. In transitive sentences with a subject depictive, though placing the definite object to the left of the depictive, as in (11a), may be slightly preferable to the alternative in (11b) (in view of the fact that definite objects show a general tendency to undergo "object shift"), both options can serve perfectly well in neutral contexts. But in sentences with an object depictive, the object must precede the depictive: (12b) is much less natural than (12a).[2]

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| (11) | a. | *Hij* | *heeft* | *het* | *vlees* | *naakt* | *gegeten.* |
| | | he | has | the | meat | nude | eaten |
| | b. | *Hij* | *heeft* | *naakt* | *het* | *vlees* | *gegeten.* |
| | | he | has | nude | the | meat | eaten |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| (12) | a. | | *Hij* | *heeft* | *het* | *vlees* | *rauw* | *geteten.* |
| | | | he | has | the | meat | raw | eaten |
| | b. | ?* | *Hij* | *heeft* | *rauw* | *het* | *vlees* | *gegeten.* |
| | | | he | has | raw | the | meat | eaten |

The contrast in (12) can be understood as a demand imposed by the PRO-subject of the object depictive. In object-oriented depictive constructions, there is a control-based need for placing the object outside the VP: the PRO-subject of the object

*nominal* objects: PP-objects can be merged inside VP as complements of V, but they cannot serve as subjects of predication. This is an advantage of the base-generation approach over the alternative movement-based analysis: the latter needs to make special assumptions about the nature of the movement involved (A- rather than Ā-movement); these assumptions in themselves are insufficient to rule out "object shift" of PPs (as PPs are known to be capable of undergoing A-movement, in locative inversion and dative shift constructions).

**2** Though (12b) does not work as a neutral sentence, it is acceptable with contrastive focus on *het vlees* 'the meat'. How exactly focus lifts the c-command requirement for depictives is unclear to me. See also fnn. 4 and 5.

depictive only has a c-commanding controller if the object is placed outside the structure in (7); this is what gives rise to "object shift". When abstract *so* is specified by a subject depictive, "object shift" is not required: in (11), the subject c-commands the PRO-subject of the depictive secondary predication structure regardless of where the object is located.

# 3 The extraction, linear order, and constituency properties of depictives

The correlative external syntax of depictive secondary predication is ideally placed to explain the behaviour of depictives with respect to extraction, linear order, and constituency. I will go through these three properties one by one, starting with extraction.

## 3.1 Long- *vs* short-distance extraction

Both subject-oriented and object-oriented depictives have been reported (see, e.g., Andrews 1982, Roberts 1988) to roundly resist extraction from *wh*-islands, as shown in (13).

(13) a. **How drunk does Mary wonder whether John left the pub?*
b. **How raw does Mary wonder whether John ate the meat?*

This is compatible with both the traditional adjunction analysis of the integration of depictives into their containing syntactic structures and the correlative analysis proposed in section 2. On the former, (13) instantiates a textbook case of the ban on extraction of non-arguments from *wh*-islands (derived, in classic principles-and-parameters terms, from the Empty Category Principle: the empty category left behind by movement cannot be properly licensed). The asyndetic coordination analysis of depictive secondary predication, modelled as in (7), reduces the examples of Ā-extraction of the depictive in (13) to violations of the Coordinate Structure Constraint: in (13), either the complete right-hand term of the asyndetic coordination in (7) (i.e., the RP in the complement of **:**) or just its predicate (the AP of *nude*/*raw*) is extracted, both of which are illegal.

The asyndetic coordination approach diverges from the traditional adjunction analysis in predicting that every instance of movement of a depictive should give rise to a Coordinate Structure Constraint violation. So even in non-island con-

texts, long-distance extraction of depictives should be degraded. This is indeed the case, for both subject depictives and object depictives: there is a marked difference between the a–examples in (14) and (15), which involve long Ā-extraction of a depictive, and the b– and c–sentences, where the constituent undergoing long Ā-movement is either the predicate of a copular sentence or an adverbial modifier.

(14) a. ?*How drunk does Mary think that John left the pub?
b. How drunk does Mary think that John was when he left the pub?
c. How does Mary think that John left the pub? – Drunk as a skunk.

(15) a. ?*How raw does Mary think that John ate the meat?
b. How raw does Mary think that the meat was when John ate it?
c. How does Mary think that John ate the meat? – Medium rare.

This contrast is not specific to English: it is confirmed by the facts in (16) and (17), from Dutch. Again, the a–sentences are degraded while the paraphrases in the b– and c–examples are fine.

(16) a. ?* *Hoe dronken denkt Marie dat Jan de kroeg verliet?*
how drunk thinks Marie that Jan the pub left
b. *Hoe dronken denkt Marie dat Jan was toen hij de kroeg verliet?*
how drunk thinks Marie that Jan was when he the pub left
c. ?* *Hoe denkt Marie dat Jan de kroeg verliet? – Stomdronken.*
how thinks Marie that Jan the pub left dumb.drunk

(17) a. *Hoe rauw denkt Marie dat Jan het vlees gegeten heeft?*
how raw thinks Marie that Jan the meat eaten has
b. *Hoe rauw denkt Marie dat het vlees was toen Jan het at?*
how raw think Marie that the meat was when Jan it ate
c. *Hoe denkt Marie dat Jan het vlees gegeten heeft? – Halfgaar.*
how thinks Marie that Jan the meat eaten has half.baked

The copular predicate in the b–sentences and the adverbial modifier *how*/*hoe* in the c–examples can undergo Ā-movement by themselves because they are directly predicated of the constituent that they are construed with. But *how drunk* and *hoe dronken* 'how drunk' in the a–sentences are asyndetic specifiers of a silent correlative particle, which makes them ineligible for movement. The degradation of the a–examples confirms the approach to the external syntax of depictives in terms of correlativisation via asyndetic coordination.

In contrast to long-distance extraction, clausemate dependencies involving depictives, such as those in (18) and (19), work perfectly well, in both English and Dutch. This is thanks to the fact that it is possible to derive these dependencies without movement of the depictive being involved. The thing to bear in mind is that it is possible in principle for the asyndetic coordination structure *(a)* to involve the depictive as the left-hand term and *(b)* to feature a large portion of the extended projection of the verb as the term specified by the depictive. I will elaborate on this in the following paragraphs.

(18) a. *How drunk did John leave the pub?*
b. *How raw did John eat the meat?*

(19) a. *Hoe dronken verliet Jan de kroeg?*
how drunk left Jan the *pub*
b. *Hoe rauw heeft Jan het vlees gegeten?*
how raw has Jan the meat eaten

In the structures in (20a) and (20b), for subject and object depictive constructions, resp., the depictive secondary predication structure is the complement of the **:** head, and **:**P's specifier is the constituent formed by the direct predication relation established between the silent correlative proform and the VP. As was pointed out in section 2.2, the first available opportunity for establishing the asyndetic specification relation between correlative particle and the depictive secondary predication is to do this immediately after the creation of the direct predication relation between the correlative particle and the VP.

