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The syntax of argument structure. Elements for a configurational theory

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Abstract

English

This thesis explores the processes underlying the composition, interpretation, and externalization of verbal predicates, adopting a neo-constructionist standpoint. The central aim is to provide evidence in favor of a theory of argument structure where different semantic interpretations of predicates, in terms of stativity vs. eventivity and certain inner aspectual properties, can be read off the syntactic configuration exclusively, without resorting to featural specifications of functional heads or to grammatically relevant lexical properties of verb roots. I propose that the argument structure of predicates is based on a single, semantically vacuous functional head, α , which generates a dyadic or a monadic configuration depending on whether it takes a specifier and a complement or just a complement, respectively. This configurational distinction influences the event structural interpretation of predicates, with the dyadic configuration yielding stativity and the monadic configuration giving rise to eventivity. To support this proposal, I consider the patterns of cross-linguistic variation associated with Talmy's typology, which classifies languages as verb-framed or satellite-framed based on whether the expression of result in predicates denoting events of change must be realized in the verb or can also be conveyed by a satellite. The typology is argued to follow from a Phonological Form requirement on the head α of verb-framed languages, which must form a complex head with the head of its complement. I show that the effects of this requirement on the head α in verb-framed languages extend beyond the domain of resultative predicates, supporting the proposal that α lies at

the base of syntactic argument structures and that a specific functional head for encoding result is not necessary. Afterward, I show that verb roots tend to resist lexical classifications aimed at dictating their positions in the argument structures of predicates, substantiating the neo-constructionist view of roots as syntactically inert elements and aligning with the claim that event structural notions arise from the postsyntactic interpretation of argument structure configurations.

Catalan

Aquesta tesi explora els processos subjacents a la composició, interpretació i externalització dels predicats verbals, adoptant un punt de vista neo-construccionista. L'objectiu central és proporcionar evidència a favor d'una teoria de l'estructura argumental en què les diferents interpretacions semàntiques dels predicats, en termes d'estativitat vs. eventivitat i propietats aspectuals internes, es poden llegir exclusivament a partir de la configuració sintàctica, sense recórrer a trets semàntics específics de nuclis funcionals o a propietats lèxiques gramaticalment rellevants de les arrels verbals. Proposo que l'estructura argumental dels predicats es basa en un únic nucli funcional semànticament buit, α , que genera una configuració diàdica o monàdica depenent de si pren un especificador i un complement o només un complement, respectivament. Aquesta distinció configuracional influeix en la interpretació de l'estructura esdevenimental dels predicats: la configuració diàdica dona lloc a estativitat i la configuració monàdica dona lloc a eventivitat. Per donar suport a aquesta proposta, considero els patrons de variació translingüística associats amb la tipologia de Talmy, que classifica les llengües com a llengües d'emmarcament en el verb o llengües d'emmarcament en el satèl·lit segons si l'expressió del resultat en predicats que denoten esdeveniments de canvi ha de ser realitzada en el verb o també pot ser transmesa per un satèl·lit. Argumento que la tipologia es deriva d'un requisit de Forma Fonològica sobre el nucli α de les llengües d'emmarcament en el verb, que ha de formar un nucli complex amb el nucli del seu complement. Mostro que els efectes d'aquest requisit sobre el nucli α en les llengües d'emmarcament en el verb s'estenen més enllà del domini dels predicats resultatius, fet que dona suport a la proposta que α es troba a la base de les estructures argumentals sintàctiques i

que no és necessari un nucli funcional específic per codificar la noció de resultat. Finalment, mostro que les arrels verbals tendeixen a resistir classificacions lèxiques que dicten les seves posicions en les estructures argumentals dels predicats, fet que dona suport a la visió neo-construccionista de les arrels com a elements sintàcticament inerts i també a la idea que les nocions d'estructura esdevenimental sorgeixen de la interpretació postsintàctica de les configuracions d'estructura argumental.

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List of abbreviations

1, 2, 3	1st, 2nd, 3rd person
ABL	ablative
ACC	accusative
AGR	agreement
AUX	auxiliary
c-selection	categorial selection
CLASS	classifier
COCA	Corpus of Contemporary American English
COND	conditional
CORIS	Corpus di Riferimento dell'Italiano Scritto
CORPES XXI	Corpus del Español del Siglo XXI
DAT	dative
DELIM	delimitative
DIM	diminutive
DIST	distributive
DM	Distributed Morphology
E-language	External language
E-Merge	External Merge
EXT	external
F	feminine
FUT	future
GER	gerund
GenHM	Generalized Head Movement

I-language	Internal language
I-Merge	Internal Merge
IMPRS	impersonal
INF	infinitive
INS	instrumental
INT	internal
IPFV	imperfective
LF	Logical Form
LOC	locative
M	masculine
N	neuter
NEG	negation
NOM	nominative
PART	partitive
PASS	passive
PFV	perfective
PF	Phonological Form
PL	plural
POSS	possessive
PRF	perfect
PRS	present
PST	past
PTCP	participle
REFL	reflexive
s-selection	semantic selection
SBJV	subjunctive
SG	singular
SI	secondary imperfective
TCP	The Compounding Parameter
TH	theme vowel
UG	Universal Grammar

Chapter 1

Introduction and theoretical assumptions

1.1 Outline of the thesis

This thesis investigates the syntactic processes involved in the arising of verbal predicates, in a cross-linguistic perspective. I aim to provide evidence in favor of a neo-constructionist approach to argument structure, whereby predicates arise from the semantic interpretation of syntactic structures that are built by the computational system of the language faculty independently of semantic properties of individual lexical items. According to this perspective, lexical items do not contain any grammatically relevant information regarding their syntactic realization (Acedo-Matellán 2016; Borer 2005a,b; Marantz 2001; Mateu & Acedo-Matellán 2012; McIntyre 2004, among others). This view is opposed by theories adopting a lexico-semantic approach to argument structure (Levin 1993; Levin & Rappaport Hovav 1995; Pinker 1989; Rappaport Hovav & Levin 1998, among others), according to which the lexical meaning of verbs is based on a limited repertory of innate semantic concepts (e.g., semantic predicates such as ACT, CAUSE, BECOME) which determine the syntactic realization of lexical items as well as the event structure of the predicate they appear in (that is to say, whether the event denoted by the predicate is an activity, a state, or a transition into a state; see Bach 1986; Dowty 1979; Pustejovsky 1991; Vendler 1967, among others). I defend

the hypothesis that argument structure configurations are the exclusive result of syntactic structure-building processes and that different types of event structure consist in the semantic interpretation of different argument structure configurations. Specifically, I argue that:

1. semantic predicates of the type considered to be at the base of event templates by the lexico-semantic approach are not primitives of the human faculty of language and do not receive a syntactic representation by means of specialised functional heads; rather, they exclusively consist in the semantic interpretation of specific structural configurations that are produced by syntax based on a single, semantically vacuous functional head;
2. roots, understood as abstract morphemes that integrate semantic predicates with syntactically atomic conceptual content related to world knowledge, are coerced into a particular interpretation by the position they occupy in the syntactic argument structure and are not pre-syntactically specified for associating with a given semantic predicate.

In Chapter 2 I lay out the two contrasting perspectives on argument structure and event structure which will be evaluated in this thesis, namely the lexicalist view and the neo-constructionist view. The proposition in 1. is explored theoretically and empirically in Chapter 3 and Chapter 4, respectively. In Chapter 3, I develop a configurational theory of argument structure. I start from Déchaine's (1996) and Suzuki's (1997; 1999; 2005) claim that the syntactic configuration in which a head takes both a complement and a specifier is to be strictly associated with stativity, while the configuration in which a head only takes a complement is to be strictly associated with eventivity. I argue that this claim is supported by Maienborn's (2007; 2019) distinction between Kimian states and Davidsonian events: a dyadic configuration gives rise to Kimian states, while a monadic configuration gives rise to Davidsonian events. Assuming a minimalist model of grammar, declined through the theory of Distributed Morphology (Halle & Marantz 1993, 1994), I propose that the functional head involved in the configurational distinction between Kimian states and Davidsonian events consists of the most minimal

bundle of features found in the Narrow Lexicon, minimally comprising the [edge] feature required to take part to Merge operations in syntax (see Boeckx 2014a). The semantic contribution of this head, pre-syntactically, is thus totally null, and any semantic interpretation (e.g., flavors like ‘do’, ‘cause’, ‘be’, or ‘become’) is acquired configurationally. This head, henceforth labeled as α , is understood to be at the base of the different argument structure configurations made possible by syntax. Structures headed by α give rise to predications that may be associated with an ACT, CAUSE, BECOME, or BE semantic predicate, depending on the syntactic configuration. Additionally, I argue for a configurational account of so-called hyponymous object constructions (i.e. examples like *They danced a Sligo jig*, where the direct object is understood in a relation of hyponymy with the verb’s root; see Gallego 2012; Hale & Keyser 1997b, 2002; Haugen 2009; Real-Puigdollers 2013, among others) and of the semantic distinction between agent and causer external arguments, building on considerations in Folli & Harley (2007, 2008).

In Chapter 4 I provide support to the theoretical model of argument structure put forth in Chapter 3, considering Talmy’s (2000b) typology of directed motion and change-of-state expressions. Talmy’s typology classifies languages into *verb-framed* and *satellite-framed*, based on how the transition (or ‘Path’) component of events of change is expressed: verb-framed languages encode the transition in the main verb, while satellite-framed languages tend to encode it in a non-verbal element, leaving the main verb free to express a co-event that specifies, for instance, the manner in which the event of change takes place. Many existing accounts of Talmy’s typology within the neo-constructionist approach attribute the distinction between verb-framed languages and satellite-framed languages to the formal morpho-syntactic properties of a specific functional head, alternatively referred to as Path or Result (Res) (see, e.g., Acedo-Matellán 2010, 2016; Folli & Harley 2020), which is assumed to be responsible for the introduction of the semantics of transition and result (traditionally associated with the BECOME semantic predicate) in predicates denoting events of change. This head, in verb-framed languages, is required to form a complex head with the verbal (v) head that c-commands it, blocking the expression of a co-event in the verb. In the model of argument structure proposed in this thesis, there is no functional head specialized for the introduction

of the semantics of transition and result in predicates involving BECOME. This is because all argument structure types arise from different configurations based on the same semantically vacuous functional head, α . In order to derive the effects of Talmy's typology, the requirement can thus only be attributed to α . I propose that, in verb-framed languages, α is required to form a complex head with the head of its complement. This not only derives the effects of Talmy's typology in the domain of predicates denoting events of change, but it also makes the non-trivial prediction that these effects are found beyond the domain of such predicates. With the help of native speakers and by means of corpus searches, I test this prediction by analyzing the availability of predicates denoting events of creation/consumption in which the main verb expresses a co-event in several satellite-framed languages and verb-framed languages (the results gathered are provided in the [Appendix](#)). The results show that variation related to Talmy's typology also arises in the domain of creation/consumption predicates, confirming the prediction. I further propose a revision of the typology with respect to the class of so-called 'weak satellite-framed languages', which are generally regarded in the literature on Talmy's typology as a type of satellite-framed languages. In weak satellite-framed languages, the verb in resultative predicates can denote a co-event, but the morpheme expressing the result component must form a prosodic word with the verb ([Acedo-Matellán 2010, 2016](#)). Based on the account of Talmy's typology defended, I argue that languages of this type are fundamentally verb-framed languages in which the requirement on the head α , which must form a complex head with the head of its complement, is satisfied in the domain of resultative predicates by means of result-denoting verbal prefixes, leaving the verb free to express a co-event. The data gathered on creation/consumption predicates from some weak satellite-framed Slavic languages (namely Russian, Ukrainian, Polish, Slovak, Serbian, and Croatian) provide empirical support to the analysis, since they show that languages of this type behave like verb-framed languages in disallowing unprefixed predicates of creation/consumption in which the verb expresses a co-event. Further support to this conclusion comes from Latin, another weak satellite-framed language ([Acedo-Matellán 2010, 2016](#)). A corpus search conducted on the *Classical Latin Texts* corpus (from The Packard Humanities Institute), regarding the co-occurrence of a series

of verbs and direct objects that give rise to satellite-framed creation predicates in English, has provided no relevant results of creation predicates of this type in Latin.

The proposition in 2. is explored in Chapter 5. The claim that roots are devoid of semantic properties that determine their realization in linguistic predicates is a cornerstone of the neo-constructionist approach (Acedo-Matellán 2016; Borer 2005b; Harley 2005; Mateu 2002; Mateu & Acedo-Matellán 2012, among others). In this chapter, I consider a morphosyntactic approach to Talmy's typology in order to provide empirical support to this perspective on roots. A morphosyntactic approach to Talmy's typology is relevant for the investigation of 2., because it provides a classification of languages which involves a purely configurational notion of manner and result (Mateu & Acedo-Matellán 2012). These components of meaning, in the lexicalist approach, are traditionally associated with the function of modifier of the ACT primitive semantic predicate and the function of argument of the BECOME primitive semantic predicate, respectively (see Rappaport Hovav & Levin 1998), and they are argued to be relevant for the determination of the types of argument structure and event structure that roots can appear in (Rappaport Hovav & Levin 2010). I provide support to 2. by analyzing some verb-particle constructions of Italian whose verbs denote activities (hence, according to Rappaport Hovav & Levin 2010, they provides a manner component) if taken out of the construction, but are argued to acquire a resultative reading when they occur with some non-referential spatial particles. Afterward, I discuss some constructions of English whose verbs specify a manner co-event in the context of the predicate, even though they are considered as result verbs according to the lexicalist approach.

In the remainder of this chapter, I make a general introduction to the model of grammar assumed in this thesis and provide an overview of the theoretical tools that I employ in the following chapters.

1.2 Model of grammar

1.2.1 The generative perspective

The research presented in this thesis falls within the generative paradigm for the study of human language and is, essentially, a study of the nature of the processes involved in the building of verbal expressions. As such, it hopes to contribute to the effort of determining a formal characterization of what a possible human language is, which is the primary goal of the generative theory. According to generativism, at the basis of natural languages is a genetic endowment universally shared by human beings. This endowment provides humans with the so-called ‘Language Faculty’, which – in its narrow conception (Hauser, Chomsky & Fitch 2002) – can be defined as the innate cognitive capacity to acquire and produce natural language. Fundamental, in this respect, is the distinction between ‘Internal language’ and ‘External language’ (henceforth, I-language and E-language, respectively), first introduced in Chomsky (1986). Characterized as intensional and individual, I-language consists of the mentally represented, subconscious knowledge that a native speaker has of their language, along with the innate capacity to generate linguistic structures. In contrast, E-language consists of the shared linguistic habits of a community and represents the actual usage of language in communication. The generative enterprise posits the focus of linguistic research on the nature and acquisition of I-language, which is the output of the Language Faculty.¹ This marks a turning point in the history of the study of human language, which has always been mostly concerned with a conception of language as a social function.

With the postulation of the Language Faculty providing a biological foundation for language, the hypothesis has been advanced that there exists a Universal Grammar (UG) where a series of general principles that are present in all natural

¹The linguistic data dealt with in this thesis are, accordingly, treated as manifestations of I-language. Relatedly, entities like ‘Italian’, ‘Catalan’ or ‘English’ etc., when referred to, are really intended as cases where a significant overlap exists between the I-languages of different speakers, and nothing more than that.

languages and encoded in the human brain are specified. A crucial factor in support of the UG hypothesis comes from what is known as ‘Plato’s problem’ (Chomsky 1986), which is the problem of explaining how children are able to acquire their native language without explicit instruction and given the limited linguistic data they are exposed to. The hypothesis that the Language Faculty is determined by UG has been argued to provide a possible account of Plato’s problem, since children, according to this hypothesis, are equipped with a series of inborn rules that naturally pave the way for the acquisition of language.²

In addition to providing an answer to Plato’s problem, the UG hypothesis is further faced with the challenge of addressing the existence of linguistic variation. It is a matter of fact that the Language Faculty manifests itself in a wide variety of ways, giving rise to languages. A theory of UG must be equipped (or, at least, be compatible) with a way to explain why this variation is possible and what are the constraints that regulate it, what has been referred to as ‘Greenberg’s problem’ (Fasanella 2011, 2014). The problem concerns the determination of the amount of (under)specification of the principles of UG: as Rigau (1989) effectively summarized, UG principles must be at the same time restrictive enough to account for the general properties of language acquisition, and permissive enough to allow for the emergence of linguistic variation. A unifying answer to both Plato’s and Greenberg’s problems within the generative tradition is provided by the ‘Principles and Parameters’ theory (Baker 2001; Belletti & Rizzi 1996; Chomsky 1981, 1986; Chomsky & Lasnik 1993, among others). As its core hypothesis, this theory postulates that certain principles of UG allow for multiple possible ways of being satisfied. Principles of this type, referred to as ‘parameters’, are set in a particular way by children acquiring their native language, based on the empirical evidence coming from their linguistic environment. Under this view, particular languages arise

²The UG hypothesis further squares nicely with a series of properties of language acquisition, all converging toward the idea that natural language cannot be understood just as a social function. Among these are the fact that language is a phenomenon peculiar to the human species and independent of the individual’s level of intelligence, that it is a spontaneous and unconscious process, and that it appears to happen through phases which are uniform across speakers, regardless of the inherent complexity of the grammar of the language being acquired.

as a consequence of different ways of setting the parameters of UG. The idea is effectively outlined in the following passage from [Chomsky \(2000\)](#).

We can think of the initial state of the faculty of language as a fixed network connected to a switch box; the network is constituted of the principles of language, while the switches are the options to be determined by experience. When the switches are set one way, we have Swahili; when they are set another way, we have Japanese. Each possible human language is identified as a particular setting of the switches – a setting of parameters, in technical terminology.

[Chomsky \(2000: 8\)](#)

Over the years, research within Principles and Parameters has brought to the formulation of an increasing number of parameters of UG, to the point of leading some people to question the actual reliability of this explanatory hypothesis of the Language Faculty; an unrestricted enrichment of UG, through the constant spread of new parameters, undermines the plausibility of the hypothesis that UG is hard-wired in the human brain.³

1.2.2 The Minimalist Program

A substantial revision and development of the Principles and Parameters theory took place with the advent of the Minimalist Program ([Chomsky 1993, 1995](#)), which argues for a simplification of the theory in light of general principles of methodological and linguistic economy. Linguistic minimalism takes as its driving idea the hypothesis that some properties of natural languages are determined by requirements imposed by systems that are external to the Language Faculty. In particular, the Language Faculty is argued to consist only of what is strictly necessary in order to meet the requirements imposed at two distinct interfaces: the Logical Form (LF) interface with the conceptual-intentional system, where the linguistic structures receive a semantic interpretation, and the Phonological Form (PF) interface

³Critics of the theory (see, e.g., [Haspelmath 2008](#); [Newmeyer 2004, 2008](#), among others) further note, for instance, that some principles and parameters also have a functional explanation available, that the proposed parameters are often too intra-theoretically defined, and that they are the result of investigating a single language family, without confirming evidence from other families.

with the articulatory-perceptual system, where the linguistic structures are given a phonetic representation. The LF and PF interfaces mediate between the abstract representations generated by the syntactic component, which stands at the core of the Language Faculty as the only generative component, and the physical and conceptual dimensions of language, respectively.

Minimally, the Language Faculty is taken to include a lexicon and a syntactic component (Brucart, Gavarró & Solà 2009): that is to say, a set of units and a way to recursively assemble them into structures that are legible at the interfaces. The operation responsible for the creation of these structures, Merge, is assumed to proceed in a binary fashion: it combines two objects to form a new, structurally more complex one.⁴ The elements manipulated by Merge can either be simplex units selected from the lexicon, or structures that are the output of previous Merge operations. When a unit from the lexicon is added to the derivation, an operation of External Merge (E-Merge) takes place. If one of the elements that undergo Merge is a subconstituent of the other, the operation is referred to as Internal Merge (I-Merge).⁵ The basic architecture of the Language Faculty emerging from this system, and adopted in the present thesis, is sketched out in Figure 1.⁶

⁴Merge substitutes X-bar Theory (Chomsky 1970; Jackendoff 1977) as the mechanism responsible for the building of linguistic structures. According to X-bar Theory, every phrase is the result of a head (X^0) projecting an intermediate one-bar projection (X') and a maximal two-bar projection ($X'' = XP$). In minimalist terms, bar levels are no longer seen as primitives of the system but rather surface as relational properties of phrases, whereby there can be phrases that do not comprise any intermediate level of structure as well as phrases that comprise more than one.