(20) a. [$_{vP}$ *John* [$_{v'}$ *v* [$_{:P}$ [$_{RP}$ [$_{VP}$ . . .] [$_{R'}$ RELATOR [$_{CorPrt}$ *so*]]] [$_{:'}$ **:** [$_{RP}$ PRO *drunk*]]]
b. [$_{vP}$ *v* [$_{RP}$ *the meat* [$_{R'}$ REL [$_{:P}$ [$_{RP}$ [$_{VP}$ . . .] [$_{R'}$ REL [$_{CorPrt}$ *so*]]] [$_{:'}$ **:** [$_{RP}$ PRO *raw*]]]]]]

But the establishment of this asyndetic specification relationship can be delayed until after the erection of additional functional superstructure on top of [$_{RP}$ [$_{VP}$ . . .] [$_{R'}$ RELATOR=∅ [$_{PP}$ *so*]]]. As long as the correlative particle and the depictive remain clausemates, an asyndetic specification relation can be created between the two.

In the syntax of the examples in (18) and (19), the depictive is merged directly into SpecCP, and C serves as the mediator of the asyndetic specification relationship between the depictive and the TP containing the silent correlative particle, as shown in (21).[3,4]

(21) a. $[_{CP}\ [_{RP}$ PRO *how drunk*$]\ [_{C'}\ C\ [_{TP}$ *John* $[_{T'}\ T\ [_{RP}\ [_{VP}\ \ldots]\ [_{R'}$ RELATOR $[_{CorPrt}$ *so*$]]]]]]]$
b. $[_{CP}\ [_{RP}$ PRO *how raw*$]\ [_{C'}\ C\ [_{TP}$ *J* $[_{T'}\ T\ [_{RP}$ *the meat* $[_{R'}\ R\ [_{RP}\ [_{VP}\ \ldots]\ [_{R'}\ R\ [$*so*$]]]]]]]]]$

A reviewer asks whether the claim that the *wh*-depictive is merged directly in SpecCP in the syntax of (18) and (19) can be independently supported, advancing (the absence of) inner island effects (i.e., the trouble with Ā-movement of non-arguments across sentential negation) as a potential test case. The grammaticality of *How hot would you not drink your coffee?* and *How hot wouldn't you drink your coffee?* does indeed contrast markedly to **How didn't you find a solution?*, and is compatible with the non-movement analysis proposed here. But it probably does not explicitly confirm the proposal: it is well known (from Ross's 1984 seminal work and subsequent research, incl. Kroch 1989) that inner island effects in monoclausal environments are highly variable and sensitive to a number of factors which, taken together, suggest that semantic and pragmatic considerations are in charge here rather than strictly syntactic ones.

**3** When the conjunct containing *so* is large, the conjuncts will not be equal in size. Koster's (2000) analysis of asyndetic coordination explicitly permits conjuncts of unequal size (needed for cases such as $[_{:P}\ [_{CP}$ *Hem mag ik niet*$]$, $[_{:'}$ **:** [*die vent met die pruik*$]]$ 'him I don't like, that bloke with the wig'), something we know independently to be allowed for syndetic coordination as well: thus, in German *Auf deinem Teller liegt ein Schnitzel und (*kalt werdend) wartet auf dich* 'on your plate lies a schnitzel and (getting cold) is waiting for you' (Hartmann 2015: 499 and references cited there), the first conjunct is explicitly as large as CP whereas the second is necessarily smaller.

**4** The syntax in (21) presents a complication regarding control of the PRO-subject of the depictive secondary predication structure. From the discussion in sections 2.5, 3.2 and 4, it emerges that c-command is ordinarily strictly required in order for this control relation (a case of obligatory control) to be successful; but in (21) PRO is not c-commanded by its controller at any point in the derivation. The fact that (21) alternates with a non-*wh* syntax in which the depictive is in the complement position of the asyndetic conjunction structure (as in (20)) might be sufficient to provide a licence for the absence of c-command in (21). But the circumstances under which the c-command requirement on control of the PRO-subject of depictives can be suspended call for further investigation.

## 3.2 Linearity

Subject-oriented depictives are peripheral to object-oriented depictives in neutral sentences. A comparison of the English examples in (22) and their mirror-image Dutch counterparts in (23) illustrates this.[5]

(22) a. *John ate the meat raw nude.*
b. **John ate the meat nude raw.*

(23) a. *Jan heeft het vlees naakt rauw gegeten.*
Jan has the meat nude raw eaten
b. **Jan heeft het vlees rauw naakt gegeten.*
Jan has the meat raw nude eaten

In sentences containing both a subject-oriented depictive and an object-oriented depictive, there are two tokens of the silent correlative particle *so*. Each of these is predicated of a(n extended) projection of the verb, and each is associated with an asyndetic specifier, in a "colon phrase" structure. The structure is built up incrementally, as shown in (24). First, a silent correlative particle is predicated directly of a projection of V, and gets its content specified by the object depictive via asyndetic specification, as in (24a). Then the object is externally merged in a position c-commanding the PRO-subject of the object depictive, in the specifier of another RELATOR phrase, as shown in (24b). Next, a second correlative particle is predicated of the substructure in (24b), and this correlative particle is asyndetically specified by the subject depictive, as in (24c). Finally, the external argument is merged (with the aid of a RELATOR often referred to as *v*), as in (24d). The Minimal Distance Principle is responsible for this sequence of events: the distance between a correlative particle and the constituent that specifies its content must be minimal, and the distance between PRO and its controller must be minimal. Along these lines, a subject-oriented depictive is ensured to be merged outside the asyndetic coordination structure that introduces the object-oriented depictive.[6]

**5** Note that the asterisks in (22) and (23) convey that the b–sentences are unacceptable as *neutral* sentences. If they are given a marked prosodic contour and information structure, with an emphatic peak on the second of the two depictives indicating contrastive focus, these strings succeed in the appropriate discourse context. But their marked prosody and information structure are signs of a syntax that in all likelihood is not a pure reflex of the underlying representation. I will set such cases aside, concentrating on the situation presenting itself in neutral sentences.