⁵I-Merge is, in fact, a reformulation of the 'Move α ' operation involved in processes of syntactic displacement according to previous generative approaches (e.g., the Government and Binding framework; Chomsky 1981, 1982; Lasnik & Saito 1984, among others), rethought in accordance with the general guidelines of methodological and linguistic economy followed in minimalism. Contrary to Move α , I-merge is not conceived of as a movement operation leaving traces, but rather as a copy operation followed by re-merge with the existing structure and coupled with the instruction to not pronounce the lower instance of the copied element. I-Merge is assumed to take place only if required for the formation of a fully interpretable phrase at the interfaces.

⁶According to mainstream minimalism, the processes schematized in Figure 1 do not apply once for the derivation of an entire sentence, but cyclically, to specific parts of it named 'phases' (Chomsky 2001), which are triggered by the merging of specific heads from the lexicon. Each

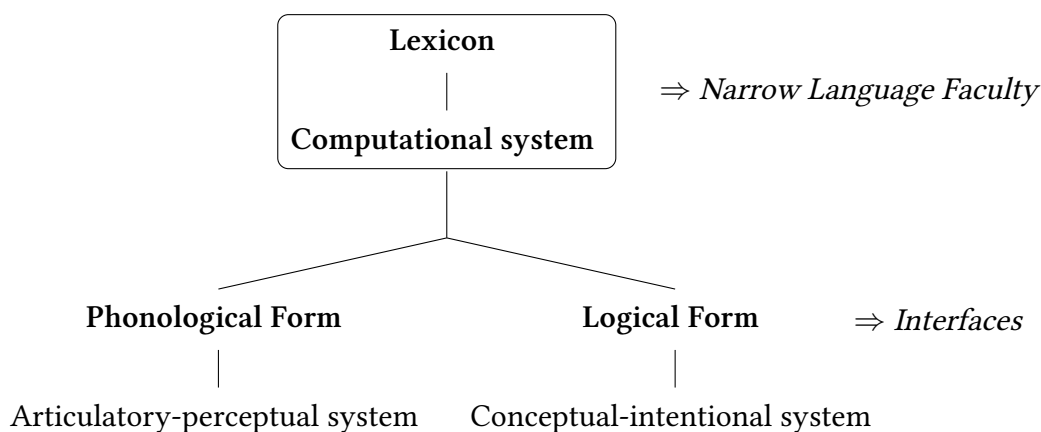


Figure 1: Model of grammar in the Minimalist Program (simplified)

Research in the Minimalist Program generally assumes that Merge is invariant across languages.⁷ The source of linguistic variation must thus be located outside the computational system, either in the lexicon (the component of the Language Faculty that requires explicit learning; Baker 1996, 2001; Borer 1984; Chomsky 1995) or at the interfaces. The former hypothesis, known as the ‘Borer-Chomsky Conjecture’ (Baker 2008), argues that “[a]ll parameters of variation are attributable to differences in features of particular items (e.g., the functional heads) in the lexicon” (Baker 2008: 353). This hypothesis preserves the core idea of the Principles and Parameters theory, whereby linguistic variation arises within the Language Faculty itself; lexical items can be equipped with instructions that constrain their syntactic behavior, whereby some syntactic constructions that are available in a given

time the information processed in the syntactic component is sent to the interfaces, a ‘Spell-Out’ operation takes place, and the chunk of structure transferred to the interfaces becomes inaccessible to further syntactic operations (a phenomenon referred to as ‘Phase Impenetrability Condition’).

⁷The hypothesis that the computational system is not a source of linguistic variation leads to a general simplification of this system. This is a welcome result, assuming that the computational system constitutes the core of the Language Faculty, because it makes its emergence more plausible in evolutionary terms. See, e.g., Berwick (2011) for the proposal that Merge is what really distinguishes humans from other species with respect to the Language Faculty, the conceptual-intentional system and (possibly) a lexical component being found in other primates as well. See, however, Jackendoff (2011) for the claim that other primates do have combinatorial concepts, but lack a way to externalize them.

language may not be licensed in another language. The latter hypothesis has been argued to be more in line with minimalist desiderata, as it locates linguistic variation entirely outside of the (narrow) Language Faculty (see, e.g., Boeckx 2014b). In this view, variation is conceived of as the result of post-syntactic, interface requirements that filter the output of the computational system in language-specific or morpheme-specific ways.

The cross-linguistic variation dealt with in this thesis is seen in a hybrid perspective. While I assume that some variation arises from differences in features of lexical items, I also assume that the relevant features for the emergence of variation pertain solely to the morphophonological realization of morphemes. These features only become relevant once the morpheme is at the PF interface and, therefore, do not affect the syntactic computation. In the next section, I lay out the model of the PF interface adopted in this thesis, which is based on the architecture of grammar proposed in the framework of Distributed Morphology.

1.3 Distributed Morphology

The theory of Distributed Morphology (DM), developed in Halle & Marantz (1993, 1994) building on work in Halle (1990, 1992, 1994) (see Harley & Noyer 2003; Embick & Noyer 2007 for overviews), provides a top-to-bottom model of grammar within a minimalist conception. Pursuing the minimalist assumption that syntax is the only generative component of the Language Faculty, the theory is built on the core idea that all complex objects, either word-like or phrase-like, are syntactic in nature, whereby both word-building processes and sentence-building processes involve operations carried out by the computational system.⁸

In DM, traditional lexical items are split into three components: one feeding the syntactic computation, one involved in phonological processes, and one concerned with non-compositional conceptual meaning. Each of these components belongs

⁸See, e.g., Oltra-Massuet (2010, 2014) for empirical arguments from Spanish supporting the DM view that words are built via syntactic processes. Oltra-Massuet (2010, 2014) showed that some Spanish words featuring the adjectival suffix *-ble* are only possible within a specific construction, labeled *V todo lo Vble* by Oltra-Massuet, as illustrated by the contrast in (i) below.

to one of three distinct lists, provided below.

- (1) *The three lists of DM*⁹
- a. *Narrow Lexicon (List 1)*, containing roots and bundles of abstract features that function as the input to the structure building processes performed by the computational system;
 - b. *Vocabulary (List 2)*, containing *Vocabulary Items*, i.e. rules that provide phonological content to the abstract morphemes, often in a way that is sensitive to the contextual syntactic environment;
 - c. *Encyclopedia (List 3)*, containing *Encyclopedia Entries*, i.e. rules of correspondence between roots and truth-conditions based on real-world knowledge, occasionally sensitive to the contextual syntactic environment.

Each of the three lists in (1) is relevant to one of the three branches that make up the ‘inverted Y’ model of grammar depicted in Figure 1, in a one to one correspondence. Put together, the pieces of information from these three lists compose the form-meaning pairings corresponding to the traditional notion of ‘morpheme’.

- (i) *Spanish; Oltra-Massuet (2014: 166)*
- a. *una siesta dormible
a siesta sleep.BLE
 - b. Luis quería dormir todo lo dormible.
Luis want.IPFV.PST.3SG sleep.INF all LO sleep.BLE
‘Luis wanted to sleep as much as one can sleep.’

Oltra-Massuet noted that contrasts of this kind are problematic for theories of word-formation where new derived words must only respect internal requirements lexically stored with their base. In contrast, they can be accounted for (and, to an extent, expected) if words are built in the computational system and subsequently interpreted at PF and LF based on the syntactic context.

⁹Based on Marantz (1997: 203-204); Harley (2014: 228); Acedo-Matellán (2016: 28).

1.3.1 The Narrow Lexicon

The Narrow Lexicon is the first list accessed during the derivation. This list provides the computational system with the basic building blocks to operate with. These belong to two categories: roots and functional morphemes. Together, these two categories form the class of so-called ‘abstract morphemes’, thus named as they are elements lacking an inherent phonological representation.¹⁰

1.3.1.1 Functional morphemes

Functional morphemes are bundles of syntacticosemantic (henceforth *synsem*, following Embick 2015) features that enter the computational system as atomic units, aligning in this with the traditional concept of functional heads.¹¹ Synsem features

¹⁰Whether roots have an inherent phonological signature in the Narrow Lexicon or not is subject to debate. Following considerations in Harley (2014), I assume that roots form part of the class of abstract morphemes and receive a phonological representation in the course of the derivation, at the PF interface. I discuss the evidence provided by Harley (2014) in §1.3.1.2.

¹¹The existence of pre-syntactic bundles of features has been seen as problematic for the claim that syntax is the only generative component of grammar (Starke 2010, in Acedo-Matellán 2016). Indeed, Marantz (1997: 203) argued that “[s]ince these sets [feature bundles: AB] are freely formed, subject to principles of formation, List 1 is “generative””. The validity of this criticism and of Marantz’s conclusion, however, can be questioned. There seems to be a crucial distinction between the feature bundles found in the Narrow Lexicon and the structures produced by the computational system, as far as their internal organization is concerned. While the latter are hierarchical structures produced by the iteration of a binary Merge operation yielding ordered pairs (De Belder & van Craenenbroeck 2015; Zwart 2011, among others), the existence of sub-morphemic feature hierarchies is subject to debate (see, e.g., Harbour 2010). Assuming, in the absence of compelling evidence to the contrary, that feature bundles are not internally organized in a hierarchical manner, the mechanism responsible for their formation is hardly to be considered as a peculiarity of the human species in the way Merge is argued to be. For example, it can be understood as the general cognitive ability, shared with other species, to discriminate and organize quantities of relative sizes by number sense, a phenomenon lacking the key ingredients needed to qualify as ‘generative’ in the linguistic sense. Additionally, it is noteworthy that so-called function words, which are the words based on functional morphemes according to DM, are notoriously more resistant to phenomena of cross-linguistic borrowing than lexical words (DM’s roots), suggesting that the formation of feature bundles in the Narrow Lexicon may not occur as ‘freely’ as previously claimed (and definitely not as freely as Merge does).

form a universal inventory comprising elements encoding grammatical information related to, for instance, tense (such as, e.g., [\pm past]), number (e.g., [\pm pl]), definiteness (e.g., [\pm def]), negation (e.g., [\pm neg]), and so on.¹² While individual features are taken to be universal, the way in which features appear grouped into bundles can be language-specific. As an example, let us consider the synsem features corresponding to the 1st person plural pronoun in English and Mandarin Chinese, as discussed in Embick (2015). This pronoun can be argued to consist (at least) of a person feature, [+1], and a number feature, [+pl].¹³ While in English these features appeared grouped in a single bundle, which therefore receives a ‘synthetic’ expression (*we*), in Mandarin Chinese the person feature and the number feature appear separated in two distinct morphemes. Thus, an ‘analytic’ expression arises, in which the two features receive an independent phonological realization (*wǒ-men*). The fact that *-men* corresponds to the realization of the [+pl] feature in Mandarin Chinese is made clearer by looking at all the cells of the paradigm.

(2) *Mandarin Chinese personal pronouns; based on Chappell (1996: 471)*

wǒ	(1st person singular)
nǐ	(2nd person singular)
tā	(3rd person singular)
wǒ-men	(1st person plural)
nǐ-men	(2nd person plural)
tā-men	(3rd person plural)

We can thus conclude that the 1st person plural pronoun is realized by a single functional morpheme in English and by two distinct functional morphemes in Chinese, as depicted below.

¹²Defining the exact nature of features, as well as the criteria for what counts as a possible or impossible one, is a matter of ongoing research. See Adger (2003); Adger & Svenonius (2011); Kibort & Corbett (2010); Svenonius (2021), for some attempts in this regard.

¹³Case features are ignored for ease of exposition. According to some authors (e.g., Halle 1997; McFadden 2004), case features are inserted at PF.

(3) *1st person plural pronoun (abstract morphemes)*a. *English*[+1,+pl] \Rightarrow *we*b. *Mandarin Chinese*[+1] \Rightarrow *wǒ*[+pl] \Rightarrow *men*

Resuming the discussion in §1.2.2, the question arises as to where the burden of cross-linguistic variation should be placed. At first glance, saying that feature bundles can be language-specific might seem to imply that there is an amount of variation in the Narrow Lexicon that can affect the range of possible syntactic structures in a given language. However, it is important to note that, given the absence of direct evidence of the internal structure of abstract morphemes, this conclusion cannot be warranted. In the theoretical model assumed in this thesis, feature bundles correspond to combinations of features that can be pronounced according to the Vocabulary of a particular language: indeed, these are the only feature bundles whose existence can be empirically supported. In this perspective, the only limitations giving rise to cross-linguistic variation that are verifiable are those due to requirements of the items that make up the Vocabulary, at the PF interface. In contrast, nothing can legitimately be concluded about the absence of non-attested feature bundles in the Narrow Lexicon of a given language. For instance, to consider the specific case illustrated above, one cannot conclude, based on the paradigm in (2), that the feature bundle [+1,+pl] does not exist in the Narrow Lexicon of a native speaker of Mandarin Chinese. The only conclusion that one is allowed to take is that there is not a way to provide such an abstract morpheme with phonological content in Chinese. In other words, there is no Vocabulary Item in Chinese capable of providing phonological content to [+1,+pl]. Ultimately, the difference between English and Chinese in the expression of the 1st person plural pronoun must thus be understood as a case of variation at the PF interface. I deal with the matter of how abstract morphemes are given a phonological representation by means of a Vocabulary Item in §1.3.2.2.

1.3.1.2 *Roots*

Roots are atomic units that lack any synsem feature. These elements are at the base of what are typically spoken of as the ‘lexical words’, which form the open-class vocabulary of words endowed with a conceptual, non-grammatically relevant meaning related to world knowledge. Roots are taken to be syntactically inert, a fact which led a number of researchers to argue that they are not part of the Narrow Lexicon and that they are inserted after Spell-Out, along with Vocabulary Items (a phenomenon referred to as ‘Late insertion’; see, e.g., [Acedo-Matellán & Real-Puigdollers 2014, 2019](#); [De Belder 2011](#); [De Belder & van Craenenbroeck 2015](#); [Marantz 1995](#)). In this thesis, following considerations in [Acedo-Matellán \(2016\)](#); [Embick \(2000\)](#); [Harley \(2014\)](#) (see also [Acquaviva 2009](#); [Pfau 2009](#)), I assume that roots are ‘early inserted’ in the syntactic derivation, whereby they form part of the Narrow Lexicon along with abstract morphemes. A theoretical argument against the late insertion of roots is made in [Acedo-Matellán \(2016\)](#), where it is noted that such a hypothesis is incompatible with the inverted Y model of grammar pursued in minimalism: if roots are inserted after Spell-Out, the LF and PF interfaces would have to be connected in order for the semantic component to assign an interpretation to the forms selected by the phonological component. Empirical reasons for the early insertion of roots are discussed in [Harley \(2014\)](#). Partly drawing on work by [Aronoff \(1976, 2007\)](#); [Veselinova \(2003, 2006\)](#), [Harley \(2014\)](#) provided cross-linguistic evidence of cases in which the phonological realization of roots is sensitive to the morphosyntactic context of insertion (a phenomenon referred to as root suppletion), as shown in (4) with examples from the Uto-Aztecan language Hiaki. Additionally, she provides evidence of cases in which the semantic interpretation of roots is affected by their morphosyntactic context, as in the case of so-called *caboodle* roots in English ((5)).¹⁴

¹⁴Throughout the thesis, glosses and translations of linguistic examples in languages other than English, sourced from the literature, might vary from the originals.

(4) *Root suppletion in Hiaki; based on Harley (2014: 234)*

- a. vuite / tenne
run.SG run.PL
- b. siika / saka
go.SG go.PL
- c. weama / rehte
wander.SG wander.PL
- d. kivake / kiime
enter.SG enter.PL
- e. vo'e / to'e
lie.SG lie.PL
- f. weye / kaate
walk.SG walk.PL
- g. mea / sua
kill.SG (object) kill.PL (object)

(5) *Caboodle roots in English; based on Harley (2014: 241)*

- a. kit and **caboodle**
'everything'
- b. run the **gamut**
'includes a whole range'
- c. by **dint** of
'by means of'
- d. in **cahoots**
'conspiring'
- e. **vim** and vigor
'vitality'
- f. high **jinks**
'mischief'

- g. **kith** and kin
'friends and relations'

While each of these two pieces of evidence might individually suggest that roots are late inserted (in the PF or LF component, respectively), the fact that both phenomena are attested can only be explained if roots are individuated prior to Spell-Out, whereby both their LF interpretation and their PF realization can potentially be sensitive to the syntactic context. Harley (2014) proposed that roots are listed in the Narrow Lexicon in the form of abstract indexes (represented, following Acquaviva 2009; Pfau 2000, 2009, as numerical addresses like '279', '322', '2588' etc.) that act as a connection between a set of rules in List 2 and a set of rules in List 3.¹⁵ This accounts for the correspondence between specific phonological representations and particular conceptual interpretations of roots within a given context, meanwhile preserving a model of grammar where the PF and LF interfaces constitute independent branches of the derivation after Spell-Out. In this work, I adopt the solution put forth in Harley (2014). However, for ease of exposition, I follow Acedo-Matellán (2016) in referring to specific roots by writing their default phonological realization in small capital letters (e.g., ROUND for the root associated with the exponent *round*).¹⁶

Roots must be assigned a category in order to be interpreted, an assumption known as 'Categorization Assumption' (Embick & Marantz 2008). In DM, it is generally posited that categorization is achieved through the E-Merge of roots with dedicated category-assigning functional heads (such as *v*, *n*, and *a*, resulting in the formation of verbs, nouns, and adjectives, respectively; Embick & Noyer 2007; Embick & Marantz 2008; Marantz 2001, among others). I depart from DM tenets in this respect and assume that root categorization does not necessarily require the establishing of a sister relation between the root and a feature bundle bearing a

¹⁵For a view of roots as being early inserted in the form of phonological indexes, see Borer (2013); Embick (2015), among others.

¹⁶Verb roots of Romance languages are represented by means of the infinitive form of the verb, for clarity.

specific categorial feature. Rather, I assume that the interpretation of a root as a noun, verb, and so on, depends on the nature of the functional elements merged in the structure above it (see considerations in Borer 2005a: 20-21, 28 and 2005b: 13). For example, when certain features related to gender, number, definiteness, or quantification are found in the functional nodes, the root is interpreted as a noun. Similarly, features related to aspect or tense in the feature bundles c-commanding the root lead to its interpretation as a verb. In this view, categorization in principle obtains also if some category-neutral functional heads (that is to say, feature bundles that are categorially ambiguous between two or more categories) intervene between the root and the relevant functional head in the structure.

1.3.2 Operations at the PF interface

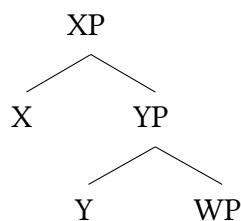
1.3.2.1 Formation of complex heads

Once the computational system has arranged the abstract morphemes selected from the Narrow Lexicon into hierarchical structures, these are transferred to the interfaces, where a series of further operations take place. Some operations at the PF interface are concerned with the dislocation of abstract morphemes, which may appear in positions within the syntactic structure that are different from the one of their E-Merge, forming clusters that are referred to as ‘complex heads’. Movement of abstract morphemes at PF has been hypothesized since Marantz (1984, 1988), who introduced an operation of this kind to account for cases of affixation in which a mismatch appears between the surface position occupied by a morpheme and the position corresponding to its semantic interpretation. Building on Marantz’s work, Embick & Noyer (2001) theorized the PF operation of Lowering, which is responsible for moving a head to the head of its complement.¹⁷

¹⁷Another operation introduced in Embick & Noyer (2001), not commented further here, is referred to as *Local Dislocation*. This operation effects affixation under linear adjacency, after the hierarchical structures provided by the computational system have been linearized. I introduce the operation of Linearization in §1.3.2.2.

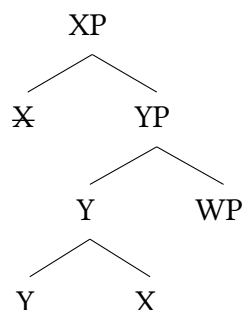
(6) Lowering; based on Embick & Noyer (2001: 561)

Structure at Spell-Out



→

Output of Lowering



Among other things, Lowering is adopted in Embick & Noyer (2001) to account for the affixal realization of inflectional features (T) on English verbs. Except for finite auxiliaries, verbs are pronounced ‘lower’ in the structure in English as opposed to a number of other languages. This is shown by the contrast with French in (7), concerning the relative position of the verb with respect to a modifying adverb. The adverb, assumed to be adjoined in an intermediate position between the verb’s root and T, linearly intervenes between the verb and its subject (in the specifier of TP) in English, but not in French (Emonds 1976, 1978; Pollock 1989).

(7) Pollock (1989: 367)

a. French

Jean embrasse souvent Marie.

Jean kiss.3SG often Marie

‘Jean often kisses Mary.’

b. John often kisses Mary.

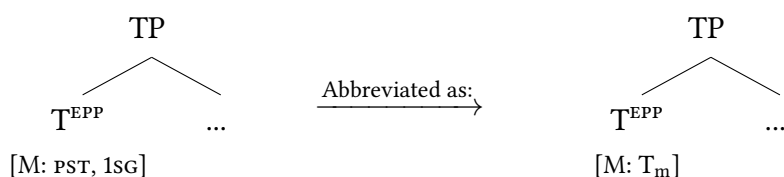
According to Embick & Noyer (2001), the syntactic node corresponding to T in English is lowered to the node *v* at PF, yielding a complex head. Since Lowering operates locally on heads arranged in hierarchical structures, it is not affected by *v*P adjuncts linearly intervening between T and *v*, such as *often* in (7b). The displacement of T to *v* in English is shown more clearly in (8), where the T head is overtly realized as the verbal suffix /ed/.

(8) *Embick & Noyer (2001: 562)*Mary [TP t₁ [vP loudly play-ed₁ the trumpet.]]

Expanding upon *Embick & Noyer (2001)*, *Acedo-Matellán (2016)* introduced a variety of movement at PF, referred to as *Raising*, in which a head is dislocated to the closest head that c-commands it. As noted by *Acedo-Matellán*, this operation can also be applied to cases that are typically assumed to involve syntactic head movement (*Baker 1985, 1988; Koopman 1984; Travis 1984*), ultimately casting doubts about the existence of head movement as an independent operation. Indeed, several works have argued in favor of dissociating head movement from syntax (see, among others, *Boeckx & Stjepanović 2001; Chomsky 2000, 2001* and, more recently, *Harizanov & Gribanova 2019; Kwapiszewski 2022*; cf. *Matushansky 2006; Pesetsky & Torrego 2001; Roberts 2010* for reasons in favor of treating head movement as a syntactic operation). For instance, it has been argued that, as understood in traditional terms, head movement violates the Extension Condition (*Chomsky 1993, 1995*), which bans syntactic operations that do not target the root (i.e. the uppermost node) of the tree. Additionally, there seem to be no interpretive effects related to head movement, a fact which would receive a straightforward explanation if head movement only takes place in the PF side of the derivation, after Spell-Out (*Acedo-Matellán 2016*).

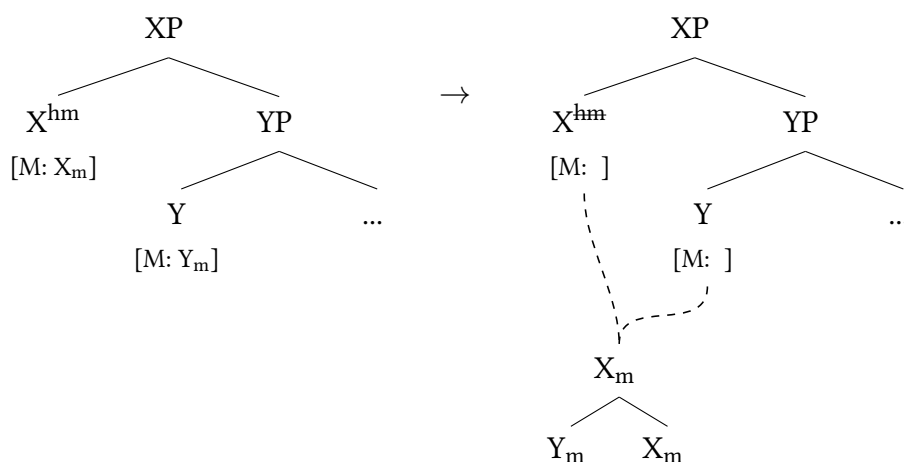
More recently, within the framework of DM, *Arregi & Pietraszko (2021)* devised a theory of head movement which achieves the combined effects of both Lowering and Raising through a single operation, while still respecting the Extension Condition. In order to articulate their theory, termed *Generalized Head Movement* (GenHM), *Arregi & Pietraszko* introduced a distinction between syntactic features (e.g., selection and movement-triggering features, such as the EPP) and morphological features (e.g., tense and ϕ features). In a given abstract morpheme, morphological features are assumed to be bundled together in a value of a larger ‘M-feature’. For instance, for a past tense T head with 1st person singular agreement features and an EPP syntactic feature, *Arregi & Pietraszko* give the following representation, in which the M-value of T can be represented, in an abbreviated form, as T_m.

- (9)
- Arregi & Pietraszko (2021: 243)*



Arregi & Pietraszko (2021) propose the existence of a feature, labeled [hm], which can be argued to be responsible for phenomena that, in previous works, have been analysed as instances of either head movement (or Raising) or Lowering. Specifically, they argue that, when a head with the [hm] feature is introduced in the computation, it is forced to share its M-value with the M-value of the head of its complement, creating a single feature geometry that reflects the hierarchical relation between the two heads established in syntax. Furthermore, they assume that the new feature geometry is shared between the two heads. Once the feature-sharing operation has taken place, the [hm] feature in the higher head is deleted.

- (10)
- Based on Arregi & Pietraszko (2021: 244)*



The procedure is formalized as follows by Arregi & Pietraszko.

- (11) *Generalized Head Movement; Arregi & Pietraszko (2021: 244)*
- a. Structural description: a syntactic object XP such that
 - the head X of XP contains a feature [hm] and an M-value X_m , and

- the head Y of the complement of X contains an M-value Y_m .
- b. Structural change:
 - delete [hm] in X, and

- replace X_m and Y_m with token-identical

$$\begin{array}{c} X_m \\ \diagdown \quad \diagup \\ Y_m \quad X_m \end{array}
 \quad \text{or} \quad
 \begin{array}{c} X_m \\ \diagdown \quad \diagup \\ X_m \quad Y_m \end{array}
 .$$

By assumption, abstract morphemes according to Arregi & Pietraszko can optionally be equipped with a ‘strength’ privative feature (graphically implemented as a * diacritic on the head) which plays a role in the determination of the locus of pronunciation of the complex heads formed by GenHM. By default, a complex head formed by GenHM is pronounced in its syntactic position. However, if one head in the head chain is strong, the complex head formed by the head chain is pronounced in the syntactic position of the strong head. If there is more than one strong head in the head chain, the complex head is pronounced in the position of the highest strong head. The operation is understood in terms of a delinking process (signalled as \times in the syntactic structures) that involves all the heads of the chain except the one in which the complex head is pronounced.

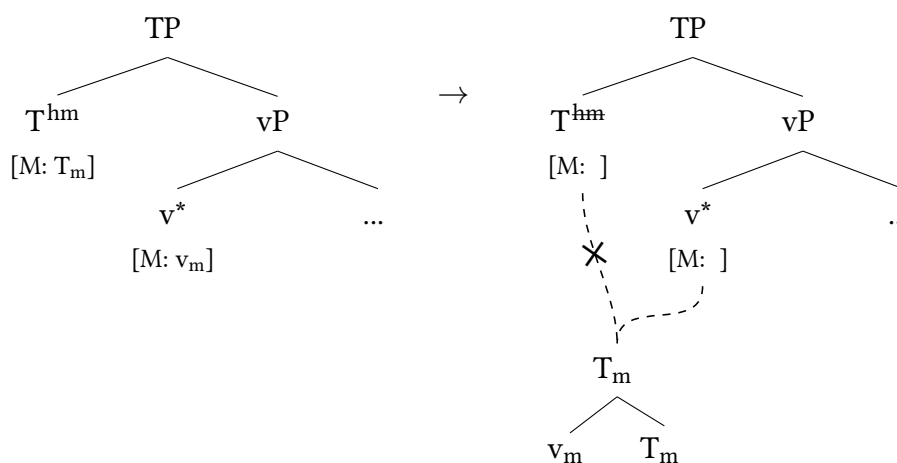
(12) *Head Chain Pronunciation; Arregi & Pietraszko (2021: 246)*

Delink all positions in a head chain except

- a. the highest strong position, if any;
- b. otherwise, the highest position.

As Arregi & Pietraszko (2021) discuss, this makes GenHM capable of accounting for both upward and downward head displacement. For instance, the effect of apparent “lowering” of T to v in English can be accounted for by assuming that, in this language, T bears an [hm] feature while v bears a strength feature. The [hm] feature of T forces this head to share its M-value with the head of its complement, creating a head chain that links T with v. Subsequently, the strength feature of v forces the low pronunciation of the complex head formed by GenHM in the position occupied by v, delinking it from T.

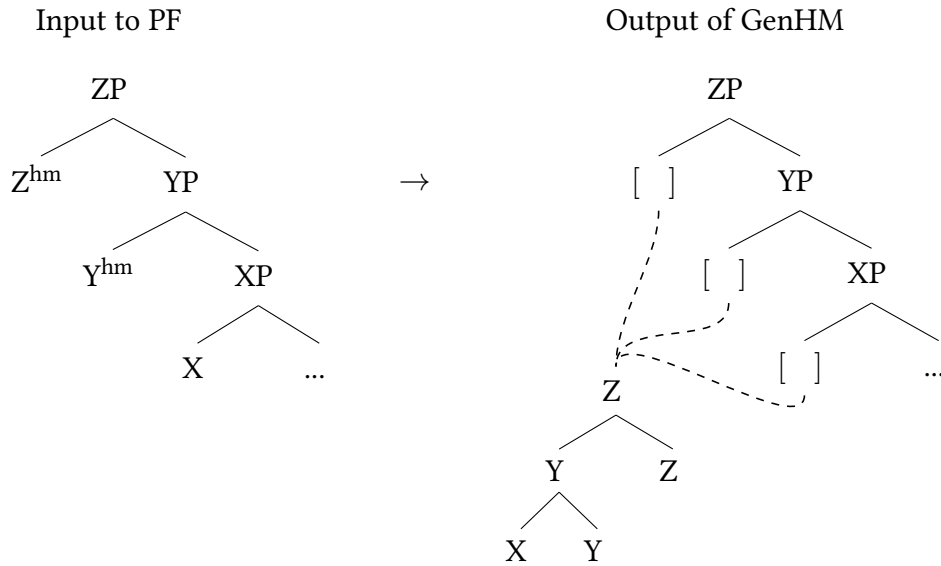
(13) Adapted from *Arregi & Pietraszko (2021: 247)*



The effect of apparent “raising” of *v* to *T* in French can instead be accounted for by assuming that *v* is not strong in French. The complex head formed by the shared *M*-values of *T* and *v* is thus pronounced on *T* and delinked from the position of *v*, as per (12b).

While *Arregi & Pietraszko (2021)* model GenHM as a syntactic operation, they note that its theoretical validity is not contingent on this specific choice and that it can also be understood as occurring at PF. Following a proposal by *Kwapiszewski (2022)*, I adopt a post-syntactic implementation of GenHM, which is understood as operating at PF on the terminal nodes of the hierarchical structures assembled by the computational system. In order to conceive GenHM as a PF operation, it is necessary to minimally tweak *Arregi & Pietraszko’s (2021)* theory. In particular, the [hm] feature, which *Arregi & Pietraszko (2021)* consider as a syntactic feature, must rather be seen as a morphological feature, that applies to the whole *M*-value of a given morpheme. As observed by *Kwapiszewski (2022)*, since syntactic features must be deleted before Spell-Out in order to grant interpretability to the derivation at the interfaces, the only features of an abstract morpheme that remain at PF are morphological. Therefore, once the product of the computational system is shipped to PF, “ $X = X_m$ for every *X*” (*Kwapiszewski 2022: 30*). With these considerations in mind, the representation of GenHM can thus be simplified as follows.

- (14) *PF implementation of GenHM; Kwapiszewski (2022: 30)*



The reanalysis of [hm] as a morphological, rather than syntactic, feature is welcome also because it more accurately reflects the actual role played by this feature in the course of the derivation. Indeed, the computational system never interprets [hm] as an instruction, as [hm] exclusively applies to the M-value of abstract morphemes once they have been assembled in hierarchical structures. This is in contrast to, e.g., features such as EPP, which drives the computational system in that it triggers I-Merge to SpecTP of the closest suitable constituent to T.

1.3.2.2 Linearization and Vocabulary Insertion

List 2, the Vocabulary, is essentially a catalog of phonological representations (also referred to as *exponents*) each of which is paired with an abstract morpheme from the Narrow Lexicon. Each pairing forms a Vocabulary Item. To illustrate, let's consider the English morpheme for 'plural' ([+pl]) as it appears in nouns like *cat-s*. In this noun, [+pl] is realized phonologically as /z/. This means that the English Vocabulary contains a Vocabulary Item in which the following pairing is specified.

- (15) *Embick (2015: 10)*

[+pl] ↔ z

The phonological exponent associated with an abstract morpheme may vary depending on the morphosyntactic context. For instance, the [+pl] abstract morpheme of English, in addition to /z/, can also be realized as /en/ (as in *ox* > *oxen*; *child* > *children*), or be null (as in *moose* > *moose*), depending on the root it relates with. Cases of contextual allomorphy like this one show that there can be more than one Vocabulary Item referring to the same abstract morpheme.

(16) *Vocabulary Items for English plural*; Embick (2015: 172)

- a. [+pl] ↔ en / { OX, CHILD, ... } __
- b. [+pl] ↔ ∅ / { FISH, MOOSE, ... } __
- c. [+pl] ↔ z / elsewhere

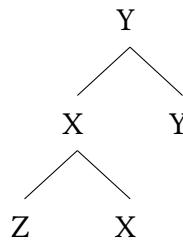
Since the Vocabulary is accessed at PF, once the derivation is shipped from the computational component to the interfaces, Vocabulary Items can be provided with information about the specific morphosyntactic context in which their exponent can appear. For instance, the Vocabulary Item in (16a) specifies that the [+pl] abstract morpheme in English is realized as /en/ in the context of roots such as OX or CHILD, and further that such an exponent must surface to the right of the root (see the position of the placeholder “__” with respect to the root in (16)). If the contextual conditions specified in the Vocabulary Item are met, the assignment of such a Vocabulary Item to the abstract morpheme in the context of the derivation takes place. The mechanism whereby abstract morphemes are assigned a phonological representation is referred to as Vocabulary Insertion.

I assume, following previous works (Acedo-Matellán 2016; Arregi & Nevins 2012; Embick 2010, 2015, among others), that the contextual conditions for the insertion of Vocabulary Items make reference to linear order. This means that Vocabulary Insertion takes place after the hierarchical structures produced by syntax (and, in the case of complex heads, reflected by GenHM) have been made flat, an operation named Linearization (Embick 2010, 2015; Embick & Noyer 2001; Marantz 1988, among others). Following Embick (2015), I further assume that Linearization is constrained by the No Tangling condition (Partee, ter Meulen & Wall 1993), which rules out linear orders that imply the crossing of branches of the syntactic

tree. This leads to a mirror effect, whereby the linear order of abstract morphemes mirrors the order of phrases in the clause (see Baker's 1985, 1988 Mirror Principle). For instance, given the complex head in (17a), the only linear orders that can be expected to be possible are those in (17b), while the linear orders in (17c) are impossible since they violate the No Tangling condition.

(17) *Possible and impossible linear orders of abstract morphemes in complex heads*

a. Output of GenHM



b. Possible outputs of Linearization

Z-X-Y

X-Z-Y

Y-Z-X

Y-X-Z

c. Impossible outputs of Linearization

Z-Y-X

X-Y-Z

Instances of root suppletion (see, e.g., (4)) can be regarded as regular cases of contextual allomorphy. Thus, the assignation of a phonological exponent to roots proceeds in the same way as in the case of functional morphemes. Consider, for instance, the following suppletive alternants for the phonological realization of the root equivalent to English EAT, as a verb, in modern Greek.

(18) Based on Merchant (2015: 277)

tro(γ)-	Imperfective stem
fa(γ)-	Perfective stem

As discussed by Merchant (2015), the exponent assigned to the root in (18) changes depending on the value, either imperfective or perfective, of the aspectual head in the extended projection of the verb.¹⁸ The two following Vocabulary Items for the assignation of an exponent to the root EAT in Greek can thus be identified.¹⁹

(19) Based on Merchant (2015: 278)

- a. EAT \leftrightarrow fa(γ) / $___$ { Voice-Asp[+perf] }
- b. EAT \leftrightarrow tro(γ) / elsewhere

This section concludes the introductory part of the thesis. In the next chapter, I focus on the differences (and some commonalities) between two of the main theoretical perspectives on argument structure and event structure, the lexicalist view and the neo-constructionist view, putting in context the theoretical claims raised toward the beginning of §1.1 and paving the ground for the discussion that follows in the remainder of the thesis.

¹⁸Merchant (2015) further notes that the exponent assigned to the stem when the verb is perfective changes based on the value of Voice, with fa(γ)- appearing as the stem in the active voice and fa γ o- appearing in the passive voice. While Merchant (2015) attributes a Vocabulary Item to each of the three stem alternants (tro(γ)-, fa(γ)-, and fa γ o-), I ignore the difference between fa(γ)- and fa γ o- for the current illustrative purposes, suspecting that such a distinction may be the result of a phonological readjustment rule rather than representing an actual case of suppletive allomorphy.

¹⁹The Greek data discussed by Merchant (2015) further suggest that the contextual information for the insertion of exponents is not restricted to the immediately adjacent context (*pace* Embick 2010, 2015). For instance, the selection of the Vocabulary Item for the realization of the Greek root equivalent to English EAT is sensitive to the value of the Asp head even though a phonologically realised Voice intervenes between the root and Asp. Based on this evidence, and on considerations in Bye & Svenonius (2012); Moskal & Smith (2016), Merchant (2015) (see also Acedo-Matellán 2016; further see Armstrong 2021 for an overview) argued that an abstract morpheme can affect the choice of the exponent of another abstract morpheme if the two morphemes are included in a stretch of contiguous terminal nodes within the same extended projection.

Chapter 2

Two contrasting views on the lexicon-syntax interface

In this chapter, I describe the main differences between two major theoretical perspectives on argument structure and event structure, namely the lexicalist view and the neo-constructionist view. Additionally, I lay out Hale & Keyser's (1993 and following) theory of lexical syntax as a primary precursor to the neo-constructionist theory that I propose in Chapter 3. I highlight certain key aspects of the lexicalist view and the neo-constructionist view, which will be discussed and evaluated in the following chapters of the thesis. In one respect, I note how both views assume the existence of primitive semantic predicates (e.g., ACT/DO, CAUSE, BECOME, etc.), which are taken to be either lexically specified for verb roots or introduced in the syntactic argument structures by means of semantic flavors of functional heads. In another respect, I discuss how the two views consider the phenomenon of so-called manner/result complementarity in verb roots.

This chapter is organized as follows. In §2.1, I provide an overview of the lexicalist view. In §2.2, I introduce Hale & Keyser's theory of lexical syntax. Finally, I outline the main features of the neo-constructionist view in §2.3. I draw conclusions in §2.4, where I resume the main problematic aspects of both the lexicalist view and the neo-constructionist view which I explore in the following chapters of the thesis.

2.1 The lexicalist view

Theories of the lexicon-syntax interface, among other aspects, study the relationship between syntax and the lexicon in determining the formal syntactic and semantic properties of verbal predicates. Two competing views, the neo-constructionist view and the lexicalist view, present contrasting perspectives on this relationship. The lexicalist view argues that the meaning and structure of predicates are grounded in the properties of the lexical entries that the predicates are based on. Each lexical entry is assumed to carry information regarding its argument structure and event structure. For example, the number and types of arguments a verb can select are taken to be determined by its lexical entry, which, depending on the theory, may further include explicit information about the thematic roles associated with those arguments (e.g., agent, theme, experiencer etc.; see [Chomsky 1981](#) for a Government and Binding approach; [Reinhart 2000, 2002](#) for a feature-based approach; [Bresnan 2001](#); [Bresnan, Asudeh, Toivonen & Wechsler 2016](#); [Dalrymple 2001](#) for a Lexical-Functional Grammar approach), or not (see [Jackendoff 1983, 1987, 1990](#); [Levin & Rappaport Hovav 1995](#); [Rappaport Hovav & Levin 1998](#) for a lexical semantic approach; [Wechsler 1991, 1995](#) for a Head-Driven Phrase Structure Grammar approach; see [Wechsler 2015](#); [Müller & Wechsler 2014](#) for comprehensive overviews of lexicalist approaches).