**6** The text account carries over to sentences featuring two subject-oriented or two object-oriented depictives, such as *He ate the meat nude drunk* or *He ate the meat raw tender* (which Hideki

(24) a. $[_{:P}\ [_{RP}\ [_{VP}\ \ldots]\ [_{R'}$ RELATOR $[_{Pred}$ *so*$]]]\ [_{:'}$ : $[_{RP}$ PRO *raw*$]]]$
b. $[_{RP}$ OBJECT $[_{R'}$ RELATOR $[_{:P}\ [_{RP}\ [_{VP}\ \ldots]\ [_{R'}$ RELATOR $[_{Pred}$ *so*$]]]\ [_{:'}$ : $[_{RP}$ PRO *raw*$]]]]]$
c. $[_{:P}\ [_{RP}$ (22b) $[_{R'}$ RELATOR $[_{Pred}$ *so*$]]]\ [_{:'}$ : $[_{RP}$ PRO *nude*$]]]$
d. $[_{RP}$ SUBJECT $[_{R'}$ RELATOR $[_{:P}\ [_{RP}$ (22b) $[_{R'}$ RELATOR $[_{Pred}$ *so*$]]]\ [_{:'}$ : $[_{RP}$ PRO *nude*$]]]]$

In English, when overt, the manner modifier *so* (and also its near-equivalent *thus*) follows rather than precedes the verbal projection that it modifies: (25). In Dutch, on the other hand, *zo* 'so' is sequenced to the left of the VP and cannot occur in post-VP position: (26).

(25) a. **He so*/*thus ate the meat.*
b. *He ate the meat so*/*thus.*

(26) a. *Hij heeft het vlees zo gegeten.*
he has the meat so eaten
b. **Hij heeft het vlees gegeten zo.*
Jan has the meat eaten so

This provides an outlook on the mirror-image effect seen in (20) and (21). In English, silent *so* follows the VP that it modifies, in a canonical predication structure of the type illustrated in (7) (repeated below). The :P representing the asyndetic specification relation between *so* and the depictive secondary predication likewise takes a canonical form, with the depictive sitting in the complement position of the colon head. In Dutch, by contrast, silent *so* is related to the VP in a reverse predication structure (see Den Dikken 2006), with VP in the complement position of the RELATOR and *so* in the specifier position of the RELATOR phrase. The asyndetic specification relation between the depictive and silent *so* is likewise modelled in the form of a reverse predication structure, thus ensuring both uniformity of directionality and a maximally local relation between *so* and its asyndetic specifier. The structure in (7'), for Dutch, is the reverse of (7).

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Kishimoto queried me about). Once again, there are two tokens of the silent correlative particle *so*, each associated with an asyndetic specifier. But combinations of two depictives of the same kind in principle exhibit free relative ordering of the depictives, differing in this regard from mixes of subject- and objected-oriented depictives. This is because the Minimal Distance Principle does not prefer one ordering to the other when the PRO-subjects of the two depictives take the same matrix argument as their controller. (Although the relative order of two subject-oriented or two object-oriented depictives is free in principle, PF considerations, such as prosody, may lead to one of the orders being preferred – this applies, for instance, when the two depictives have a different syllable count (*raw tender*). But in *syntax*, there are, as far as I can tell, no constraints imposed on the relative ordering of two depictives that take the same argument as their antecedent.)

(7) $[_{:P}\ [_{RP}\ [_{VP}\ \ldots]\ [_{R'}$ RELATOR $[_{Pred}$ *so*$]]]\ [_{:'}$ **:** $[_{RP}$ PRO *raw*/*nude*$]]]$
(7′) $[_{:P}\ [_{RP}$ PRO *rauw* 'raw'/*naakt* 'nude'$]\ [_{:'}$ **:** $[_{RP}\ [_{Pred}$ *so*$]\ [_{R'}$ RELATOR $[_{VP}\ \ldots]]]]]$

The depictive follows V in English, but precedes V in Dutch. Repeating the exercise for a second token of *so* asyndetically specified by a subject depictive yields the [V [O-DEP] [S-DEP]] order of (22a) and the [[S-DEP] [O-DEP] V] order of (23a), as the reader can easily verify.[7]

## 3.3 Constituency

Larson (1989) states that "heavy NP shift" (treated by him as a case of "light predicate raising") is possible across object-oriented depictives but not across subject-oriented depictives, as shown by the contrast between his examples in (27b) and (28b).[8]

(27) a. *John never eats any meat over two days old raw.*
b. *John never eats raw any meat over two days old.*

(28) a. *Alice never drives her red, fuel-injected '68 Chevy drunk.*
b. **Alice never drives drunk her red, fuel-injected '68 Chevy.*

Larson also points out that depictives cannot be stranded by VP-topicalisation, no matter whether they are object-oriented or subject-oriented, as shown in (29)–(31).

(29) a. *John wanted to eat the meat raw, and eat the meat raw he did.*
b. **John wanted to eat the meat raw, and eat the meat he did raw.*

---

**7** The definite object preferentially precedes *zo* in (26a) (i.e., appears outside the VP in (7′)). This is an effect of "object shift". For (26a), this is only a preference: flipping the relative orders of *het vlees* 'the meat' and *zo* would not make the sentence unacceptable – in contrast to the object depictive cases discussed at the end of section 2.5, where "object shift" is required, there is no PRO in the structure of (26) that requires a c-commanding antecedent.

**8** Cormack & Smith (1999: 265–266) agree with Larson on the grammaticality of heavy NP shift across an object depictive (their example is (i)) but they also present an example of object extraposition for which they find a subject depictive reading (with *drunk* linked to *John*) perfectly acceptable: see (ii). I will return in fn. 10 to the question of apparent speaker variation with regard to the acceptability of heavy NP shift across a subject depictive.

(i) *Lucie drinks cold both tea and coffee.*
(ii) *John painted drunk both his mistress and his wife.*

(30) a. *John wanted to eat the meat nude, and eat the meat nude he did.*
b. **John wanted to eat the meat nude, and eat the meat he did nude.*

(31) a. *John wanted to eat the meat raw nude, and eat the meat raw nude he did.*
b. **John wanted to eat the meat raw nude, and eat the meat raw he did nude.*
c. **John wanted to eat the meat raw nude, and eat the meat he did raw nude.*

Larson (1989) makes these constituency facts jibe with one another by assuming that both subject-oriented and object-oriented depictives are inside VP but subject depictives are adjuncts whereas object depictives are innermost complements of V. But a treatment of object depictives as complements of V is unsupported, for at least two reasons: *(i)* object depictives do not affect the θ-role of the object, unlike resultatives (which *are* innermost complements of V); and *(ii)* object depictives combine (in a strict order) with secondary predicates which do indeed find themselves in the complement of V, such as resultatives and secondary predicates combining with epistemic verbs. I will expand upon this in the three paragraphs that follow.

The structure in (32), which Larson assigns to sentences featuring an object depictive, is technically unproblematic for sentences (such as the ones given earlier in this section) whose direct object is a Theme (the argument of which a state or location, or change thereof, is predicated), which is assumed, in both Larson (1988) and Hale & Keyser (1993), to be projected in SpecVP rather than the complement-of-V position. But for cases such as (33) (of which (33b) was taken from McNulty 1988), the idea that the object depictive occupies the complement-of-V position has the unwanted side-effect that the thematic status of the object should change from Patient to Theme as a result of the addition of the depictive: with the depictive taking the complement-of-V position, the object would be forced into SpecVP (the Theme slot). Though Williams (1980) claims that object depictives can only be predicated of Themes, (33) falsifies this.