A primary distinction assumed in lexical semantic theories regards the difference between idiosyncratic meaning and structural meaning. Idiosyncratic meaning refers to extra-linguistic world knowledge and has no direct effect on the composition of predicates based on the lexical items that constitute them. In contrast, structural meaning is linguistically relevant and allows us to determine semantic classes of verbs, which can be used to draw generalizations on the types of possible argument structure configurations verbs appear in. The elements making up the structural meaning of lexical items are regarded as lexical ‘primitives’ by lexicalist theories. Lexical primitives are considered to be innate concepts that, coupled with a combination of generative principles, give rise to a limited set of possible semantic relations between arguments in a predicate.

2.1.1 Structural meaning in the lexicon

An influential line of inquiry in the lexicalist approach concerns how linguistic predicates can be decomposed into primitive semantic predicates. Pivotal in this respect are the works by Levin & Rappaport Hovav (1995); Rappaport Hovav & Levin (1998, 2010). Levin & Rappaport Hovav (1995) argued that the information contained in lexical items regarding their syntactic realization and their semantic interpretation in linguistic predicates is organized in two levels of representation. The *lexical syntactic representation* contains information about the argument structure of verbs, e.g., the verb's valency – how many arguments it can combine with – and the types of hierarchic relations established between arguments in syntax (e.g., whether an argument is realized as external, direct internal, or indirect internal). The *lexical semantic representation* contains information about the syntactic realization of different aspects of verb meaning. The meaning of verbs is assumed to consist of a combination of primitive semantic predicates and some idiosyncratic information that is organized in the form of arguments – referred to as *constants* – of such predicates. For instance, verbs of 'putting' like *butter* and *pocket*, which name an entity which is subject to a change of location and an entity that functions as a goal of motion, respectively, are attributed the following lexical semantic representations, which are identical with respect to the number and type of primitive predicates involved (represented in small caps in (1)) but differ with respect to the choice and positioning of constants (italicized in (1)).

- (1) *Lexical semantic representations of 'butter' and 'pocket'; Levin & Rappaport Hovav (1995: 24)*
- a. butter: [x CAUSE [BUTTER BECOME P_{loc} z]]
 - b. pocket: [x CAUSE [y BECOME P_{loc} POCKET]]

In Levin & Rappaport Hovav's (1995) theory, the relation between the lexical semantic representation and the lexical syntactic representation of lexical items is described by a series of *Linking Rules*. These are generalizations aimed at capturing the regular ways in which a given argument in the lexical semantic representation

of a predicate corresponds to a specific syntactic position in the lexical syntactic representation of the predicate. In other words, Linking Rules account for the isomorphic relation observed between the two levels of representation (Mendikoetxea 2009). For instance, the *Immediate Cause Linking Rule* in (2a) specifies that the argument *x*, associated with the subject of the CAUSE semantic predicate in the lexical semantic representation (see (1)), is realized in the position of external argument in the lexical syntactic representation. Similarly, the *Directed Change Linking Rule* in (2b) specifies that the subject of the BECOME semantic predicate is realized as a direct internal argument in the lexical syntactic representation.

(2) *Linking Rules*

- a. *Immediate Cause Linking Rule; Levin & Rappaport Hovav (1995: 135)*
The argument of a verb that denotes the immediate cause of the eventuality described by that verb is its external argument.
- b. *Directed Change Linking Rule; Levin & Rappaport Hovav (1995: 146)*
The argument of a verb that corresponds to the entity undergoing the directed change described by that verb is its direct internal argument.

Building on Levin & Rappaport Hovav (1995), Rappaport Hovav & Levin (1998) argued that the lexical semantic representation of predicates corresponds to one of a set of possible structural templates of event types made available by UG. The event types considered relevant by Rappaport Hovav & Levin (1998) are based on the aspectual classification by Vendler (1957) and Dowty (1979), which comprises activities, accomplishments, achievements, and states. The possible templates found in linguistic predicates are argued to be as follows.¹

¹I represent the primitive semantic predicates of Rappaport Hovav & Levin (1998) in capital letters, in adherence to the graphical convention used in Rappaport Hovav & Levin (1998). This differs from the one adopted in Levin & Rappaport Hovav (1995), where primitive semantic predicates are represented in small capitals (cf. (1)).

- (3) *Event structural templates; Rappaport Hovav & Levin (1998: 108)*
- a. *Activity*
[x ACT_{<MANNER>}]
 - b. *State*
[x <STATE>]
 - c. *Achievement*
[BECOME [x <STATE>]]
 - d. *Accomplishment*
[[x ACT_{<MANNER>}] CAUSE [BECOME [y <STATE>]]]
 - e. *Accomplishment*
[x CAUSE [BECOME [y <STATE>]]]

In a similar way to Levin & Rappaport Hovav (1995), ACT, CAUSE, and BECOME are considered as a closed class of primitive semantic predicates. Instead, <MANNER> and <STATE> are treated as constants that provide basic idiosyncratic information about the eventuality named by the verb. Each verb in the lexicon is associated with one of the possible event structure templates listed in (3). The association takes place according to the ontological category of the verb's root, following so-called 'canonical realization rules' such as those in (4). In short, the root's constant determines the root's category (listed in the left-hand side of the rule), which is selected from a closed set of types. In turn, the root's category determines the type of event structure the root is associated with (listed on the right-hand side of the rule). In Rappaport Hovav & Levin's (1998: 110) terms, "[a] verb lexical entry, then, consists of the name contributed by the constant together with the meaning, represented as an event structure."

- (4) *Canonical realization rules; Rappaport Hovav & Levin (1998: 109)*
- a. *manner* → [x ACT_{<MANNER>}]
(e.g., *jog, run, creak, whistle, ...*)
 - b. *instrument* → [x ACT_{<INSTRUMENT>}]
(e.g., *brush, hammer, saw, shovel, ...*)

- c. placeable object → [x CAUSE [BECOME [y WITH <THING>]]]
(e.g., *butter, oil, paper, tile, wax, ...*)
- d. place → [x CAUSE [BECOME [y <PLACE>]]]
(e.g., *bag, box, cage, crate, garage, pocket, ...*)
- e. internally caused state → [x <STATE>]
(e.g., *bloom, blossom, decay, flower, rot, rust, sprout, ...*)
- f. externally caused state →
[[x ACT] CAUSE [BECOME [y <STATE>]]]
(e.g., *break, dry, harden, melt, open, ...*)

For instance, the verb *sweep* has a constant that specifies the manner in which a kind of activity – that of sweeping – takes place. Thus, this verb is associated with the event structure in (3a) and (4a), which gives rise to activity events. Additionally, the surface that is swept can be optionally realized as a participant (y in (5)) licensed by the constant of the verb.

- (5) *Event structure of sweep; Rappaport Hovav & Levin (1998: 114)*
[x ACT<SWEEP> y]

The event structure in (5), assumed to be lexically associated with the verb *sweep*, can thus give rise to predicates like the following.

- (6) *Rappaport Hovav & Levin (1998: 115)*
- a. Phil swept the floor.
 - b. Phil swept.

There are cases in which a verb appears in an event structure type which is different from its basic one. For instance, the verb *sweep* in (7) is used in a predicate that refers to an accomplishment involving a change of state in terms of cleanness.

- (7) *Rappaport Hovav & Levin (1998: 119)*
Phil swept the floor clean.

Cases of this type are accounted for by means of a rule of Template Augmentation, defined as follows.

- (8) *Template Augmentation; Rappaport Hovav & Levin (1998: 111)*

Event structure templates may be freely augmented up to other possible templates in the basic inventory of event structure templates.

As a result of the rule in (8), the verb *sweep* can be associated with the event structure type in (3d) and (4f). In this event structure type, an accomplishment event structure is built on the simpler activity event structure that is lexically associated with the verb.

- (9) *Event structure of (7); Rappaport Hovav & Levin (1998: 119)*

[[x ACT-<SWEEP> y] CAUSE [BECOME [y <STATE>]]]

2.1.2 Manner/result complementarity

Building on observations already present in Rappaport Hovav & Levin (1998), Rappaport Hovav & Levin (2010) further proposed that the association of a verb's root with a given event structure template is subject to a constraint, that they referred to as 'the lexicalization constraint'. This constraint states that a verb's root can only be associated with one primitive semantic predicate in an event structure template, as either a modifier (in the case of the ACT primitive semantic predicate) or an argument (in the case of the BECOME primitive semantic predicate). They further argued that, as a result, this constraint gives rise to a phenomenon of manner/result complementarity: since no root can be both a modifier of ACT and an argument of BECOME, no root can express both manner, which is one of the meaning components associated with the constants that modify ACT, and result, which is a meaning component associated with the constants that complement BECOME. More specifically, manner and result are understood in terms of scalar and non-scalar change: manner roots express non-scalar changes, while result roots express scalar changes. Manner/result complementarity gives rise to a bipartite classification of verbs, as exemplified in (10).

- (10) *Manner and result verbs; Rappaport Hovav & Levin (2010: 21)*
- a. MANNER VERBS: nibble, rub, scribble, sweep, flutter, laugh, run, swim, ...
 - b. RESULT VERBS: clean, cover, empty, fill, freeze, kill, melt, open, arrive, die, enter, faint, ...

The distinction between manner verbs and result verbs is argued to be grammatically relevant. For instance, Rappaport Hovav & Levin (2010) showed that, in non-modal, non-habitual sentences, manner verbs can appear in predicates with both unspecified objects (see (11a)) and unselected objects (meaning, in Rappaport Hovav & Levin's 1998 terms, that they are not objects licensed by the constant of the verb; see (11b)). In contrast, result verbs cannot (see (12)).

- (11) *Rappaport Hovav & Levin (2010: 21)*

- a. Kim scrubbed all morning.
- b. Kim scrubbed her fingers raw.

- (12) *Rappaport Hovav & Levin (2010: 22)*

- a. *The toddler broke.
- b. *The toddler broke his hands bloody.

Manner/result complementarity is relevant for the debate about whether roots are lexically specified with instructions about their argument structure and event structure realization or not, which lies at the heart of the contrast between the lexicalist approach and the neo-constructionist approach. Namely, the complementarity provides an empirical basis for testing the opposing predictions made by these two approaches concerning the argument structure and event structure configurations in which a given root can appear. On the one hand, contrasts like the one between (11) and (12) suggest that roots are lexically associated with a specific event structure that determines the range of constructions they can appear in, as per the lexicalist view. On the other hand, as I will discuss in Chapter 5,

counterevidence can be found showing that these contrasts often do not hold, supporting the neo-constructionist hypothesis that roots are lexically underspecified. In §2.3.1, I discuss a reformulation of manner/result complementarity understood within a neo-constructionist perspective (Acedo-Matellán & Mateu 2014; Mateu & Acedo-Matellán 2012). Before that, I introduce Hale & Keyser's theory of lexical syntax as a primary predecessor to theories of argument structure within the neo-constructionist approach.

2.2 Hale & Keyser's theory of lexical syntax

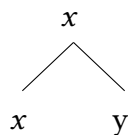
In line with the lexicalist view, Hale & Keyser's (1992, 1993, 1997a, 1997b, 1998, 1999, 2002, 2005) theory of lexical syntax assumes that the information about the argument structure realization of verbs is listed in the individual entries of verbs in the lexicon. However, Hale & Keyser's theory differs from the traditional lexicalist view in that it explores the hypothesis that such syntactic information, despite being found in the lexicon, is subject to the same general principles that govern the syntax of clauses. Hale & Keyser argued that syntactic principles play a fundamental role in determining the range of possible argument structure types that verbs can participate in. In doing so, they overcame some of the main criticisms that had been moved to lexicalist theories of predicate decomposition like Levin & Rappaport Hovav's (1995) and Rappaport Hovav & Levin's (1998), among which, the fact that Linking Rules are often too language specific and unrestricted, whereby they lack explanatory force (Mendikoetxea 2009).² At the base of Hale & Keyser's pro-

²See Bresnan (1996) for a critical comparison between Rappaport Hovav & Levin's lexical semantic approach and Hale & Keyser's lexical syntactic one. Bresnan (1996) argues that theories like Levin & Rappaport Hovav (1995) are redundant in that they propose two levels of syntactic representation, the lexical syntactic representation and the initial syntactic structure, which are in a trivial relation. She further argues that Hale & Keyser's (1993) theory of lexical syntax eliminates this redundancy, since it dispenses with the level of the lexical syntactic representation and conceives argument structure as syntactic structure directly. Bresnan (1996) proposes an alternative view, within a Lexical Functional Grammar approach, where what is seen as redundant is the initial syntactic structure. According to Bresnan (1996), the information conveyed by the lexical syntactic representation is mapped directly onto surface syntactic structures.

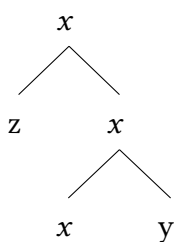
positional is the observation that “[t]he verbs of natural languages [...] are extremely limited in the variety and complexity of argument structures they display, and these conform to a highly restricted typology” (Hale & Keyser 1998: 74). Hale & Keyser highlighted key empirical observations in this respect, like the cross-linguistic tendency for verbs to typically have a maximum of three arguments and the presence of a limited set of universally acknowledged thematic roles that are assigned by verbs to their arguments. Hale & Keyser’s goal was to explain these basic observations by exploring the idea that “the constrained nature of argument structure follows from the nature of the basic elements [it is composed of: AB]” (Hale & Keyser 1998: 75). These elements are assumed to consist of heads that belong to different lexical categories (e.g., V, N, P, A etc.), and they are assumed to be related to each other in syntactic argument structures by means of only two basic syntactic relations, those of complement and specifier. Hale & Keyser (1998, 1999) identified the following four syntactic relations as the ones that are possible between a head x and its arguments in the syntactic specification of lexical entries.

(13) *Based on Hale & Keyser (1998: 82)*

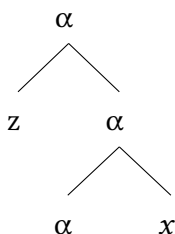
a.



b.



c.



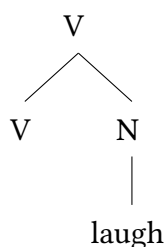
d.

x

In (13a), a head takes a single argument as its complement. In (13b) a head takes two arguments, as its complement and as its specifier respectively. In (13c) a head requires its single argument to be a specifier, and it satisfies such a requirement by functioning as the complement of another head (' α ') which projects a specifier. Finally, (13d) displays a head that takes no arguments. Hale & Keyser called the configuration in (13a) *monadic* and the configuration in (13b) *dyadic*, since predicates associated with these structural types display one argument and two arguments, respectively. According to Hale & Keyser, the prototypical morphosyntactic realization of x in these configurations is V (verb) in (13a), P (preposition) in (13b), A (adjective) in (13c), and N (noun) in (13d). Each of these four lexical categories are further associated with a notional semantic type: V refers to events, P introduces a relation between two entities, A refers to states, and N refers to entities. The basic argument structures in (13) can be combined with each other, and different combinations give rise to predicates with distinct semantic interpretations. Hale & Keyser thus assumed a homomorphic relation between the syntactic argument structure of predicates and their semantic interpretation: the semantic interpretation is read off the syntactic argument structure. For this reason, there is no need for event structure templates (cf. Levin & Rappaport Hovav's 1995 and Rappaport Hovav & Levin's 1998, 2010 lexical semantic representations) as an autonomous component of lexical entries. In line with this, different thematic roles are assumed to be tied to specific syntactic positions occupied by arguments (e.g., 'z' and 'y' in the structures in (13)) in the lexical argument structure configurations found in lexical items. This explains the limited number of thematic relations observed in predicates crosslinguistically: since the inventory of possible categories and the range of possible syntactic relations that can be established between them are restricted (by syntactic principles), so is the amount of possible thematic roles that can arise from the argumental positions created by such relations.

The argument structures in (13b), (13c), and (13d) can each function as complement in the argument structure in (13a). Denominal unergative verbs are lexically associated with the argument structure in (13a), where the complement position is occupied by an element of the type in (13d). For example, the verb *laugh* is attributed the following argument structure.

- (14) Lexical argument structure of
- laugh*
- ; Hale & Keyser (2002: 15)



In the case of *laugh*, the head V is taken to be phonologically defective ($[\emptyset]$), while the head N merged as its complement is associated with the phonological signature $[\text{laugh}]$.

- (15) Hale & Keyser (2002: 63)

Head	Complement
{V, $[\emptyset]$ }	{N, $[\text{laugh}]$ }

When V and N are merged together, the phonological signature of N is copied into the empty phonological signature of V – an operation referred to as *conflation* – and then deleted.

- (16) Based on Hale & Keyser (2002: 63-64)



Alternatively, V can come with its own phonological signature. In such cases, the predicate consists of a light verb (e.g., *do*) with a phrasal complement. In some languages, this is the most typical pattern. The following Basque examples with the light verb *egin* ('do') illustrate this.

- (17) Basque; Hale & Keyser (2002: 117)

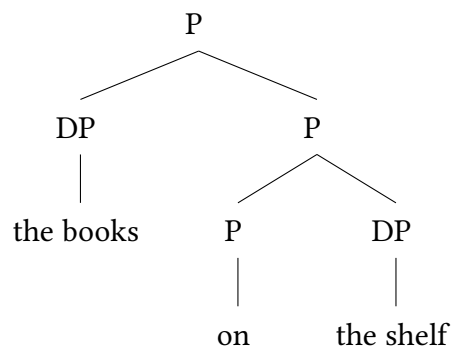
- a. negar egin
'cry'

- b. eztul egin
'cough'
- c. barre egin
'laugh'
- d. jolas egin
'play'
- e. oihu egin
'shout'
- f. lo egin
'sleep'
- g. zurrunga egin
'snore'

The dyadic structure in (13b), typically headed by prepositions, establishes a non-eventive relation between two entities, which are merged as the head's complement and the head's specifier, respectively. This is the case of configurations like the following one (parenthetic verb excluded), which is attributed the structure in (19).

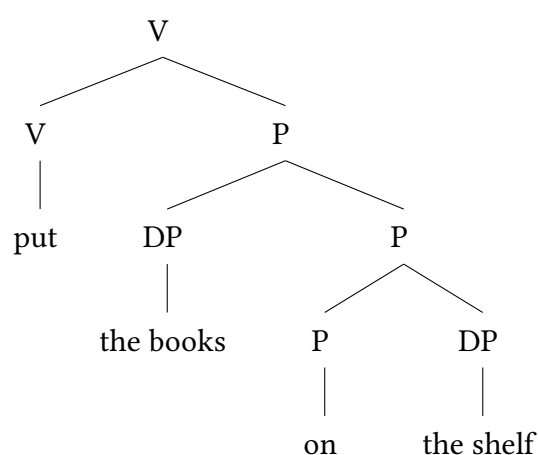
- (18) *Hale & Keyser (2002: 6)*
(put) the books on the shelf

- (19) *Hale & Keyser (2002: 7)*



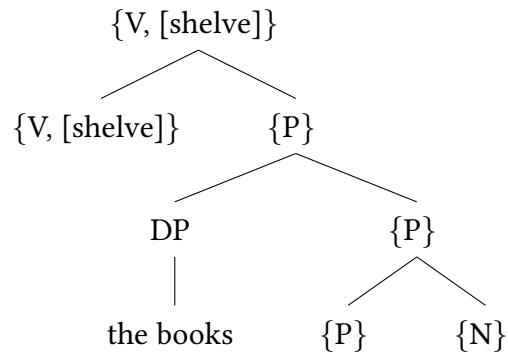
Eventive predicates, like the one in (18) including the parenthetical verb, are formed by merging the dyadic configuration in (13b) (also in (19)) as the complement of the monadic configuration in (13a). Since the dyadic configuration establishes a typically spatial relation between two entities, the resulting argument structure type is associated with verbs of “placement” or “location” (Hale & Keyser 2002: 7).

(20) *Hale & Keyser (2002: 7)*



As in the case of the unergative verb *laugh*, the V head in the lexical argument structure of location verbs may be phonologically defective. In this case, V is provided phonological substantiation by means of a double instance of conflation, which first copies the phonological feature of N into the empty phonological feature of P, and then the phonological feature of P, resulting from the first instance of conflation, into the empty phonological feature of V. (21) illustrates the lexical argument structure of the location verb *shelve*, in a predicate like *shelve the books*, after the two instances of conflation have occurred.

(21) Based on Hale & Keyser (2002: 66)



A debated question concerns the treatment of so-called *locatum* verbs (Clark & Clark 1979), which are denominal verbs whose N head expresses the object which undergoes the change of location denoted by the predicate (e.g., verbs like *saddle* in predicates like *saddle the horse*). Hale & Keyser (1998) argued that these verbs have the same lexical argument structure of location verbs, that is to say, the one depicted in (21), and that the interpretation of this structure as giving rise to either a location verb or a locatum verb depends on the type of P involved: if P denotes a ‘terminal’ coincidence, its nominal complement denotes an end-point of motion or transfer of the entity introduced by P’s specifier, and the verb is interpreted as a location verb. If P denotes a ‘central’ coincidence, its nominal complement denotes something that the entity introduced by P’s specifier comes to possess either temporarily or permanently, and the verb that emerges is interpreted as a locatum verb. Accordingly, they argued that a predicate like *saddle the horse* corresponds more precisely to ‘fit the horse with a saddle’, rather than to ‘put a saddle on the horse’. Hale & Keyser (2002) proposed that the terminal coincidence relation and the central coincidence relation arise from two distinct configurations, the former involving two P projections and the latter involving only one. They thus proposed that the lexical argument structure of location verbs involves two P projections, while the lexical argument structure of locatum verbs involves only one P projection. The opposition between terminal coincidence and central coincidence is also related to the contrast between change and stasis, with central coincidence corresponding to stativity and terminal coincidence corresponding to change. It is in light of these correspondences that Mateu (2002) challenged the idea of a struc-

tural distinction between location and locatum verbs. Mateu (2002) noted that the distinction between terminal coincidence and central coincidence is not grammatically relevant in telling location verbs apart from locatum verbs, because the two types of verbs display the same aspectual properties in terms of telicity. In particular, with examples from Catalan, Mateu (2002) showed that locatum verbs can be telic just like location verbs, whereby both types of verbs can be taken to involve a terminal coincidence relation in their argument structure.^{3,4}

(22) *Catalan; telicity in locatum verbs; Mateu (2002: 13)*

Ella ensellà el cavall [*durant / en] cinc segons.
she saddle.PST.3SG the horse for in five seconds

(23) *Catalan; telicity in location verbs; Mateu (2002: 14)*

L' helicòpter aterrà a la pista [*durant / en] cinc minuts.
the helicopter land.PST.3SG at the runway for in five minutes

The lexical argument structure in (13c) follows from the necessity of adjectives to predicate over an argument, despite being unable to project a specifier of their own due to the fact that they do not take a complement. According to Hale & Keyser, in order to project their argument, adjectives are parasitic on a verbal

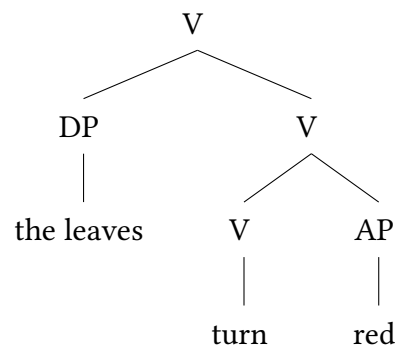
³But see Acedo-Matellán & Real-Puigdollers (2015) for arguments in favor of a structural distinction between location verbs and locatum verbs, based on evidence showing that the two types of verbs exhibit distinct aspectual and quantificational properties. According to Acedo-Matellán & Real-Puigdollers (2015), location verbs express change and involve a relation of terminal coincidence. In contrast, locatum verbs involve a PP headed by a phonologically null *of*-like preposition which relates predicatively the direct object and the verb's root in the complement of the verbal head. Acedo-Matellán & Real-Puigdollers (2015) argued that predicates based on location verbs are always telic when the internal argument denotes a bounded entity, while the telicity of predicates based on locatum verbs depends on the (un)boundedness of the verb's root.

⁴The predicate in (23) is well-formed with *durant cinc minuts* ('for five minutes') in the irrelevant reading involving result-state modification, where the helicopter is understood to have remained on the ground for five minutes. Jaume Mateu (p.c.) reports that this reading is generally not as readily available with predicates based on locatum verbs, a fact that might support Acedo-Matellán & Real-Puigdollers's (2015) view that only location verbs give rise to resultative predicates (see fn. 3 above).

projection, which can optionally take a specifier. Assuming that a dyadic V head inherently expresses a relation of terminal coincidence (Hale & Keyser 2002: 219), the semantic interpretation of such a structure is that of an event of change in which the entity introduced in the specifier of V acquires the property expressed by the adjective in the complement of V. The following example illustrates this.

(24) Hale & Keyser (2002: 8-9)

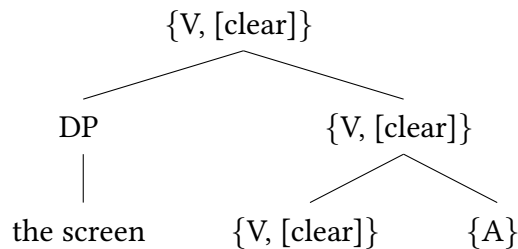
The leaves turned red.



As in the case of denominal unergative verbs and location/locatum verbs, a phonologically defective V head in the structure in (13c) can acquire phonological content by means of conflation. In this case, the phonological signature of the adjective merged as the complement of V is copied into the empty phonological signature of V. This is shown by examples like the following one, displaying the deadjectival verb *clear*.

(25) Based on Hale & Keyser (2002: 64)

The screen cleared.



Location/locatum verbs and deadjectival verbs share an eventive semantics related to change. Despite this, Hale & Keyser argued that the two classes of verbs have

distinct lexical argument structures, since deadjectival verbs typically allow both an unaccusative inchoative use and a transitive causative use, while location and locatum verbs are only found in transitive causative configurations. The following examples illustrate this.

(26) *Unaccusative inchoative use*

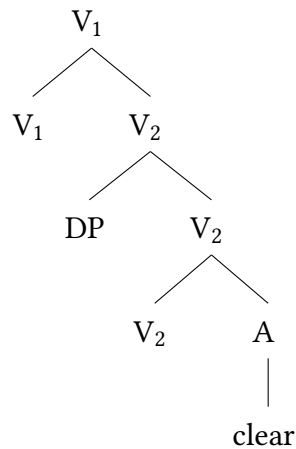
- a. *Deadjectival verbs; Hale & Keyser (2002: 99)*
The sky cleared.
- b. *Location verbs; Hale & Keyser (2002: 33)*
*The books shelved.
- c. *Locatum verbs; Hale & Keyser (2002: 33)*
*The horse saddled.

(27) *Transitive causative use*

- a. *Deadjectival verbs; Hale & Keyser (2002: 99)*
The wind cleared the sky.
- b. *Location verbs; Hale & Keyser (2002: 94)*
John shelved the books.
- c. *Locatum verbs; Hale & Keyser (2002: 94)*
Leecil saddled the horse.

According to Hale & Keyser, deadjectival verbs can appear both in transitive predicates and in unaccusative predicates because the entity that undergoes the event of change that they denote is introduced in the specifier of V. Assuming that accusative case is assigned by V to the argument that it locally c-commands (Hale & Keyser 2002: 153), accusative case cannot be assigned to the specifier of V in the structure in (24) and (25). As a consequence, this argument appears as the sentential subject. If a further verbal projection is added on top of the one projecting a dyadic configuration, as in (28), the specifier of the lower V head can be assigned accusative case by the higher V, and the predicate surfaces as transitive.

(28) *Hale & Keyser (2002: 153)*



Differently from deadjectival verbs, location/locatum verbs are always transitive because the specifier introducing the undergoer of the event of change is projected by P and always c-commanded by V, which assigns accusative case to it. Despite the alleged evidence in (26) and (27), some linguists (e.g., Déchaine 1996; Mateu 2002) argued that the distinction between deadjectival verbs and location verbs is not structural. In particular, the A category found in the innermost complement position of the argument structure of adjectival verbs is argued by these linguists to have a complex internal structure, consisting of a prepositional projection that takes a non-relational element (arguably, an acategorial root; Mateu 2002) as its complement (see also Acedo-Matellán 2022; Amritavalli & Jayaseelan 2003; Amritavalli 2007; Fábregas 2020; Kayne 2011, on the derived nature of the adjectival category). Accordingly, these linguists proposed that the argument structure in (13c) can be reduced to the one in (13b), eventually concluding that deadjectival verbs have the same argument structure of location verbs. Indeed, at a closer scrutiny, it can be shown that the generalization that deadjectival verbs can take part in the causative/inchoative alternation while denominal location verbs are always transitive does not hold. For instance, as shown by Mateu (2002) with data from Catalan, unaccusative predicates can be found with denominal location verbs (see also Kiparsky 1997).

(29) *Catalan; Mateu (2002: 27)*

L' helicòpter aterrà tard.
the helicopter land.PST.3SG late
'The helicopter landed late.'

Concomitantly, some deadjectival verbs of change of state can either appear or not in unaccusative constructions depending on the nature of their participants, as the following examples illustrate.

(30) *Levin & Rappaport Hovav (1995: 85-86)*

- a. The wind cleared the sky.
- b. The sky cleared.
- c. The waiter cleared the table.
- d. *The table cleared.

(31) *Levin & Rappaport Hovav (1995: 86)*

- a. The mad scientist lengthened the days.
- b. The days lengthened.
- c. The dressmaker lengthened the skirt.
- d. *The skirt lengthened.

These facts suggest that the possibility for a verb to alternate between the transitive and the unaccusative configuration is not strictly related to the verb being deadjectival. This kind of alternation cannot, thus, be deemed relevant to argue that denominal location verbs and deadjectival verbs differ structurally.

Hale & Keyser's theory of lexical syntax has served as a foundational framework for numerous syntactic theories concerning argument structure within the neo-constructionist perspective. In the next section, I discuss the main aspects of this perspective.

2.3 The neo-constructionist view

While the lexicalist view contends that the instructions pertaining to the syntactic realization and the semantic interpretation of predicates are found in the lexicon, as part of the information included in each lexical entry, the neo-constructionist view attributes a role to syntax independent from the lexical entry of verb roots in dictating the formal properties of predicates.⁵ In the neo-constructionist approach, the meaning of predicates is assumed to comprise two distinct components: syntactically transparent semantic construal and syntactically non-transparent conceptual content (Mateu & Amadas 2001; Mateu 2002). Semantic construal is typically regarded as arising depending on two factors: the configurational properties of syntactic structures, and the semantic properties of the functional heads that make up such structures. Conceptual content is provided by roots. These are inserted in argumental positions within the syntactic structures built with functional heads, and thereby they complement semantic construal with real world, encyclopedic knowledge. Thus, when the structure assembled in syntax is shipped to the LF interface, it is assigned a structural component of meaning, which results from the interpretation of the syntactic structure of the predicate, and a conceptual component of meaning, which arises from the interpretation of the roots and other phrasal elements functioning as arguments of the predicate (e.g., NPs, DPs, PPs, etc.) in the structure. While both functional heads and roots are listed in the lexicon, neither of these two types of elements is thus taken to contain information about the argument structure and event structure of predicates. The semantic roles attributed to the arguments of a predicate also follow from the properties of the syntactic structure of the predicate, based on the position of such arguments in the structure. According to the neo-constructionist view, thus, event structure

⁵Some works align with the neo-constructionist perspective in positing that templatic meaning arises from the interpretation of syntactic structure, but also claim that roots are lexically specified for compatibility with certain syntactic argument structures, which is more in line with a lexicalist perspective (see, e.g., Alexiadou, Anagnostopoulou & Schäfer 2015, among others). In this thesis, I often use the term neo-constructionist to refer solely to works assuming that roots do not come with lexical instructions for their syntactic realization.

arises as the semantic interpretation of syntactic structure (Borer 2005b).⁶

The neo-constructionist approach proves highly effective in explaining cases where a single verb appears in a variety of argument structure configurations, as exemplified with the verb *siren* in (32).

(32) *Clark & Clark (1979: 803)*

- a. The fire stations sired throughout the raid.
- b. The factory sired midday and everyone stopped for lunch.
- c. The police sired the Porsche to a stop.
- d. The police car sired up to the accident.
- e. The police car sired the daylights out of me.

Indeed, the data in (32) have been used in neo-constructionist work (see, e.g., Borer 2005a,b) to support the idea that verb roots do not carry information about the syntactic realization and semantic interpretation of the arguments that appear in the predicate. These data are problematic to explain for lexicalist theories, which are forced to posit multiple lexical items, or multiple argument structures specified in the same lexical item, in order to account for them.

On the other hand, neo-constructionist theories are faced with the problem of accounting for why verbal polysemy is often quite limited, as many verbs are not

⁶The idea that there is a one-to-one correspondence between the syntactic structure of predicates and their interpretation in terms of event structure is not equally shared by proponents of the neo-constructionist approach. For example, Marantz (2005a, 2013b) argued that syntactic structures are not always semantically transparent. According to Marantz, creation/consumption predicates and resultative predicates with location verbs share the same syntactic argument structure, consisting of an eventive head *v* that takes a DP as its complement and forms a complex head with the verb's root, which is adjoined to it. Marantz proposes that roots cannot merge as complements of functional heads, and thus, they always appear as modifiers. See *Oltra-Massuet, Sharpe, Neophytou & Marantz (2017)* for experimental evidence supporting Marantz's view. As will become clear in Chapter 4, Marantz's view does not align well with neo-constructionist accounts of Talmy's typology, where the possibility (or impossibility) for a root to merge as a modifier of the eventive head is considered fundamental to the difference between satellite-framed constructions and verb-framed constructions.

compatible with many argument structure configurations. For example, as already discussed in §2.1 with reference to manner/result complementarity (recall the contrast between (11) and (12)), verbs entailing change of state are often more rigid in the types of structure in which they can appear than verbs which denote activities, like *siren*. In the neo-constructionist approach, cases like (12) are often regarded as incompatibilities between the conceptual content of the verb's root, the interpretation attributed to the root based on the argumental position it occupies in the syntactic structure of the predicate, and the general conceptual scene depicted by the event denoted by the predicate. Such incompatibilities, because they regard conceptual content, are often hard to account for in a principled way adopting the neo-constructionist approach. A primary feature of the neo-constructionist approach is that it is explanatory-oriented: like Hale & Keyser's theory of lexical syntax, it appeals to general, independently motivated principles of syntax to derive the range of possible argument structure configurations and argument interpretations attested in natural languages. This makes neo-constructionist theories more restrictive in their principles than lexicalist theories, allowing for a stronger explanatory power but also limiting the capability to account in a systematic way for cases in which some additional restriction (e.g., of conceptual nature) is found which does not derive from principles of the computational system. In contrast, the lack of explanatory power of the lexicalist approach goes along with its better suitability for providing a detailed descriptive account of the richness of the phenomena encountered in the study of natural language. The restrictiveness of neo-constructionist theories, however, forces them to distinguish in a sharper way than lexicalist theories what phenomena should be considered grammatical and what other phenomena should be regarded as extra-linguistic, arising from considerations based on world knowledge and pragmatics. In contrast, lexicalist theories face the risk of incorporating as grammatical principles rules that should instead be considered as pertaining to extra-linguistic factors, often accounting for exceptions to such rules by means of additional rules.

2.3.1 Manner/result complementarity revisited

Concerning manner/result complementarity, no grammatical rule, according to the neo-constructionist view, precludes a verb whose root entails a result to be merged in a syntactic structure that gives rise to a predicate denoting an activity. Examples like those in (33) (see also (12a)), for instance, illustrating the incapability of result verbs to appear in constructions with unspecified objects, should not be regarded as ungrammatical (that is to say, syntactically ill-formed) according to the neo-constructionist approach, but merely infelicitous from a pragmatic or conceptual point of view. *Ausensi & Bigolin (2023)* proposed this for the examples in (33). In particular, according to *Ausensi & Bigolin (2023)*, the problem with these examples is that the result conceptually entailed by the verb's root (e.g., BREAK in (33a)) is not provided with a salient enough undergoer in the context of the predicate, which is unergative and denotes an activity.

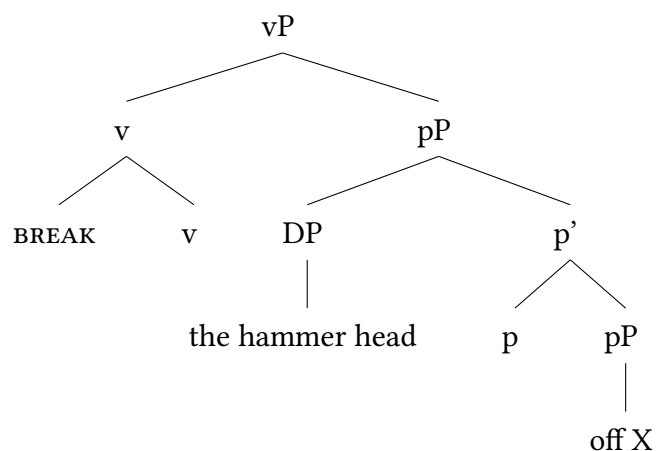
- (33) *Ausensi & Bigolin (2023: 152)*
- a. #All last night, John broke.
 - b. #All last night, John shattered.

This line of reasoning predicts that, given the appropriate context, result verbs may be felicitous in predicates where they specify manner, appearing, e.g. with unselected objects understood as undergoers of a distinct result (for instance, in terms of change of location). This is what happens in (34) according to *Acedo-Matellán & Mateu (2014)*. Notice that the predicate *break off* in (34) may be roughly paraphrased as 'separate by means of/due to breaking'. The parallelism with examples like (11b), repeated in (35), is evident; similarly to (34), the predicate in (35) may be paraphrased as 'make one's own fingers raw by means of/due to scrubbing'.

- (34) *Acedo-Matellán & Mateu (2014: 20)*
The hammer head broke off.
- (35) *Rappaport Hovav & Levin (2010: 21)*
Kim scrubbed her fingers raw.

According to Rappaport Hovav & Levin's (1998) theory, the predicate in (35) is obtained via Template Augmentation (see (8)), as it is taken to involve the event structure of an accomplishment that is built on top of the activity event structure lexically associated with the verb *scrub*. What (34) shows, then, is that a result verb like *break* can also be associated with the event structure of an activity if the context is such to allow for a felicitous interpretation of the predicate. In particular, (34) may be argued to be felicitous since the undergoer of the result conceptually entailed by BREAK (i.e. the hammer) can be easily inferred. (34) is given by Acedo-Matellán & Mateu (2014) the structure in (36), which is inspired by Hale & Keyser's (2002) analysis of the argument structure of predicates denoting changes of location (in the case at hand, of the *hammer head*). Following Embick (2004); Harley (2005); Mateu (2008b); McIntyre (2004), among others, a manner interpretation of the verb is taken to follow from adjoining the verb's root to v via E-Merge.

(36) Based on Acedo-Matellán & Mateu (2014: 20)



Based on evidence of this type, Mateu & Acedo-Matellán (2012) and Acedo-Matellán & Mateu (2014) argued for the need to distinguish between two distinct notions of manner and result: one understood in terms of conceptual content of roots, and the other understood in structural terms, based on specific positions occupied by roots in syntactic argument structures. They further observed that manner/result complementarity, according to the neo-constructionist perspective, is based on the structural notion of manner and result. Namely, the complementarity is taken to

follow from the fact that a given root cannot simultaneously occupy two distinct positions in a syntactic argument structure: as the innermost complement in a structure like (36), where it is interpreted as a result, and as an adjunct to the head *v*, where it is interpreted as manner. In contrast, they claimed that nothing in the grammar precludes a root from entailing both a manner component and a result component in terms of conceptual content, which does not contain relevant information for the operations carried out in the computational system and for the semantic interpretation of the resulting syntactic structures.

In Chapter 5 I provide empirical evidence in favor of *Acedo-Matellán & Mateu's* (2014) take on manner/result complementarity, supporting the neo-constructionist hypothesis that verb roots are lexically underspecified with respect to the argument structure and event structure types that they are associated to. Based on *Ausensi & Bigolin* (2021, 2023), I discuss English data showing that verbs whose root entails a result in its conceptual content indeed appear, in many cases, as either manner modifiers of resultative predicates in which a distinct result is predicated, as in (34), or as manner modifiers in predicates in which no result is predicated at all, e.g., in accomplishment events denoting creation. I further present evidence of a particular type of verb-particle construction of Italian that displays verb roots which, despite entailing manner in terms of their conceptual content, can be argued to be implemented as result complements in the syntactic argument structure of the predicate.