(32) $[_{VP}$ OBJECT $[_{V'}$ V $[AP_{O\text{-}DEP}]]]$

(33) a. *John watched Mary*$_{\text{Patient}}$ *nude.*
b. *John juggled the torches*$_{\text{Patient}}$ *lit.*

Highly relevant in this connection is that there are in fact cases in which the insertion of a phrase in post-verbal position causes a change in the thematic status of the object, resulting in Themehood. Resultative secondary predicates can bring about such a change (Hoekstra 1988):

(34) a. *John beat Bill*$_{\text{Patient}}$.
b. *John beat Bill*$_{\text{Theme}}$ *up/into the hospital.*

(35) a. *John kicked the dog*$_{\text{Patient}}$.
b. *John kicked the dog*$_{\text{Theme}}$ *out of the room.*

But in (33) the presence of the object depictive does not affect the thematic role of the object. This, in conjunction with the Uniformity of Theta-Assignment Hypothesis (UTAH; Baker 1988), pleads against an analysis of object depictives as innermost complements of V.

What strengthens this conclusion is that object depictives can readily be combined with secondary predicates for which it is eminently plausible to accommodate them in the complement-of-V position, *à la* (32) – resultatives (as in (36) and (37)) and secondary predicates combining with epistemic verbs such as *consider* (see (38) and (39)). If object depictives were to be harboured by the complement-of-V position, we would face a conundrum for the sentences in (36)–(39). Since the complement-of-V position is unique per V, a Larsonian approach to object depictives as innermost complements would make combinations of object depictives and resultative or epistemic secondary predicates very difficult to accommodate structurally. The empirical fact of the matter, however, is that such combinations are perfectly unproblematic. And not only are the examples in (36)–(39) grammatical, they also feature the two secondary predicates in a strict order, one that (as in the case of (22)~(23)) gives rise to a mirror effect in English and Dutch.[9] Giving a verb access to two complements would be directly at variance with Larson's single complement hypothesis, and it would also leave it a puzzle why those two complements would

**9** For early discussion of the syntax of Dutch examples of the type in (37), see Den Dikken (1987). More recently, the syntax of sentences featuring both a resultative and a depictive secondary predicate has been taken up in Bruening (2018). Bruening takes such sentences to furnish an argument against the small clause analysis of resultative secondary predication. He claims that the small clause analysis of resultatives predicts that depictives should modify the object in its final state, and notes that this is not always the case (ia), and that sometimes it is in fact impossible (ib) (from Bruening 2018: 540). But note that the depictive certainly *can* depict the object in its final state, as in (ic) (adapted from Haddican *et al.* 2023). Much will depend here on the exact location of the depictive, and on the aspectual structure of extended VP. Space does not allow me to delve into the details of this here.

(i) a. *It's best to hammer metal flat wet, but it's okay if it has dried by the time it's completely flat.*
b. #*It's best to hammer metal flat dry, but it's okay if it's wet during the hammering process.*
c. *When she applied the glue, the arm of the plastic toy was precisely in the right place; but towards the end of the drying process, the arm shifted a bit, so she ended up gluing the arm on crooked.*

be strictly ordered relative to one another. For the reasons given in this section so far, therefore, I will not pursue the hypothesis that object depictives are complements of V.

(36) *You can iron those trousers flatter wet.*

(37) *Je kunt die broek nat gladder strijken.*
you can those trousers wet smoother iron

(38) *Mary considers John attractive nude.*

(39) *Marie vindt Jan naakt aantrekkelijk.*
Marie finds Jan nude attractive

Can Larson's constituency facts be derived from the hypothesis that both subject-oriented depictives and object-oriented depictives are asyndetic specifiers of a silent correlative particle predicated of the VP, as in (7) (repeated here once again)? In the remainder of this section, I will argue that the answer to this question is affirmative.

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Bruening presents two further argument against the small clause analysis of resultatives. One of these is based on the claim that the small clause analysis predicts that, being a left-branch constituent, the subject should not tolerate subextraction, which, as he points out, is not always the case: (iia) (from Bruening 2018: 554). But subextraction from the subject of a resultative often does deliver ungrammaticality, for instance in (iib,c). The sensitivity of subextraction from the subject to the categorial status of the secondary predicate is more likely to be an argument in favour of the small clause approach than against it. Bruening also claims that the small clause analysis predicts that the small clause should constitute an opaque domain for anaphora, and marks as a problem the fact that in resultatives such as (iiia) (from Bruening 2018: 555) the reflexive can be bound by the subject. But resultatives actually *can* define local domains for pronominal anaphora: (iiib). The fact of the matter is that certain resultative constructions allow a breakdown of the typical complementary distribution of anaphors and pronouns (cf. (iiib) and (iiic)) – something which does not, in itself, constitute an argument against or in favour of any particular analysis of resultatives, as far as I can tell.

(ii) a. *Who are they burning* [*books about* t] *to cinders?*
b. **Who are they spraying* [*books about* t] *wet?*
c. **Who are they blowing* [*books about* t] *dry?*

(iii) a. *The gingerbread man*$_i$ *pounded the dough flatter than himself*$_i$.
b. *Mary*$_i$ *put John on top of her*$_i$.
c. *Mary*$_i$ *put John on top of herself*$_i$.

(7) $[_{:P}\ [_{RP}\ [_{VP}\ \ldots]\ [_{R'}\ \text{RELATOR}=\varnothing\ [_{Pred}\ \textit{so}]]]\ [_{:'}\ :\ [_{RP}\ \text{PRO}\ \textit{raw/nude}]]]$

The structure in (7) can capture the fact that depictives cannot be stranded by VP-topicalisation as follows. VP in (7) is contained in the first conjunct of an asyndetic coordination structure. This means that the Coordinate Structure Constraint prevents VP from undergoing movement whenever a depictive is present. This is what explains why the examples in (29b), (30b) and (31b,c) are ungrammatical. Of course the entire asyndetic coordination structure in (7), containing both the VP and the depictive, is eligible for movement. This is how the a–examples in (29), (30) and (31) are derived.

The fact that Larson finds "heavy NP shift" possible across object-oriented depictives but not across subject-oriented depictives can be related to the need for a local c-commanding antecedent for the PRO-subject of the depictive small clause in (7). In object-oriented depictive constructions, such as (27), the object must be outside the asyndetic coordination structure in order to asymmetrically c-command PRO. As a consequence, "object shift" of the object is necessary in object depictive constructions. Outside VP, the object can in principle be linearised either to the left or to the right of the VP. If it is placed on the right, we get the effect of "heavy NP shift", as in (27b), which is correctly predicted to be grammatical by (7). In subject-oriented depictives, the subject c-commands PRO from outside :P no matter where the object is located. So there is no control-based motivation for placing the object outside the VP in subject depictive constructions. Placing the object outside VP would introduce a possible ambiguity for control of PRO in this case, with both the subject and the object c-commanding it. Speakers wishing to avoid such ambiguity will want to have the object in a VP-internal position in subject depictive constructions; and placing the object in VP-internal position means that the object is inside the first conjunct of the coordinate structure in (7), which predicts that the object is unable to extrapose in the presence of a subject depictive: (28b).[10]

**10** For speakers who do not mind there being two c-commanding potential controllers of PRO, placing the object in the VP-external "object shift" position in constructions with subject depictives will be legitimate – and concomitantly, for such speakers "heavy NP shift" will be allowed both across an object depictive and across a subject depictive. This appears in line with the judgements reported by Cormack & Smith (1999) (recall fn. 8 above).

# 4 Antecedence restrictions on object depictives

Object-oriented and subject-oriented depictives differ in certain ways, hence cannot be given an indiscriminate, one-size-fits-all treatment. Thus, recall from (11b)~(12b) and (27b)~(28b) that object depictives and subject depictives make different demands on the placement of the object. I have accounted for these demands from the perspective of the specificational asyndetic coordination analysis of depictive secondary predication, with particular reference to the requirement that the PRO-subject of a depictive have a local c-commanding controller.

In the present section, I will examine some more specific restrictions on the antecedence of object depictives and show how these can be derived from the analysis.

## 4.1 Direct objects as antecedents for depictives

It would not be accurate to say (as does Williams 1980) that object depictives can only be predicated of Themes: from (33) we already know that Patients can in principle serve as associates of object depictives. But such is not always possible. As McNulty (1988) points out, the object of verbs such as *hit*, *punch* or *push* (a Patient) cannot easily associate with a depictive: (40a) only supports a subject-depictive reading. Relatedly, Rapoport (1999: 654) notes that (41a) supports only a subject-oriented interpretation for the depictive. Importantly, this is not because the object readings are implausible: (40b) and (41b), featuring finite *while*-clauses, are fine.

(40) a. *The policeman hit/punched/pushed her*$_i$ PRO$_{*i}$ *drunk*.
b. *The policeman hit/punched/pushed her*$_i$ *while she*$_i$ *was drunk.*

(41) a. *Jones chased Smith*$_i$ PRO$_{*i}$ *angry*.
b. *Jones chased Smith*$_i$ *while he*$_i$ *was angry.*

More microscopically, Motut (2014) notes that (42) allows the depictive *sad* to be related to the object *the bear* if *shot the bear* is interpreted as 'photographed, took pictures of the bear' but not if it is understood as 'injured or killed the bear with a gun'. For the paraphrase in (42b), both readings of *shot the bear* are available.

(42) a. *John shot the bear*$_i$ PRO$_{\%i}$ *sad.*
*(i) John shot the bear*$_i$ PRO$_i$ *sad with his camera.*
*(ii) John shot the bear*$_i$ PRO$_{*i}$ *sad with his rifle.*
b. *John shot the bear*$_i$ *while it*$_i$ *was sad.*

Motut (2014) also points out that in episodic contexts, object depictives have a hard time being associated with mass nouns or bare plurals (in contradistinction to definites). And here, too, the depictive is more restrictive than its finite *while*-clause paraphrase, as (43b) shows.

(43) a. *John drank the beer(s)*$_i$ PRO$_i$ *warm.*
a′. *John drank beer*$_i$ PRO$_{\#i}$ *warm.*
a″. *John drank beers*$_i$ PRO$_{\#i}$ *warm.*
b. *John drank (the) beer(s)*$_i$ *while it*$_i$*/they*$_i$ *was/were warm.*

For Rapoport (1999) and Motut (2014), these kinds of data are support for an approach that mobilises aspectual or other semantic restrictions on object depictives. One of the objectives of the present section is to find a syntactic explanation for the facts in (40)–(43). Before pursuing this, however, we must first broaden the scope of the investigation to look at indirect objects and P-objects as antecedents for depictives.

## 4.2 Indirect objects as antecedents for depictives

From (44) we learn that depictives make a sharp distinction between direct and indirect objects of double object constructions. As a general rule, depictives can target the direct object but not the indirect object of double object constructions,[11] though finite adverbial *while*-clauses linked to the indirect object are fine.

(44) a. *I served her*$_i$ *some tea*$_j$ PRO$_j$ *tepid.*
b. *I served her*$_i$ *some tea*$_j$ PRO$_{*i}$ *drunk.*
c. *I served her*$_i$ *some tea*$_j$ *while she*$_i$ *was drunk.*

But the general rule is not exceptionless. One exception pointed out in the literature (Maling 2001: 424; see also Pylkkänen 2008, Bruening 2018: 548) is illustrated by (45):

(45) a. *They gave her*$_i$ *the medication* PRO$_i$ *drunk*/*asleep.*
b. *Victorian doctors gave their female patients*$_i$ *a physical exam* PRO$_i$ *fully dressed.*

**11** Bruening (2018) claims that double object constructions do not tolerate association of a depictive with the direct object just in its final state: *#As it left my arm it was wet, but I threw him the ball dry*. But depicting the direct object of a double object construction just in its final state does not seem impossible: *The sergeant made the soldiers dress on the way to the parade ground, sending the general his troops fully dressed* (cf. Haddican *et al.* 2023).

The phrasal expressions *to give x the medication* and *to give x an exam* are equivalent to the verbs *to medicate* and *to examine*. This may suggest that the ditransitive "light verb" constructions in (45) are "reconstructed" as simple transitives at the level at which the restrictions on depictives come into play. This could have theoretically interesting repercussions; but I will leave (45) and its implications to one side in this paper because my interests lie elsewhere.

The other exception involves passivisation (Koizumi 1994, Pylkkänen 2008: 36, Bruening 2018: 547). When a double object construction is passivised with promotion of the indirect object to subject, the promoted indirect object supports a depictive, as (46a) shows. Note that passivisation with promotion of the *direct* object (which is acceptable only to a subset of English speakers) has no such effect on the relationship between the indirect object and the depictive: (46b) is as ungrammatical as (44b) on the intended reading.

(46) a. *She*$_i$ *was served the tea* PRO$_i$ *drunk*.
b. *The tea was served her*$_i$ PRO$_{*i}$ *drunk*.

## 4.3 P-objects as antecedents for depictives

The examples in (47b), (48b), (49b) and (50b) all differ minimally from their counterparts in the a–sentences in containing a preposition introducing the object.[12] The problem with the object-related reading for the b–examples is again specific to the depictive: the finite adverbial clauses in the c–examples are perfectly legitimate even in the presence of the italicised prepositions.