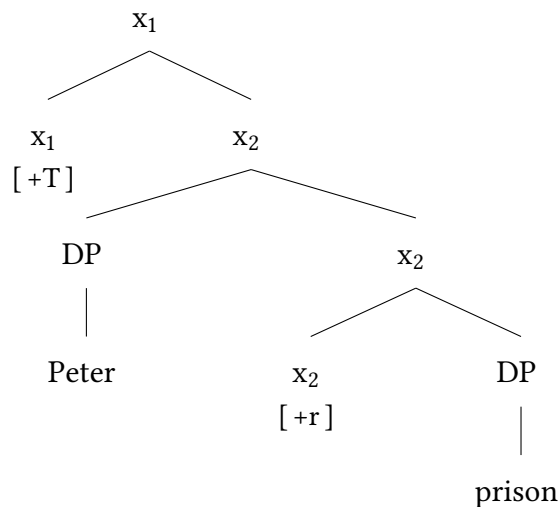
2.3.2 The contribution of meaning of functional heads

Some further comments on the structure in (36) are in order. Following *Harley* (2005); *Marantz* (2005b), as well as considerations in *Mateu* (2002), *Acedo-Matellán & Mateu* (2014) assume that two distinct types of functional heads are involved in the syntactic argument structure of verbal predicates, namely *v* and *p*, and that these heads have distinct intrinsic semantic values: *v* is an event-encoding relational element, and *p* is an adpositional-like element. Indeed, as I have stated at the beginning of this section, a common assumption in neo-constructionist theories is that the semantic interpretation of syntactic argument structures is based not only on the configuration of the structure, but also on the intrinsic meaning

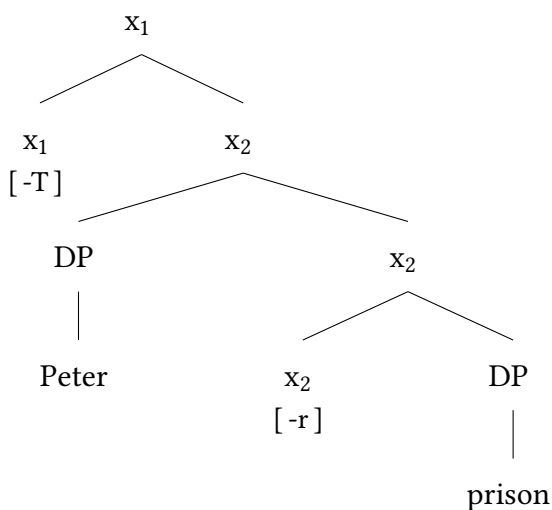
of the functional heads that make up the structure. This is stated explicitly by *Mateu (2002)*, who affirms that “[t]wo different aspects of semantic construal must be distinguished: (i) the configurational semantics that can be read off the mere argument structures and (ii) the non-configurational semantics associated to the relational heads of these structures” (*Mateu 2002: 32*). *Mateu (2002)* identifies three types of semantic features as relevant to distinguish functional heads in argument structure configurations: $[\pm R]$, which is associated to a ‘source’ relation and subsumes the CAUSE and ACT/DO semantic functions when positive and a HAVE semantic function (associated with stative transitive predicates like, e.g., *fear*) when negative; $[\pm T]$, associated to a ‘transition’ relation and subsuming the BECOME semantic function when positive and the BE semantic function when negative; and $[\pm r]$, associated to a non-eventive relation correlated to Hale & Keyser’s notions of terminal coincidence and central coincidence. For instance, the difference between the two unaccusative predicates in (37), one involving a change of location and the other stative, is argued by *Mateu (2002)* to consist only in the semantic value of the functional heads involved, the former involving a $[+T]$ and a $[+r]$ feature and the latter involving a $[-T]$ and a $[-r]$ feature. The syntactic configuration in the two predicates is instead the same, comprising a dyadic configuration that functions as the complement of a monadic configuration.

(37) Based on *Mateu (2002: 33)*

a. Peter went to prison.



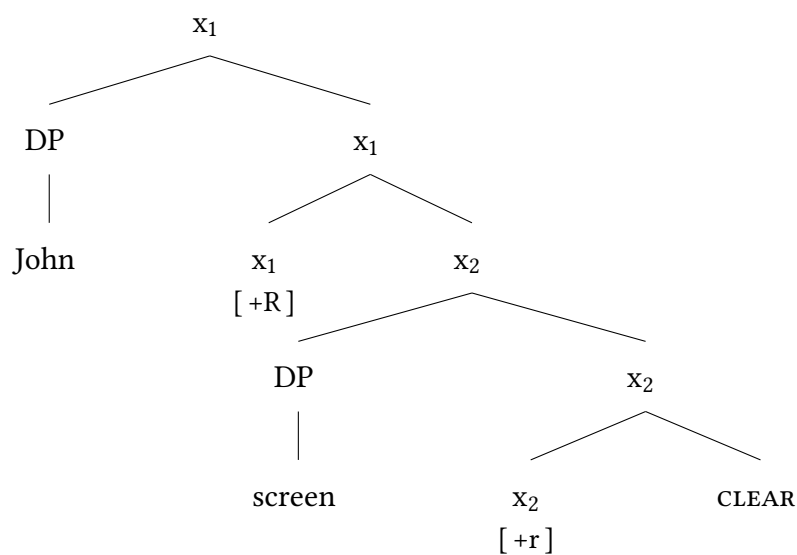
b. Peter was in prison.



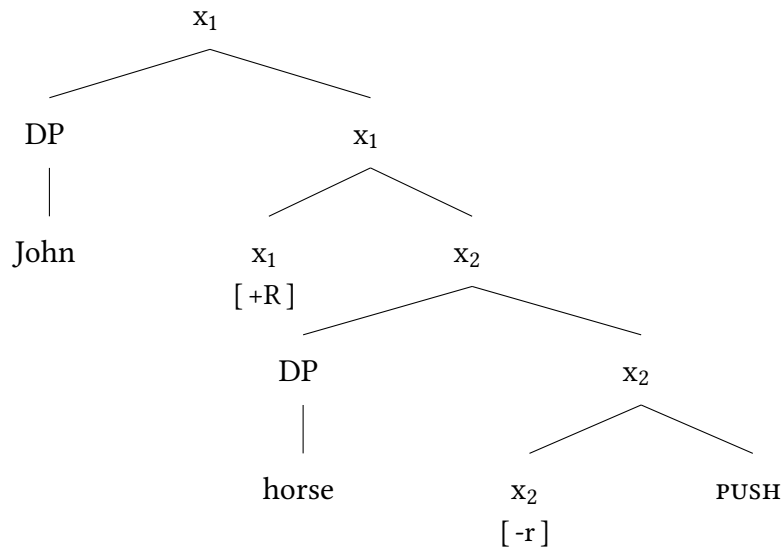
Similarly, the two transitive predicates in (38), one involving a change of state and the other an atelic event of surface/contact, are argued by Mateu (2002) to share the same argument structure configuration and to be distinguished only by the semantic features of the functional heads that make up their syntactic structure, the former involving a $[+R]$ and a $[-r]$ feature and the latter a $[+R]$ and a $[+r]$ feature, respectively.

(38) Based on Mateu (2002: 36)

a. John cleared the screen.



b. John pushed the horse.

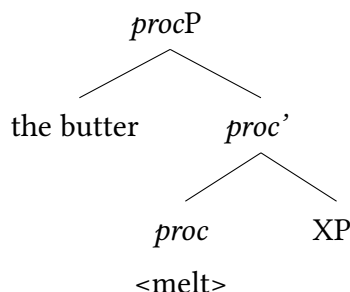


In a similar vein, Ramchand (2008) attributes the distinction between eventivity and stativity to different semantic values of dedicated functional heads. In Ramchand (2008), argument structure configurations are based on two functional heads, one associated to a ‘Process’ primitive predicate (*proc*) denoting change, and the other to a ‘State’ primitive predicate. The stative head can additionally be interpreted as either introducing an initiation eventuality (*init*) or a result eventuality (*res*): if the stative head takes a projection of the *proc* head as its complement, it is interpreted as *init*; if the *proc* head takes a projection of the stative head as its complement, the stative head is interpreted as *res*. Also in Ramchand’s (2008) system, then, the configuration alone is not enough to discriminate in an exhaustive way between different (event structure) classes of predicates. For instance, both the eventive predicate in (39) and the stative one in (40) are argued by Ramchand (2008) to involve only a dyadic configuration in their argument structure, their semantic difference depending on the inherent semantic content of the functional head projecting the configuration.⁷

⁷Although Ramchand (2008) labels the stative functional head in (40) as *init*, she notes that such a head in (40) is not interpreted as causal but simply as a state, since it does not have a *procP* as its complement (Ramchand 2008: 55).

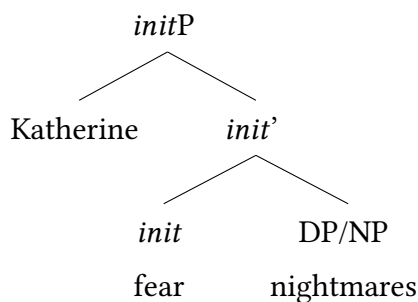
(39) Based on *Ramchand (2008: 87)*

The butter melted.



(40) Based on *Ramchand (2008: 106)*

Katherine fears nightmares.



The idea that stativity and eventivity are semantic notions lexically encoded as features of functional heads is also assumed in *Folli & Harley (2006, 2007)*. For instance, regarding the two examples in (41), *Folli & Harley (2006: 138)* argued that '[t]he first, of course, is resultative, while the second is simply stative; the difference is not structural, but results from the semantics of the matrix verbs'.

(41) *Folli & Harley (2006: 138)*

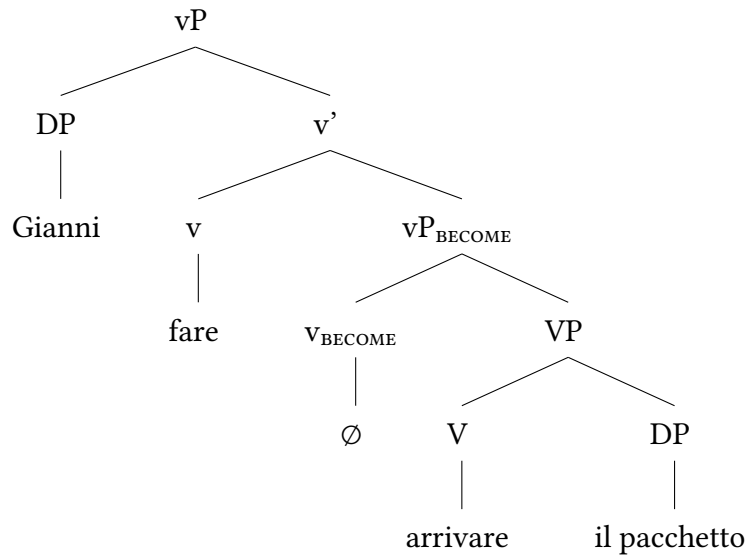
- a. Mary drove [_{SC} John crazy].
- b. Mary considers [_{SC} John crazy].

Analogously, in *Folli & Harley (2007)* the distinction between stativity and eventivity is understood in terms of different semantic flavors of a functional head *v*. In particular, *Folli & Harley (2007)* distinguish between v_{BE} , v_{BECOME} , v_{CAUSE} , and v_{DO} . These flavors are taken to be lexically specified and not to arise post-syntactically, from the semantic interpretation of the configuration. This appears clear from the

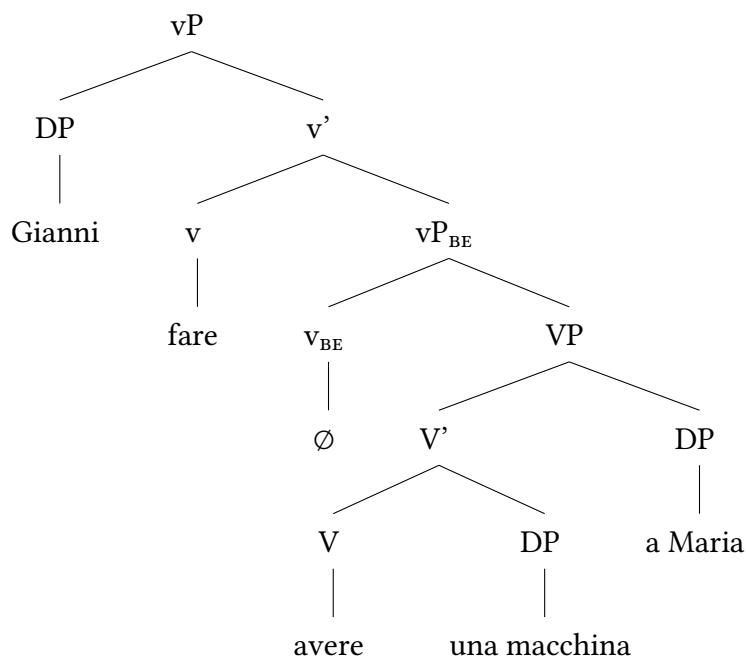
analysis of the two Italian examples in (42). The difference between these two examples is argued by Folli & Harley (2007: 215-216) to consist only in the flavor of *v* involved, resultative *arrivare* ('arrive') in (42a) being associated with a v_{BECOME} head, and stative *avere* ('have') in (42b) being associated with a v_{BE} head, while both *v* heads are taken to project a monadic configuration.

(42) Italian; Folli & Harley (2007: 215)

- a. Gianni ha fatto arrivare il pacchetto.
 Gianni have.3SG make.PTCP.PST arrive.INF the package
 'Gianni made the package arrive.'



- b. Gianni ha fatto avere una macchina a Maria.
 Gianni have.3SG make.PTCP.PST have.INF a car to Maria
 ‘Gianni made Maria have a car.’



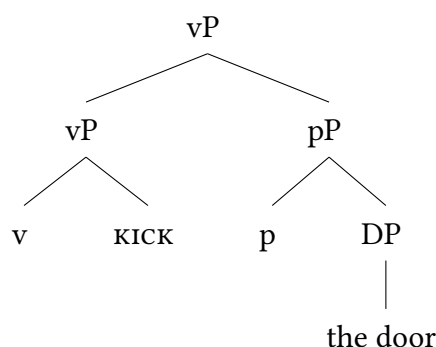
Acedo-Matellán & Mateu (2014: fn. 2) briefly discussed the possibility that the distinction between the eventive head and the adpositional head that introduces a non-eventive relation (in their system, *v* and *p*, respectively; see (36)) ultimately be merely configurational: a single relational head surfaces as a verb (*v*) when it is merged with *T*, and as a *p* category (e.g., as an adposition or an adjective) otherwise. Such a solution, however, is agnostic as to what the argument structure configuration of stative predicates would be. Since stative predicates are non-eventive, yet clearly verbal, one would still be forced to introduce different semantic flavors of *v*, as in Folli & Harley (2007), in order to account for the difference between these predicates and verbal predicates denoting activities, accomplishments, or achievements.

Similarly to Acedo-Matellán & Mateu (2014), Acedo-Matellán (2010, 2016) assumes that the syntactic argument structures of verbal predicates are built by means of two classes of functional heads. One class consists of *v*, which is taken to be an inherently eventive head. The other class consists of two adpositional

heads: Place, which introduces a predicative relation between two entities, and Path, which gives rise to transitions. Place and Path correspond to Hale & Keyser's prepositions of central coincidence and terminal coincidence, respectively. Adopting Hale & Keyser's (2002) proposal that a relation of terminal coincidence involves two adpositional heads, while a relation of central coincidence involves a single adpositional head, Path is assumed to take a projection of Place as complement. In Acedo-Matellán's (2016) system, the distinction between stative predicates and eventive predicates arises configurationally: stative predicates are based on a syntactic argument structure in which *v* takes PlaceP as complement. This solution is not available in Acedo-Matellán & Mateu (2014), where the configuration in which *v* takes a single pP (akin to Acedo-Matellán's 2016 PlaceP) as complement gives rise to atelic transitive predicates of surface/contact, like, e.g., *kick the door* (see also Mateu 2002). However, following Marantz (2005b), Acedo-Matellán (2016) attributes to atelic transitive predicates of surface/contact an unergative configuration where the direct object is introduced by means of a prepositional adjunct to the vP, as in (43).

(43) *Atelic transitive predicates; based on Acedo-Matellán (2016: 37)*

Sue kicked the door.



I come back to the structure of atelic transitive predicates of surface/contact in §3.2, where I argue in favor of Marantz's (2005b) and Acedo-Matellán's (2016) analysis. Like Acedo-Matellán & Mateu (2014), Acedo-Matellán (2016: 32, fn. 12) mentions the possibility that the distinction between the eventive head *v* and the two non-eventive adpositional heads, Place and Path, ultimately be merely configurational. For instance, he proposes that the difference between Path and Place might be

based exclusively on the number of adpositional heads involved, a single head being interpreted as Place and a further head being interpreted as Path. Despite this brief note, however, [Acedo-Matellán \(2016\)](#) proceeds to explicitly treat these heads as distinct and provides an account of [Talmy's \(1985, 1991, 2000b\)](#) typology based on this distinction. I return to [Acedo-Matellán's \(2016\)](#) account of Talmy's typology in Chapter 4 (see particularly §4.3.2.1), where I put forth an account of the typology in light of the theory of argument structure that I introduce in Chapter 3. What is significant for the present discussion is that, once more, the distinction between the eventive head *v* and the adpositional heads Path and Place as independent functional heads is taken to be theoretically relevant, challenging the idea that it arises solely from properties of the configuration.

To sum up, semantic distinctions such as the one between stativity and eventivity, or between resultative predicates and predicates denoting events of surface/contact, are often regarded by neo-constructionist theories as reflections of different semantic features lexically encoded in functional heads, regardless of the possible homomorphism in the syntactic configurations projected by such heads.⁸ This can be regarded as residue of lexicalism which is ultimately incompatible with the desiderata of a strong neo-constructionist perspective on argument structure.

2.4 Conclusions

In this chapter, I have introduced two contrasting views on the relation between lexical items and the argument structures and event structures they appear in: the lexicalist view and the neo-constructionist view. I have further presented Hale & Keyser's theory of lexical syntax, as a primary predecessor to several neo-constructionist theories. Despite its lexicalist premises, Hale & Keyser's work shares with the neo-constructionist view the idea that the aspectual properties of predicates do not determine their syntactic structure, but rather arise, without

⁸See also [Collins \(in press\)](#) for a syntactic theory of argument structure based on the fundamental assumption that arguments of predicates are introduced by a series of devoted argument-introducing functional heads.

any direct mapping, from the semantic interpretation of the syntactic structure, which is constrained by principles of the computational system only.⁹

Among the assumptions of the lexicalist view is the idea that there exist some lexical semantic primitives (e.g., ACT, CAUSE, BECOME) which, coupled with a combination of generative principles, gives rise to a limited number of possible semantic relations between arguments in a predicate (Levin & Rappaport Hovav 1995). Different combinations of such semantic relations give rise to a set of structural templates of event types, which are taken to be made available by UG and associated with lexical entries in so-called lexical semantic representations. Verb roots, filling argument or modifier positions of primitive semantic predicates in event structures, are argued to obey the ‘lexicalization constraint’, which precludes them from being associated with more than one semantic predicate in an event schema (Rappaport Hovav & Levin 2010). This causes a phenomenon of manner/result complementarity, whereby verb roots cannot express both manner (associated with the position of modifier of the ACT primitive semantic predicate) and result (associated with the position of argument of the BECOME primitive semantic predicate).

In the neo-constructionist approach, a division is drawn between the meaning contribution of roots, which are understood as providing conceptual content related to encyclopaedic knowledge, and semantic construal (Mateu 2002, among others). According to this approach, the conceptual content of roots does not dictate the way roots are integrated in argument structures, whereby no linguistically relevant classification of roots in terms of manner and result can be made in the

⁹See, e.g., Hale & Keyser (2002: 224-225) (also Hale & Keyser 2005: 41): “In general, we conclude that aspect is orthogonal to argument structure. Whenever we deal with questions of interface and interaction in this domain, we observe that argument structure is for the most part autonomous. Its properties and characteristics are strictly local, being defined in terms of the structural relations of complement and specifier. To be sure, any argument structure configuration associated with an actual predicate in sentential syntax will be interpreted in terms of one or another aspectual type (achievement, accomplishment, etc.) and its arguments will be associated with one or another aspectual role (measure, path, terminus, etc.; Tenny 1994). But argument structure is a distinct and separate component of grammar”.

lexicon. Semantic construal is assumed to be determined both by properties of the configuration of the syntactic argument structure and by the intrinsic meaning of the functional heads that make up the structure.

In the next chapter, I take seriously the hypothesis that event structural distinctions such as the one between stativity and eventivity are based purely on configurational properties of syntactic argument structures. I argue that different event structure interpretations of syntactic argument structures depend on configurational properties of such syntactic structures only, and they are not based on the semantic content of the functional heads that make up those structures. In particular, I propose that syntactic argument structures consist of syntactic configurations based on a single, semantically underspecified functional head. In Chapter 4, I examine the predictions of the theory of argument structure that I propose in Chapter 3 with respect to Talmy's typology.

I turn to manner/result complementarity in Chapter 5, where I provide empirical evidence in favor of *Acedo-Matellán & Mateu's* (2014) neo-constructionist take on the complementarity, supporting the hypothesis that verb roots are lexically underspecified with respect to the argument structure and event structure types they are associated to.

Chapter 3

Toward a configurational theory of argument structure

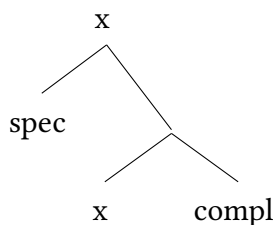
In this chapter I propose a configurational theory of argument structure. I build on Déchaine's (1996) and Suzuki's (1997, 1999, 2005) claim that, in syntactic argument structures, the dyadic configuration is strictly associated with stativity and the monadic configuration is strictly associated with eventivity. In §3.1 I introduce Déchaine's and Suzuki's proposal, and I argue that such a proposal receives support by Maienborn's (2007, 2019) work on the semantic distinction between Davidsonian states and events and so-called Kimian states, which are states proper and should be considered as a separate class from Davidsonian states. In §3.2, I propose a configurational theory of argument structure based on the premises established in §3.1, and I focus on the possible types of syntactic argument structures that are predicted by the theory, as well as on their semantic interpretation. In §3.3, based on the theory laid out in §3.2, I discuss the operation responsible for the expression of co-events in the main verb of the predicate. In §3.4 I analyze how the interpretation of the external argument changes depending on the semantic construal read off the syntactic argument structure of the predicate. §3.5 provides an overall summary of the proposals developed in this chapter.

3.1 Stativity and eventivity as properties of the configuration

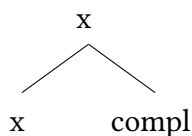
Déchaine (1996) and Suzuki (1997, 2005) proposed that the state/event semantic distinction is strictly related to the syntactic configuration of the argument structure of predicates: the dyadic configuration, in which a head takes both a complement and a specifier, is associated with stativity, while the monadic configuration, in which a head only takes a complement, is associated with eventivity.¹

(1) Suzuki (1997: 55)

a. *State*



b. *Event*



The direct mapping between syntactic configurations and semantic construal argued for by Déchaine (1996) and Suzuki (1997, 2005) with respect to the differ-

¹The idea that the state/event distinction has a structural reflection is already found in Hale & Keyser (1993 and following work), who associate the dyadic configuration to a semantics of central coincidence (see §2.2). However, such a correlation is not taken in a strict sense by Hale & Keyser, as the contrast is eventually understood in terms of semantic specifications attributed to different lexical categories. For instance, V is assumed to be inherently eventive by Hale & Keyser (see Hale & Keyser 1993: 68: “Each of the lexical categories is identified with a particular notional “type” [...]. For example, the category V is associated with the elementary notional type “event”). Accordingly, as discussed in §2.2, deadjectival resultative predicates like, e.g., *The sky cleared* are assigned a dyadic configuration such as (1a), headed by a lexical head V: the inherent eventivity of V is enough to overcome the otherwise expected stativity of the predicate arising from the dyadic configuration.

ence between states and events is grounded on the distinction, put forth in Hale & Keyser (1993) and following work, between lexical syntax and sentential syntax, which are understood by Hale & Keyser as two separate derivational components of grammar. In particular, Suzuki (1997) argues that a monadic configuration is associated with an eventive reading based on Kratzer's (1994) work (see also Kratzer 1996) on the introduction of external arguments by means of a dedicated functional head, Voice, in sentential syntax. Kratzer argued that Voice is associated with a function that establishes a predicative relation between an external argument, merged syntactically as the specifier of Voice, and an event argument. According to Kratzer (1994), the event position in the function introduced by Voice is saturated with the event argument of the verb merged in the complement of Voice, through an operation called Event Identification. Following Davidson (1980), Suzuki (1997) assumes that the event position is confined to the lexical entry of dynamic verbs, which are verbs that give rise to events. Since Voice is a functional head that appears in sentential syntax, Suzuki (1997) concludes that predication must be established in sentential syntax for eventive predicates, a condition obtained if events always lack a lexical syntactic specifier position. Suzuki's reasons for attributing an inherently eventive semantic interpretation to the monadic structure in (1b), however, are no longer tenable, since the distinction between lexical syntax and sentential syntax has been criticized and largely abandoned (Acedo-Matellán 2010, 2016; Harley 1995; Marantz 1997, 2007, 2013a, among others).² Furthermore, work

²Unfortunately (from the perspective defended in this thesis), Suzuki (1997) goes on to propose that the association between eventivity and the monadic configuration, as well as the association between stativity and the dyadic configuration, are not at the base of the event structural interpretation attributed to the head of the configuration. Rather, these associations are determined by the more basic, lexically specified semantic category of the head. He distinguishes between heads of category *e* (event), *r* (relation), *n* (entities), and *q* (quality), and he proposes the following lexical-syntactic projection principles:

- (i) *Lexical syntactic projection principles; Suzuki (1997: 69)*
 - a. *e* projects a head-complement configuration;
 - b. *r* projects spec-head-complement configurations;

within the neo-Davidsonian paradigm (Higginbotham 1985; Parsons 1990, among others) argued in favor of the idea that verbs involve a hidden event position irrespective of whether they express a state or an event, thus casting doubts on the idea that the state/event distinction can be structurally reflected. In what follows, I suggest that Déchaine's and Suzuki's proposal can be rescued in light of Maienborn's (2007, 2019) work on the semantic distinction between Kimian states and Davidsonian states and events.

The idea that there is a dedicated functional head for the introduction of an event argument in syntax in the case of both eventive predicates and stative predicates can be related to the adoption of a neo-Davidsonian perspective on argument structure (Higginbotham 1985; Parsons 1990). In this perspective, the distinction between states and events does not have to follow from properties of the configuration, because both states and events are regarded as types of Davidsonian events. Davidsonian events are understood as arguments of pre-syntactic, primitive semantic predicates, which are in turn lexically associated with particular functional heads. Maienborn (2007, 2019) (see also Maienborn 2003a, 2005b,c), however, proposed that not all stative predicates refer to a Davidsonian event. The starting point of Maienborn's argumentation is the observation that the class of state expressions is not semantically homogeneous. Verbs such as *sit*, *glow*, *gleam*, and *sleep*, despite giving rise to non-dynamic expressions (Bach 1986; Dowty 1979), pattern with events and processes when diagnostics for Davidsonian eventualities are applied.³ In contrast, verbs like *know*, *weigh*, and *own*, as well as copular construc-

- c. *n* and *q* project no configuration.

Dispensing with the distinction between lexical syntax and sentential syntax, in the remainder of this section I advocate for the opposite causal relation between the associations listed in ((i)). While, ultimately, in Suzuki's proposal heads are specified for a basic semantic category which determines the syntactic configurations in which they appear, I hold that a semantic interpretation is post-syntactically assigned to the head based on the interpretation of the syntactic configuration.

³See also Silvagni (2017) for the claim that eventivity is not contingent on dynamicity. 'Event' is used in Maienborn (2007, 2019) as a cover term for accomplishments and achievements (in Vendler's 1967 terms). 'Process' corresponds to Vendler's (1967) notion of activity.

tions, do not meet any of the criteria for Davidsonian eventualities. Among the criteria discussed by Maienborn are the ability to appear in perception reports ((2)) and the compatibility with locative modifiers ((3)) and manner adverbials ((4)).⁴

(2) *Perception reports*; *Maienborn (2019: 66)*

- a. I noticed the shoes gleam in the light.
- b. *I saw the tomatoes weigh 1 pound.

(3) *Locative modifiers*; *Maienborn (2019: 66)*

- a. The pearls gleamed in her hair.
- b. *The tomatoes weighed 1 pound beside the carrots.

(4) *Manner adverbials*; *Maienborn (2019: 68)*

- a. The pearls gleamed dully/reddishly/moistly.
- b. *Bardo owned thriftily/generously much money.

Based on these contrasts, Maienborn split the class of state expressions in two groups: Davidsonian states, which consist of predicates denoting Davidsonian eventualities despite being neither events nor processes, and Kimian states, which are states proper and do not denote Davidsonian eventualities (*pace* *Dölling 2005*; *Higginbotham 2005*; *Martin 2006*; *Mittwoch 2005a*; *Parsons 1990*; *Ramchand 2005, 2008*; *Rothstein 2005*, among others).⁵

⁴But see *Mittwoch (2005a)* for some potential counterexamples to the pattern illustrated in (4b) (e.g., *know a poem by heart*, or *love someone platonically*; *Mittwoch 2005a: 78*). Further see *Maienborn (2001)* for the observation that locative modifiers do not give rise to relevant contrasts when understood as ‘frame-setting locatives’ (e.g., ‘by candlelight’ in *By candlelight, Carolin resembles her brother*; cf. *Maienborn 2007: fn. 6*). Frame-setting locatives do not modify an underlying eventuality argument, but rather the whole proposition, whereby they may take on a temporal reading and their omission does not necessarily preserve truth (*Maienborn 2001*).

⁵Kimian states are named by Maienborn after *Kim’s (1969, 1976)* work on temporally bound property exemplifications. For a view of stative predicates as belonging to two classes, one essen-

I claim that the semantic characterization of Davidsonian states and Kimian states provided by Maienborn supports the structural distinction between states and events proposed by Déchaine (1996) and Suzuki (1997, 2005). Namely, Davidsonian states, which form a single class with Davidsonian events, involve the monadic syntactic configuration, while Kimian states are associated to the dyadic configuration. Maienborn describes Kimian states as predicates introducing an argument, in the terms of Davidson (1967), which is “ontologically “poorer” than Davidsonian event arguments” since “the entity referred to by statives cannot be perceived, located in space, or vary in the way that it is realized” (Maienborn 2007: 114). Such an entity consists in a property that is equated by Maienborn to Asher’s (1993, 2000) notion of ‘abstract objects’. These are “mentally constructed entities” that are “introduced for efficient natural language processing and other cognitive operations but do not exist independently of them”, that is to say, “abstract objects only exist because we talk and think about them” (Maienborn 2007: 113). Accordingly, Kimian states are defined as “abstract objects for the exemplification of a property P at a holder x and a time t” (Maienborn 2007: 113; emphasis mine). Thus, Kimian state arguments do not exist in the absence of a relation between a property entity and its holder. It follows from this that the holder entity is a constitutive part of Kimian state arguments. Assuming that the relation between the property and its holder is established in the computational system, Kimian state arguments

tially dynamic and the other truly static, further see Bach (1986) and Alexiadou (2011), the latter building on Maienborn’s work. For a view of stative predicates as always lacking a Davidsonian event argument, see Katz (2000). The bipartite typology of stative predicates argued for by Maienborn should not be confused with the distinction, dating back to Carlson (1977) and based on work by Milsark (1974, 1977), between so-called stage-level predicates, denoting temporary properties (e.g., *Carol was tired*; Maienborn 2005a: 282), and individual-level predicates, denoting more or less permanent properties (e.g., *Carol was blond*; Maienborn 2005a: 282). Kratzer (1989) (also in Kratzer 1995; further see Silvagni 2017) defended the idea that stage-level predicates have a Davidsonian event argument, while individual-level predicates do not (further see Husband 2012 for the idea that stage-level predicates and individual-level predicates are structurally distinct). However, Maienborn (2005a,c) (see also Maienborn 2003a,b, 2004) argued that the stage-level vs. individual-level predicates dichotomy and the Davidsonian state vs. Kimian state dichotomy should be kept separated, since copular constructions denoting both types of predicates behave as referring to Kimian states when eventuality diagnostics of the type in (2), (3), and (4) are applied.

arise as objects that are inherently syntactic in nature. From the assumption that the possessive relation between the property and its holder is established syntactically, the conclusion is further drawn that, for a Kimian state reading to arise, a dyadic configuration has to be involved.

Contrary to Kimian states, Davidsonian eventualities are conceived of as “spatiotemporal entities with functionally integrated participants” (Maienborn 2007: 109), that are perceptible and can be located in space and time. Thus defined, the hidden Davidsonian event argument found in eventualities emerges as a cognitive concept that exists independently of processes related to the computational system. That is to say, such an entity, contrary to the Kimian state argument, is not syntactic in nature. It follows, then, that the syntactic integration of Davidsonian event arguments cannot occur through the dyadic configuration in (1a), which is an inherently predicational configuration involving two entities in an asymmetric relation. Davidsonian event arguments can only be conceived of syntactically as a simplex unit. As the simplest hypothesis, this unit can be regarded as consisting of a basic functional head, which can be identified with *x* in (1b). Indeed, while in the dyadic configuration in (1a) the head *x* functions as a relator between two entities, in the monadic configuration in (1b) this head has no evident semantic purpose. I propose that such a head in the monadic configuration acts as a mere licenser for the syntactic representation of the hidden event argument, which is not a syntactic object in itself. The complement of *x* in the monadic configuration, in turn, is required in order to provide specific world knowledge information regarding the occurrence of the Davidsonian event in the sensible world. This accounts for the mandatory presence of a complement in the monadic configuration, a generalization (*mutatis mutandis*) originally from Hale & Keyser’s (1993, 2002) work. I elaborate further on the theoretical status of the functional head in (1) in the next section, where I put forth a syntactic theory of argument structure building on Déchaine’s (1996) and Suzuki’s (1997, 2005) configurational theory of the state/event distinction and in light of Maienborn’s (2007, 2019) semantic distinction between Kimian states and Davidsonian events.

3.2 Deriving argument structure types

Like [Acedo-Matellán \(2016\)](#); [Borer \(2005b\)](#); [Hale & Keyser \(1993, 2002\)](#); [Harley \(2005\)](#); [Mateu \(2002\)](#); [Mateu & Acedo-Matellán \(2012\)](#); [Ramchand \(2008\)](#), among others, I contend that syntactic structures directly determine the compositional semantics of predicates. However, whereas in previous theories syntactic structures can be headed by semantically rich functional operators (introducing notions such as, e.g., central coincidence relation, terminal coincidence relation, process, initiation, change etc.), I explore the idea that any compositional meaning relevant at event structure is read off the syntactic configuration of predicates, based exclusively on the three following assumptions. First, syntactic structures give rise to either stative or eventive predications only when the head α of (1), henceforth referred to as α , is involved. Second, for the reasons argued in §3.1, dyadic configurations headed by α strictly give rise to Kimian states, and monadic configurations headed by α strictly give rise to Davidsonian states and events. Third, Merge between two elements without the mediation of a functional head projecting a specifier-complement configuration (e.g., between a root and a phrase, or a root or a phrase and α when it projects a monadic configuration),⁶ triggers an operation of ‘identification’ between the two elements, which is carried out by the conceptual-intentional system. When identification takes place, the conceptual content of the two elements is combined within the context denoted by the predicate, in a way that depends on the conceptual interpretation of the predicate.

Adopting a minimalist perspective, I understand the head α as consisting of the most minimal bundle of features found in the Narrow Lexicon, comprising as its single feature the [edge] feature required to take part to Merge operations in syntax (see [Boeckx 2014a](#)). The semantic contribution of this head, pre-syntactically, is thus totally null, and any semantic interpretation (e.g., flavors like DO, CAUSE, BE, BECOME etc.) is acquired configurationally. I propose that this head is at the base of all the different argument structure configurations made possible by syntax.

⁶As discussed in §3.1, if α takes a specifier it acquires a semantic function as a predicative relator.

At LF, the structures headed by α are interpreted as introducing either a Kimian state or a Davidsonian eventuality depending on the configuration. This allows us to overcome the problem, arising from the abandonment of the lexical/sentential syntax distinction, that not all specifier-complement relations are predicational stative relations in syntax. Only the specifier-complement relations headed by α trigger an interpretation as giving rise to a stative expression at LF, the stative semantics arising as a purely configurational effect related to the dyadic nature of the syntactic structure headed by α .

The necessary conditions in order for two elements that are merged together to undergo identification at the level of the conceptual/intentional system can be defined more specifically as illustrated in (5).

(5) *Conditions for the triggering of identification*

Two elements merged together undergo identification if and only if:

- a) each of them is either provided with conceptual content (also by inheritance from an element they contain) or devoid of formal semantic features, and
- b) none of them is both merged from the Narrow Lexicon and attributed a semantic function at LF based on the interpretation of the syntactic configuration.

Capturing the two conditions in a) in terms of binary features (e.g., [\pm conceptual content] and [\pm formal semantic features]), the four combinations illustrated in Table 1 arise. According to a), only three of the four possible combinations refer to elements that, when merged together, undergo identification at the level of the conceptual/intentional system. The only combination excluded is the one involving elements which contain formal semantic features from the Narrow Lexicon and are not associated with conceptual content at LF (e.g., functional heads like D, P, Asp, T, C etc.). The three classes of elements that can undergo identifica-

tion are represented in bold in the table, for ease of reference.⁷ The conditions in b) from (5) have an effect on whether or not α undergoes identification with its complement. Since α is merged from the Narrow Lexicon and attributed a specific semantic function (namely, that of a predicative relator) only when it projects a dyadic configuration, according to b) it undergoes identification with its complement only when projecting a monadic configuration.

Table 1: Classes of syntactic elements based on whether or not they involve conceptual content (C. c.) and formal semantic features (S. f.)

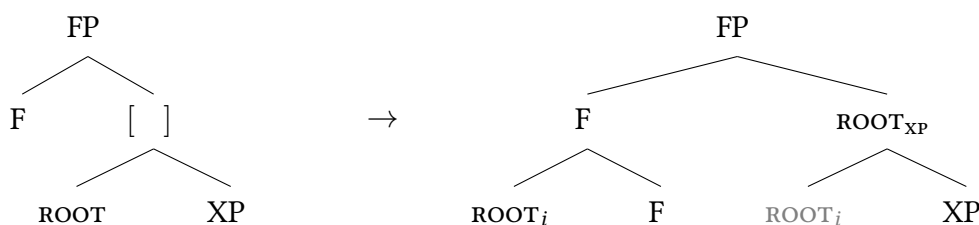
		S. f.	
		+	-
C. c.	+	DP, PP, ...	roots
	-	D, P, ...	α_{monadic}

When a root and an XP with conceptual content, or two XPs with conceptual content, are e-merged together and undergo identification, I assume that the head of one of the two elements further merges with the closest c-commanding functional head, via I-Merge, in order to be recognized as the head of the constituent. In case of a root e-merged with an XP, I further assume that it is always the root that undergoes I-Merge with the closest c-commanding functional head. Although there seems to be no intrinsic syntactic reason requiring the root to undergo I-Merge, instead of the head of the XP, this operation is arguably needed in order for the root to be successfully categorized by the functional material merged on top of the constituent that gives rise to identification. If a constituent formed by a root and

⁷There are cases in which two phrases merged together give rise to restricted modification, rather than to identification (see, e.g., the discussion in Heim & Kratzer 1998: 63-68 of examples like *city in Texas*, where the PP restricts the set referred to by the noun merged with it). These cases obey Heim & Kratzer's (1998: 65) rule of Predicate Modification, which I assume takes precedence over identification when the proper semantic conditions for its application are met. In this perspective, identification can be conceived of as an interpretational strategy that, under the conditions specified in (5), is resorted to at the level of the conceptual/intentional system when the semantic conditions for the application of other semantic rules for the interpretation of elements merged in a mutual c-command relation are not met at LF.

an XP were to be headed by the head of the XP, the root would remain uncategorized, and the derivation would crash at the interfaces. I thus assume that only those cases in which the root is further i-merged with the closest c-commanding head (e.g., F in (6)) are felicitous throughout the derivation. The I-Merge operation establishes that the element that undergoes I-Merge is the head of the constituent formed by the elements that undergo identification. This is represented in (6) with the assignment of a label to the node consisting of the two elements that undergo identification, after the root undergoes I-Merge.⁸

- (6) *I-Merge of the root with the closest c-commanding functional head in structures involving identification*



I illustrate the operation of identification with concrete examples in the remainder of this section, where I discuss different types of predicates based on the dyadic α P (3.2.1) and the monadic α P (3.2.2), respectively. For ease of exposition, in the remainder of the chapter I will omit the representation of the I-Merge of the root with the closest c-commanding functional head in the syntactic structures involving constituents that give rise to identification.