(47) a. *She hammered/pounded the metal*$_i$ PRO$_i$ *hot*
b. *She hammered at/pounded on the metal*$_i$ PRO$_{*i}$ *hot*.
c. *She hammered (at)/pounded (on) the metal*$_i$ *while it*$_i$ *was hot.*

(48) a. *They ate the meat*$_i$ PRO$_i$ *raw*.
b. *They ate at/of the meat*$_i$ PRO$_{*i}$ *raw*.
c. *They ate (at/of) the meat*$_i$ *while it*$_i$ *was raw.*

12 It does not matter whether the *it* in (50) is taken to make reference to an animate entity (an animal) or to something inanimate (such as an electronic device powered by a battery).

(49) a. *He drank his tea*$_i$ PRO$_i$ *tepid.*
b. *He drank of his tea*$_i$ PRO$_{*i}$ *tepid.*
c. *He drank (of) his tea*$_i$ *while it*$_i$ *was tepid.*

(50) a. *I presented it*$_i$ *to John* PRO$_i$ *(already) dead.*
b. *I presented John with it*$_i$ PRO$_{*i}$ *(already) dead.*
c. *I presented John with it*$_i$ *while/when it*$_i$ *was (already) dead.*

Similarly to what we saw in the case of indirect objects, however, it would be wrong to categorically declare that a depictive secondary predicate can never be associated to an object introduced by a preposition. One indication to this effect comes from the fact that the nominalisations in (51), whose objects are preceded by the same *of* that also introduces the object of (48b) and (49b), are grammatical (see Carrier & Randall 1992: 201 and Borer 2013: 108, *pace* Kayne 1984 and Roberts 1988), but readily support association with the depictives involved.

(51) a. *Ingestion of tea*$_i$ PRO$_i$ *tepid may be beneficial to one's intestinal flora.*
b. *Consumption of meat*$_i$ PRO$_i$ *raw or undercooked is not recommended.*

P-objects can also be made to feed depictive secondary predication when they strand their Ps under pseudopassivisation (Koizumi 1994, Pylkkänen 2008: 36, Bruening 2018: 547), similarly to what we found for indirect objects in section 4.2 (recall (46a)):

(52) a. *The metal*$_i$ *was hammered at/pounded on* PRO$_i$ *hot*.
b. *The meat*$_i$ *was eaten at* PRO$_i$ *raw*.

(53) a. *They spied upon her*$_i$ PRO$_{*i}$ *nude.*
b. *She*$_i$ *was spied upon PRO*$_i$ *nude.*

## 4.4 Accounting for the antecedence restrictions on object depictives

### 4.4.1 No simple connection with referential dependencies

For the object of a preposition, all standard definitions of command available in the theoretical linguistics literature (various versions of "c-command", and "m-command") ensure that it cannot command out of the prepositional phrase that contains it. There are, however, several cases in which prepositional objects appear to be able

to ignore the preposition for the purposes of the establishment of an anaphoric or bound-variable dependency – a referential dependency that is customarily assumed to require command. We see this, for instance, in (54). Yet, despite the fact that in (54) it is possible for the prepositional object to bind a reflexive or bound-variable pronoun, associating a depictive to this object remains impossible, even when the P-object explicitly antecedes an anaphor or bound variable, as in (55).

(54) a. *They talked to her$_i$ about herself$_i$.*
b. *They talked to every girl$_i$ about her$_i$ parents.*

(55) a. *They talked to her$_i$ about herself$_i$* PRO$_{*i}$ *nude.*
b. *They talked to every girl$_i$ about her$_i$ parents* PRO$_{*i}$ *nude.*

The indirect object cases give rise to the same empirical picture. An indirect object readily engages in a referential dependency with the direct object (see esp. Barss & Lasnik 1986, Larson 1988): (56). But as in the case of P-objects, even the establishment of a referential dependency between the indirect object and the direct object does not make the former a legitimate candidate for anteceding a depictive secondary predicate. For (56a), this cannot be demonstrated because *nude* could be construed with the direct object (coreferential with the indirect object) here. But (57) makes the point for the example in (56b).

(56) a. *They showed her$_i$ herself$_i$ (in the mirror).*
b. *They gave every girl$_i$ her$_i$ paycheck.*

(57) *They gave every girl$_i$ her$_i$ paycheck* PRO$_{*i}$ *nude.*

The facts in (55) and (57) show that the antecedence restrictions on object depictives are not rooted in the same thing that constrains antecedence in the case of referential dependencies. This is of course apparent also from the fact that in all the cases in sections 4.1–4.3 in which object depictives fail, a perfectly grammatical paraphrase is available involving a finite *while*-clause containing a pronoun coindexed with the object. Even control of PRO sometimes succeeds when the controller is immediately preceded by a preposition (see Den Dikken 2018: 331ff.):

(58) *I* {*ask*/*beg of* / *plead with* / *impose (up)on*} *you* [PRO *to help me*].

Thus, the problem with the examples presented in sections 4.1–4.3 is more severe than the establishment of a referential dependency for the PRO-subject of the depictive. What exactly is the root of the problem?

### 4.4.2 Depictive secondary predication as complex predicate formation

I would like to argue that what makes the b–examples in (47)–(50) ungrammatical with object depictives is that it is impossible for the object depictive and the verb to become parts of a complex predicate that can be predicated of the object.

From (7) (updated, for the examples in (47a), (48a) and (49a), as in (59)), we recall that the depictive serves to specify the content of a silent proform that is predicated of the VP. When the depictive is object-related, the *so*+RP tandem forms a complex predicate with the VP. With the object merged immediately outside :P, the complex predicate containing the depictive and the VP can readily be formed, and the PRO-subject of the depictive secondary predicate can be interpretively linked to the object. All predication is successful, and (59) converges.

(59) $[_{RP}$ OBJECT $[_{R'}$ REL $[_{:P}$ $[_{RP}$ $[_{VP}$ . . .] $[_{R'}$ REL $[_{CorPrt}$ *so*]]] $[_{:'}$ **:** $[_{RP}$ PRO $[_{R'}$ REL AP]]]]]]

Now consider what happens when the object is merged inside the portion of the verbal syntax that occupies the specifier position of **:**P, as in (60). This time around, at least one of the ingredients necessary in the establishment of the complex predication relationship fails to materialise.

(60) *$[_{:P}$ $[_{RP}$ $[_{VP}$ . . . OBJECT . . .] $[_{R'}$ REL $[_{CorPrt}$ *so*]]] $[_{:'}$ **:** $[_{RP}$ PRO $[_{R'}$ REL AP]]]]

In (60), the depictive cannot be construed as a subpart of the complex predicate for the object because the object is itself contained within the constituent that the **:**-head connects the depictive to. If the depictive were interpreted instead as being linked to the subject (merged outside the structure in (60)), the result would be perfectly grammatical, delivering sentences such as *they ate at the meat drunk*/*nude*. But an object-depictive reading is unavailable whenever the object is contained within the VP.

For nominal objects, two object positions are available – recall (9), above. But prepositional objects are merged in a VP-internal object position. As a result, prepositional objects are ineligible to serve as the subject of predication for a complex predicate formed by the verb and the depictive. The ban on association of object depictives with prepositional objects is stronger than a "mere" problem of referential dependency: the complex predicate containing the depictive and the verb fails to find an eligible subject, a fatal case of predication failure.

A separate paragraph is in order for a discussion of objects introduced by the P-element *of*. In line with my earlier work (see, e.g., Den Dikken 2006), I postulate only one lexical entry for *of* (just like there is only one lexical entry for *be*): *of* is systematically the RELATOR of a predication relation, either canonical or reverse. In the syntax of conatives (such as *John ate of the meat*; see Den Dikken 2021), *of* mediates a reverse

predication, with the VP in SpecRP and the object in the complement position of *of* – much too low to serve as the subject of a complex predicate containing the verb and the object depictive. In the syntax of the nominalisations in (51), on the other hand, *of* is the RELATOR of an RP of the type in (9), a canonical predication structure featuring the object in its specifier. Here, the object is structurally high enough to be able be the subject of the complex predicate formed by the nominalised verb and the depictive.

### 4.4.3 Shooting, hitting, and chasing

At this point, let us return to the striking contrast in (42a):

(42a) *John shot the bear*$_i$ PRO$_{\%i}$ *sad.*
*(i) John shot the bear*$_i$ PRO$_i$ *sad with his camera.*
*(ii) John shot the bear*$_i$ PRO$_{*i}$ *sad with his rifle.*

Motut (2014: 246) claims that in (42a.*ii*), "the bear is not being shot in every (sub) event of shooting, particularly those subevents of the shooting that precede the bear's actually being hit by the bullet", whereas in (42a.*i*), "a (sub)part of the bear (or the representation of the bear) is being shot in each subevent/subsituation of the shooting of (the photograph of) the bear". This characterisation of the contrast in (42a) seems to me observationally inadequate: both shooting a bear with a gun and shooting a bear with a camera are instantaneous achievements; including the events preceding the bullet strike (aiming the gun at the bear and pulling the trigger) in the event of shooting a bear with a gun while excluding the events preceding the shutter movement (aiming the camera at the bear and pressing the button) from the event of shooting a bear with a camera is an entirely arbitrary and unintuitive distinction.

For a proper understanding of (42a), it is highly relevant that in Nakh-Dagestanian and Kartvelian languages, the instrument of verbs of contact including 'to shoot' (and also 'to comb, hit, kiss, paint, stab, touch, wipe') is mapped into the direct object position, with the undergoer of the shooting surfacing in an oblique form (see Klimov 1978: 58–59) – i.e., instead of *John shot the bear with his rifle*, a language like Tsez or Georgian says *John threw his rifle at the bear*. If what Tsez and Georgian do on the surface is also abstractly going on in the syntax of English *John shot the bear with his rifle*, the fact that the object of a physical gun-shooting event cannot serve as the antecedent of an object depictive will be reducible to the ban on P-objects as antecedents for object depictives: if *the bear* is underlyingly represented as a P-object (perhaps more particularly as the object of a conative construction), not as the direct object of the verb, (42a.*ii*) reduces to the ban on object depictives in the b–examples in (47)–(50).

For (40a), repeated below, a line of analysis parallel to the one pursued for (42a) is available. Recall that in Nakh-Dagestanian and Kartvelian, 'to hit' behaves like 'to shoot'. Assuming once again that these languages reveal something deep about the UG-representation of events, something which in English-type languages remains hidden from direct view, I hypothesise that the object of (40a) is underlyingly represented as a conative object – which means that it is not eligible to serve as the antecedent of an object depictive.

(40a) *The policeman hit/punched/pushed her*$_i$ PRO$_{*i}$ *drunk*.

For (41a), the Nakh-Dagestanian and Kartvelian languages do not lead the way towards a solution, as far as I am aware.

(41a) *Jones chased Smith*$_i$ PRO$_{*i}$ *angry*.

But here Dutch is highly informative. In Dutch the verb *volgen* 'follow', when used in the physical sense of 'go after, pursue' (as opposed to the psychological senses of 'understand', as in *I can't follow the argument*, or 'pay continued attention to', as in *I am following that TV series*), can select the auxiliary *zijn* 'be' in the periphrastic perfect: see (61a). Selection of *zijn* is usually the prerogative of a particular subset of intransitive verbs; but *volgen* 'follow' appears to be transitive, taking an accusative direct object. What the grammaticality of *zijn*-selection in (61a) (in stark contrast to garden-variety transitive sentences such as *ze hebben*/**zijn hem geslagen* 'they have beaten him') suggests is that *volgen* 'follow' is not a deep transitive verb: its underlying representation is similar to its paraphrase *achterna gaan* 'go after', seen in (61b), which selects *zijn* by virtue of involving an unaccusative motion verb.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| (61) | a. | *Ze* | *hebben/* | *zijn* | *hem* | *gevolgd.* | | |
| | | they | have/ | are | him | followed | | 'They followed him.' |
| | b. | *Ze* | *zijn/* | **hebben* | *hem* | *achterna* | *gegaan.* | |
| | | they | are | have | him | after | gone | 'They went after him.' |

If this carries over to *chase* in English,[13] we will be able to relate the impossibility of associating the depictive *angry* with the (apparent) direct object of *chase* in (41a)

**13** Note that the Dutch translation equivalent of English *chase*, i.e., *achtervolgen* 'after-follow', is a complex verb headed by *volgen* 'follow', a verb shown in (61a) to allow *zijn*-selection. Selection of *zijn* is attested for *achtervolgen* as well (perhaps predominantly in Flemish varieties), as in the following examples culled from the internet (which are marked to my ear, but do not sound to me unacceptable):

to the empirical generalisation that a P-introduced object cannot antecede an object depictive, with *Smith* in (41a) too low in the structure to be able to serve as the subject of predication for the complex predicate formed by the verb and the depictive.

### 4.4.4 Bare objects

Motut (2014) points out that (in episodic contexts) object depictives have a hard time being associated with bare mass nouns or bare plurals, in contradistinction to definites. The examples below (repeated from (43)) serve as reminders:

(62) a. *John drank the beer(s)*$_i$ PRO$_i$ *warm.*
b. *John drank beer*$_i$ PRO$_{\#i}$ *warm.*
c. *John drank beers*$_i$ PRO$_{\#i}$ *warm.*

The key to the solution of (62) is that while definite (or, more precisely, specific) objects are located in a specifier position in the extended projection of the verb (the "object shift" position), "weak indefinites" are not. Weak indefinites are interpreted as part of the nuclear scope (the VP), within the domain of existential closure (see the mapping hypothesis of Diesing 1992), in a structural position too low to antecede the PRO-subject of the object depictive.

But as De Hoop (1992) has pointed out, when bare mass nouns and bare plurals receive a "strong indefinite" interpretation, in habitual and generic contexts, they do successfully occupy the "object shift" position. This leads us to expect that habitual/generic contexts should erase the difference between definite objects, on the one hand, and mass-noun and bare-plural objects, on the other, with respect to object depictives. This expectation is fulfilled: all of the examples in (62′) are grammatical.

(62′) a. *John always drinks his beer(s)*$_i$ PRO$_i$ *warm.*
b. *John always drinks beer*$_i$ PRO$_i$ *warm.*
c. *John always drinks beers*$_i$ PRO$_i$ *warm.*

---

(i) a. *Niemand die iets deed, en wij zijn hem achtervolgd en ik heb hem proberen te vangen omdat ik bang was dat er ongelukken zouden gebeuren.*
'Nobody who did anything, and we chased him and I tried to catch him because I was afraid that there would be an accident.'
b. *Mijn fotograaf en ik zijn hem achtervolgd om hem op straat te fotograferen.*
'My photographer and I chased him in order to photograph him in the street.'
c. *We zijn hem achtervolgd tot hij over een hek geklommen was en weg was.*
'We chased him until he climbed over a fence and got away.'

The contrast between episodic (62) and habitual (62′), translated in structural terms (with the "object shift" position as the main player), lends strong credence to the hypothesis that the structural height of the object is a key ingredient in the distribution of object depictives.

### 4.4.5 Indirect objects

In the preceding subsections, I linked some *prima facie* mysterious observations about English object depictives to the broad generalisation that in order for an object to be eligible for anteceding a depictive, it must occupy a specifier position overlooking the portion of the structure containing the VP and the depictive. The fact that the indirect object of a double-object construction fails as the associate of an object depictive may be connected to this generalisation as well.

It is well known that in many languages double-object constructions are intimately related to so-called prepositional dative constructions:

(63) a. *They gave a book to her.*
b. *They gave her a book.*

The sentences in (63a,b) have the same propositional meaning.[14] In the history of linguistics, the question of whether these sentences have fundamentally different structures or instead share the same (or very similar) underlying representations has given rise to much debate. In the wake of Pylkkänen's (2008) influential ApplP hypothesis, the field has landed largely on the side of the non-derivational approach. But in Den Dikken (1995) (going back to Czepluch 1982 and Kayne 1984), it is argued that (63a) and (63b) have very much the same structure at an abstract level of analysis. In particular, both sentences feature a preposition in their underlying representation, and in both sentences this preposition introduces the Goal argument (*her*); but only in (63a) is this preposition pronounced on the surface: in (63b) it remains silent. If this approach is correct, the fact that the indirect object in (63b) cannot serve as the antecedent for an object depictive (recall (44b), a variant of which is reproduced as (64b)) is then directly assimilable to the fact that the P-dative object in (63a) likewise cannot serve as the associate of an object depictive (see (64a)).

**14** There are, to be sure, certain well-documented semantic and information-structural differences between the two; but these need not concern us here as they do not impinge directly on the syntax underlying ditransitives.

(64) a. *They gave a book to her*$_i$ PRO$_{*i}$ *nude*.
b. *They gave her*$_i$ *a book* PRO$_{*i}$ *nude*.

For space reasons, I will not delve into the syntax of ditransitives in any detail in this paper, referring the reader to my earlier work and the literature cited there. But even from this panoramic perspective, bearing in mind that the dative PP underlyingly finds itself low in the structure (predicated as it is of the Theme), it should be clear that the fact that object depictives cannot be associated to the indirect object of a double-object construction fits in with the broad generalisation that in order for an object to be eligible for anteceding a depictive, it must occupy a specifier position overlooking the portion of the structure containing the VP and the depictive. Serving as the complement of P, in neither (63a) nor (63b) can the Goal argument achieve c-command over the Theme.

### 4.4.6 Passivisation

While "applicativisation" does not facilitate association of a depictive to the Goal argument, passivisation with promotion of the Goal does. Under passivisation, the Goal argument (by itself, stranding its P) is promoted to the structural subject position of the clause, which overlooks everything further downstream. Although in the underlying representation of ditransitives, the Goal argument is unable to serve as the associate of a depictive, its promotion to subject manoeuvres it into a position from which antecedence of the depictive's PRO-subject becomes possible:[15] the gratification of the complex predicate formed by the depictive, its correlative proform associate, and the VP can be delayed until the Goal is merged in subject position. Again, P-objects and indirect objects behave on a par, as (65) shows. Though promotion of the P-dative Goal to subject, as in (65a), is restricted to cases in which V and the direct object form an idiom (such as *give*/*pay attention*), pairs such as (65a,b) confirm that whenever the right circumstances present themselves, Goals behave exactly the same way with regard to antecedence of depictives regardless of whether

**15** There appears to be a preference for association of the depictive to the Goal argument promoted to subject over association of the depictive to the implicit Agent of the passive. The latter has occasionally been reported to be impossible (see Jaeggli 1986: 614, Landau 2000: 170, fn. 10, Roberts 1988: 70, sect. 3.2.2, Watanabe 1993: 334, fn. 56). But Collins (2021) contains numerous attested examples of depictives associated with the implicit Agent. The question of how to rhyme such association with *(a)* the syntax of the passive proposed in Den Dikken (2020b) and *(b)* the syntax of depictives proposed here will be left for another occasion.

they are presented in the P-dative frame or in the double-object frame. What this indicates is that, at a deeper level of analysis, these two frames are the same.

(65) a. *She$_i$ was given lots of attention to* PRO$_i$ *nude.*
b. *She$_i$ was given lots of attention* PRO$_i$ *nude.*

## 5 Concluding remarks

Depictives have an internal syntax involving a small clause with a PRO-subject. Into the external syntax, this small clause is integrated via an specificational asyndetic coordination relationship with a silent correlative proform. This analysis captures the properties of depictive secondary predication constructions in the realms of extraction, constituency, linear order, and (particularly in the case of object depictives) restrictions on antecedence.

A characteristic of the asyndetic coordination approach to depictives that is worth highlighting at the end of this paper is that it makes no appeal to the operation of adjunction – neither for the establishment of the relation between the correlative particle and what it modifies nor for the relation between the correlative particle and the depictive that specifies its content. Adjunction traditionally plays a central role in the syntax of depictives: indeed, depictives have long served as one of the prime syntactic contexts for adjunction. The fact that the present analysis eschews adjunction anywhere in the syntax of depictive secondary predication opens up the theoretically interesting prospect of adjunction becoming redundant for all cases of External Merge.

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