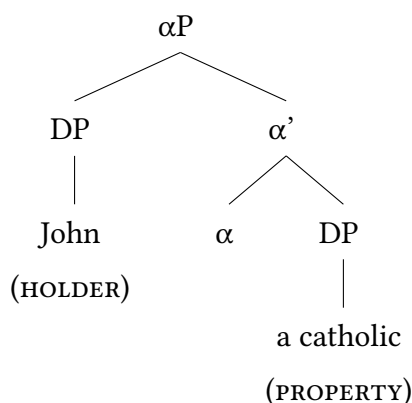
3.2.1 The dyadic configuration

When α takes both a complement and a specifier, projecting the dyadic configuration, the structure is interpreted as a predication referring to a Kimian state. In

⁸The unpronounced copy of the root in (6) is represented in gray. The subscript in ROOT_{XP} stands for the fact that the two elements contained within such a node undergo identification, and that one of the two elements (namely the one bearing the subscript; in this case, the root) is the head of the constituent. F stands for a generic functional head.

particular, the complement of α is understood as denoting a property which holds of α 's specifier. The copular construction in (7) illustrates this.

(7) John is a catholic.



Following [Maienborn \(2007: fn. 10\)](#), I regard also locative copular constructions as predicates that refer to Kimian states. For example, [Maienborn \(2007\)](#) argues that (8) refers to a Kimian state with the property of being located in the garden.⁹

(8) *German*; [Maienborn \(2007: fn. 10\)](#)

Carolin ist im Garten.

Carolin be.3sg in.the garden

'Carolin is in the garden.'

Also roots may be merged as the complement of α in the dyadic configuration ([Hale & Keyser 1997b](#)). Kimian states involving a root in the complement of α are typically transitive, as the following examples illustrate.

⁹Similar to the localist hypothesis (see [Anderson 1971](#); [Gruber 1965](#); [Jackendoff 1983](#); [Mateu 2002, 2008b](#); [Talmy 1991, 2000a,b](#), among others), thus, I assume that there is no difference in argument structure between predicates of states and predicates of locations (and, similarly, between predicates of change of state and predicates of change of location, for which see §3.2.2.2). In contrast to the localist hypothesis, however, I do not consider space as the source domain for the expression of non-spatial concepts. Rather, I assume that the specifier-complement relation established in dyadic αP s may acquire a Figure-Ground (spatial) interpretation as the result of a reanalysis, in spatial terms, of the basic holder-property interpretation involved in the arising of Kimian states.

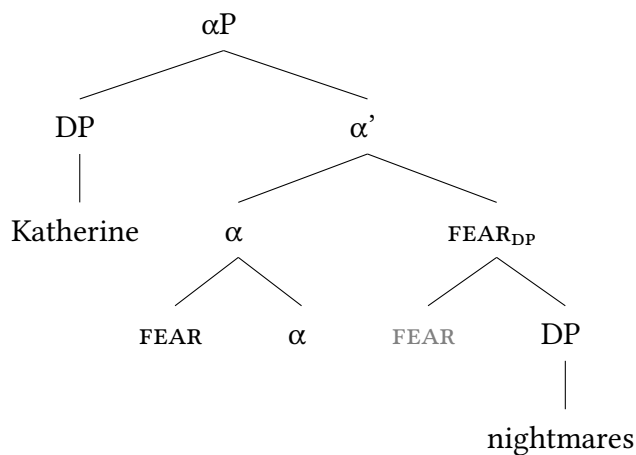
(9) *Ramchand* (2008: 33-34)

- a. Katherine fears nightmares.
- b. Alex weighs thirty pounds.

Following *Ramchand* (2008), I understand the direct objects in (9) as constituting part of the description of the property which is predicated of the subject. Thus, no predicative relation is established between the direct object and the verb's root in (9). This is a welcome result in light of the type of argument structure argued to be associated with stative predicates in the present section; with the subject occupying the specifier of α and the root occupying the complement of α , a plausible way of accounting for the presence of a direct object in this kind of predicates is to assume that such an object originates in the complement of α , together with the verb's root. The direct object and the verb's root, e-merged together, trigger an operation of identification at the level of the conceptual/intentional system, whereby their conceptual content is understood to match in a way that is salient in the context of the predicate. This derives the fact that the direct object, in predicates of this kind, seems to be further specifying the nature of the property introduced by the root, which is predicated of the subject. For example, *nightmares* in (9a) specifies the nature of Katherine's fear; similarly, *thirty pounds* in (9b) specifies the amount of Alex's weight.

(10) *Derivation of (9a)*

a. *Structure at Spell-Out*



b. *Semantic interpretation*

- DP ⇒ referring expression
 FEAR ⇒ access to the encyclopedic content of FEAR
 FEAR_{DP} ⇒ identification of FEAR with DP
 α ⇒ predicative relator
 DP ⇒ referring expression predicatively related to FEAR_{DP}
 via α
 αP ⇒ predication

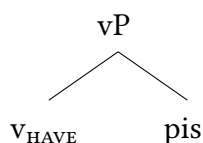
The same structure, I argue, is involved in so-called ‘characterizing *have* predicates’ (Espinal & McNally 2009, 2011; Espinal & Mateu 2011) of the type in (11), found in Romance languages like Catalan and Spanish.

(11) *Catalan; Espinal & Mateu (2011: 4)*

- a. Té cotxe.
 have.3SG car
 ‘He/she has a car.’
- b. Busquem dependenta.
 look_for.1PL shop_assistant
 ‘We are looking for a shop assistant.’

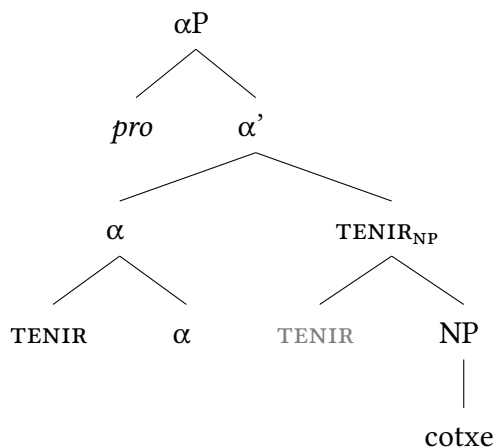
Espinal & McNally (2011) and Espinal & Mateu (2011) argued that the bare nominals occupying the direct object position in the predicates in (11) are verb modifiers forming a complex unit with the verb. They further claimed that this possibility is granted to a nominal head “if, and only if, the basic argument structure in which [it] occur[is] is the one that corresponds to what we call unergative-like structures” (Espinal & Mateu 2011: 12). Accordingly, they attributed to (11) the argument structure in (12), deriving the stativity of the predicate by assuming that a *v* head associated with a HAVE primitive semantic predicate heads the structure (Espinal & McNally 2011). The resulting *vP* is interpreted as denoting a characterizing property referred to the external argument, which in turn is introduced by a higher functional projection.

(12) Based on *Espinal & McNally (2011)*; *Espinal & Mateu (2011)*



If the predicates in (11) are stative predicates referring to Kimian states, according to the present theory they should have the same structure of transitive stative predicates of the type in (9), that is to say, the one depicted in (10). In particular, I propose that the predicates in (11) involve a stative predicative relation, established in a dyadic configuration projected by a head α , between the subject of the predicate and an abstract property which is denoted by a conjunct of the verb's root (e.g., TENIR, BUSCAR) and the bare nominal object, which are e-merged together in the complement of α . *Pace Espinal & McNally (2011)*; *Espinal & Mateu (2011)*, I claim that nothing precludes the merging of a bare NP as part of α 's complement in the dyadic configuration, the monadic (unergative) configuration thus not being a relevant factor for the felicity of the construction illustrated in (11).

(13) *Argument structure of (11a)*



Indeed, in the present terms, the monadic configuration associated to the unergative structure is regarded as intrinsically incompatible with a stative reading of the predicate, due to the eventive interpretation attributed to the head α in such a configuration.

Intransitive predicates based on the dyadic configuration are unaccusative,

since their subject (α 's specifier) is merged within the domain of the predicate's composition (i.e. α P, corresponding, in this case, to the more traditional VP). Stative unaccusative predicates, however, do not form a wide class cross-linguistically, as they are based on a quite reduced number of verbs.¹⁰ Examples include, for instance, verbs denoting existence/presence and absence, as in (14), verbs of spatial configurations, as in (15), some psychological verbs, as in (16), and some verbs of possession, as in (17).

(14) *Acedo-Matellán (2016: 41)*
Dinosaurs existed (for a long time).

(15) *Greek; Alexiadou (2011: 36)*
I Galia sinorevi me ti Germania.
the France border.3SG with the Germany
'France borders with Germany.'

(16) *Italian; Belletti & Rizzi (1988: 340)*
Le tue idee piacciono a Gianni
the POSS ideas please.3PL to Gianni
'Gianni likes your ideas.'

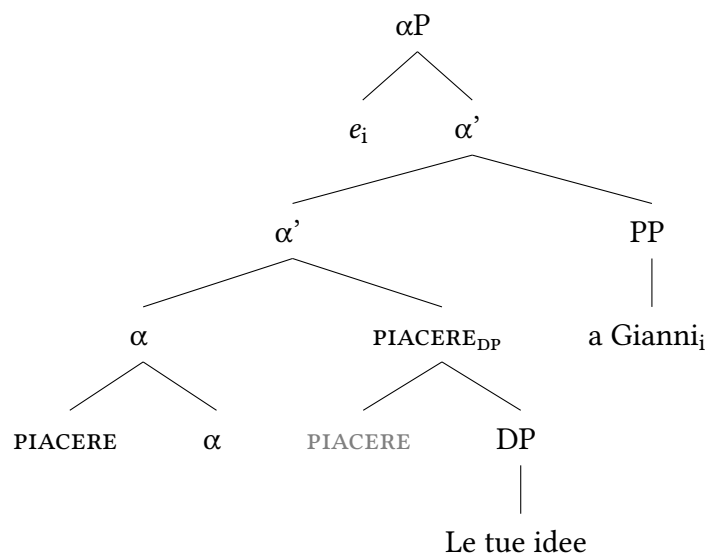
(17) *Italian; Belletti & Rizzi (1988: 341)*
Questa casa appartiene a Gianni.
this house belong.3SG to Gianni
'This house belongs to Gianni.'

The relative scarcity of verbs associated with stative unaccusative predicates cross-linguistically does not appear to be due to a structural restriction (*pace* theories

¹⁰Removing the direct object from the predicates in (9), for example, drastically degrades their well-formedness. It seems to me that, without the direct object, the predicates in (9) would acquire an unergative flavour, as if they denoted Davidsonian (rather than Kimian) states (see (21) for an analysis of Davidsonian state predicates).

explicitly predicting an incompatibility between the unaccusative structure and predicates of this kind; see, e.g., van Hout 2004: 81-82). Rather, the peculiarity of this class of unaccusative predicates seems to be that they tend to require some sort of further specification, beyond what is expressed by the verb's root, about the state property predicated of the subject (notice, for instance, the presence of the temporal PP *for a long time* in (14), without which the predicate might sound as rather unnatural in an unmarked reading). While the reasons for this phenomenon are unclear to me, it might be speculated that, as properties of Kimian states, roots alone are not rich enough as to license predicates with enough rhematic information to be judged well-formed in the majority of contexts. At the same time, it may be the case that not all stative unaccusative predicates have their subject originating as α 's specifier. For example, Belletti & Rizzi (1988) argued that the Italian predicates in (16) and (17) are based on a structure in which the sentential subject is e-merged as part of the predicative complement. The idea of Belletti & Rizzi (1988), originally framed within the Government and Binding framework (Chomsky 1981, 1982; Lasnik & Saito 1984), can be captured in the present system by assuming that the subject is e-merged with the verb's root in the complement of α , while the PP argument is merged as an adjunct co-indexed with an empty category (e in (18)) in the specifier of α , as in (18).

(18) *Argument structure of (16) and (17)*



This analysis captures the fact that, as in the case of the direct objects of the transitive stative predicates in (9), the subject both in (16) and in (17) seems to further specify the state property introduced by the verb's root (such that, for instance, *Le tue idee* 'your ideas' specify the nature of Gianni's liking in (16), and *Questa casa* 'this house' specifies the nature of Gianni's belonging in (17)). Concomitantly, by co-indexation, the fact is also captured that the holder of the state property specified by the complement of α is the referent introduced by the PP.

3.2.2 The monadic configuration

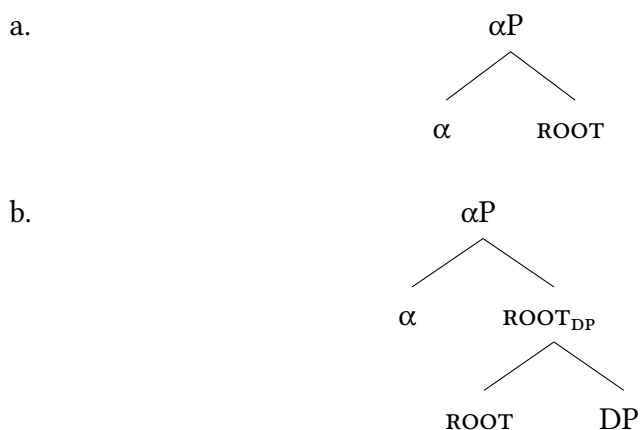
When α takes a complement without taking a specifier, it projects a monadic configuration. In this case, identification takes place between α , which is associated with a conceptually vacuous Davidsonian argument, and the conceptual content of its complement. The resulting αP constituent is thus interpreted as referring to a Davidsonian eventuality which consists in the content specified by the complement of α . Depending on the internal structure of the complement of α in the monadic configuration, two types of Davidsonian eventualities can be identified. I refer to these two types as *atomic Davidsonian event* and *complex Davidsonian event*, respectively, for reasons to be discussed in §3.4.2.2. Atomic Davidsonian events are referred to by predicates whose syntactic argument structure involves a root merged as the complement of α in the monadic configuration. Instead, complex Davidsonian events are referred to by predicates whose argument structure involves a dyadic αP merged as the complement of a head α that projects a monadic configuration. I discuss the two classes of eventive predicates in §3.2.2.1 and §3.2.2.2, respectively.

3.2.2.1 Predicates denoting atomic Davidsonian events

Atomic Davidsonian events are interpreted as either activities or accomplishments, depending, in most cases, on whether a DP is further merged with the root in the complement of α . If only a root appears in α 's complement, as in (19a), the predicate is unergative and typically interpreted as denoting an activity (but see (25) for some exceptions). If a DP is further merged with the root, as in (19b), the mereolog-

ical parts of the DP are mapped homomorphically onto those of the Davidsonian event argument (via recursive applications of the operation of identification; see (23) below), and the predicate, if the DP refers to a bounded entity, is interpreted as denoting an accomplishment whose scale is directly provided by the DP. Following Harley (2005) (further see considerations in Hale & Keyser 1993; Mateu 2002; Volpe 2004, among others), I refer to accomplishments of this type as events of creation/consumption, since the DP is understood as being either created or ‘consumed’ during the event.¹¹

(19) *Argument structures of predicates referring to atomic Davidsonian events*

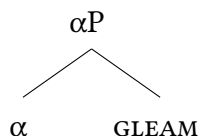


Identification is involved in both (19a) and (19b). In the case of activities, the operation takes place once, matching the conceptual content of the root in α 's complement with the conceptually vacuous Davidsonian event argument associated with α . For instance, a predicate like the one in (3a), repeated in (20), has the derivation in (21).

(20) *Maienborn (2019: 66)*

The pearls gleamed in her hair.

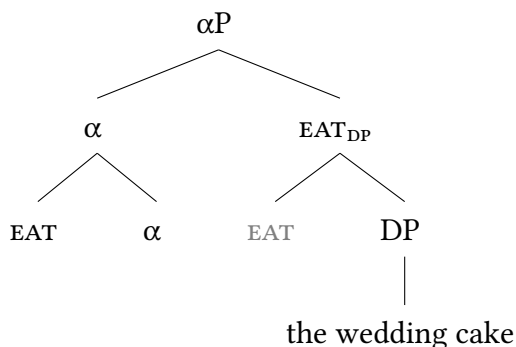
¹¹For ease of exposition, I omit the representation of the I-Merge of the root with α in (19b) (cf. (6)).

(21) *Derivation of (20)*a. *Structure at Spell-Out*b. *Semantic interpretation*GLEAM \Rightarrow access to the encyclopedic content of GLEAM α \Rightarrow Davidsonian event argument αP \Rightarrow identification between GLEAM and Davidsonian event argument

In the case of events of creation/consumption, the operation of identification occurs twice, first between the root and the DP and then between the complex element resulting from the merging of the root and the DP and the Davidsonian event argument represented by α . This is illustrated in (23) with the derivation of the consumption predicate in (22).

(22) *Folli & Harley (2005: 95)*

The groom ate the wedding cake.

(23) *Derivation of (22)*a. *Structure at Spell-Out*

b. *Semantic interpretation*

- DP \Rightarrow referring expression
 EAT \Rightarrow access to the encyclopedic content of EAT
 EAT_{DP} \Rightarrow identification of EAT with DP
 α \Rightarrow Davidsonian event argument
 α P \Rightarrow identification of the Davidsonian event argument with
 EAT_{DP}

The predicate derived in (23) can be paraphrased as *there is an event which consists of eating, and the eating consists of the wedding cake*. This paraphrase, I argue, captures the recursive relations of identification established between the different syntactic elements of the predicate. The relations of identification arising from the interpretation of the predicate in (23) account for two further facts. First, they account for the observed direct mapping between the mereological parts of the object DP and the mereological parts of the event, such that the event is measured on a scale which is provided by the direct object (a phenomenon referred to as ‘event-object homomorphism’ in Harley 2005; see also Dowty 1979, 1991; Krifka 1989, 1992, 1998; Tenny 1992; Verkuyl 1993, among others): a bounded, definite object gives rise to a bounded, telic event, while an unbounded, indefinite object gives rise to an unbounded, atelic event. The examples in (24), based on discussion in Harley (2005: 43), illustrate this by means of the *for/in* adverbial test probing the telicity of predicates (Vendler 1957).¹²

¹² Note that the measure-out effect of the direct object is not present in transitive predicates that refer to Kimian states: in such cases, whether the direct object denotes a bounded entity or not does not affect the telicity of the predicate, which is consistently atelic (see (i)). This is expected in the present theory because α does not undergo identification with its complement when it projects a dyadic configuration (by the condition b) in (5)), which is the configuration involved in stative predicates.

(i) *Absence of the measure-out effect of the direct object in stative predicates*

- | | | |
|----|------------------------|-------------------------------|
| a. | John feared Bill’s dog | for weeks/#in five minutes. |
| b. | John feared dogs | for decades/#in five minutes. |

- (24) *Measure-out effect of the direct object in creation/consumption predicates*
- a. The groom ate the wedding cake #for hours/in five minutes.
- b. The groom ate wedding cakes for hours/#in five minutes.

The present theory thus goes against the idea, quite common in the literature, that the telicity of verbal predicates is established in a specific functional projection of the clausal spine where the boundedness features of the direct object are checked (e.g., Borer 1998, 2005b; Kardos & Farkas 2022; MacDonald 2008; Travis 2010; van Hout 1998, among others; see Folli & Harley 2006 for further criticism of this approach). If identification targets conceptual content, it follows that the telicity of the predicate in examples like (24) is not directly determined by some specific functional features of the direct object: these can only have an effect on its conceptual interpretation, which is the relevant factor in determining the telicity of the predicate. This correctly predicts that not only predicates with the structure in (23), but also predicates with the structure in (21) can potentially be either telic or atelic, depending on the conceptual content of the root merged as α 's complement. Since roots do not bear definiteness features, the majority of roots when merged as the complement of α in the monadic configuration provide a conceptual content which is likely to give rise to unbounded, atelic events classifiable as activities (Vendler 1957). However, as discussed in Harley (2005) and Mateu (2008a), there can be roots that give rise to telic unergative predicates, as illustrated by the following examples denoting events of birthing.¹³

¹³That the examples in (25) are unergative and not unaccusative is indirectly supported by their corresponding Italian translations, which, as noted by Mateu (2008a) (further see Acedo-Matellán 2010, 2016), display the HAVE-auxiliary and not the BE-auxiliary which is expected in unaccusative predicates in Italian.

- (i) *Italian; Mateu (2008a), in Acedo-Matellán (2016: 27)*
- La giumenta {ha figliato / *è figliata} in/??per due ore.
 the mare have.3SG foal.PTCP.PST be.3SG foal.PTCP.PST.F.SG in/ for two hours
 'The mare has foaled in two hours.'

(25) *Harley (2005: 46)*

- | | | |
|----|-----------------|------------------------------|
| a. | The mare foaled | #for two hours/in two hours. |
| b. | The dog whelped | #for two hours/in two hours. |
| c. | The cow calved | #for two hours/in two hours. |

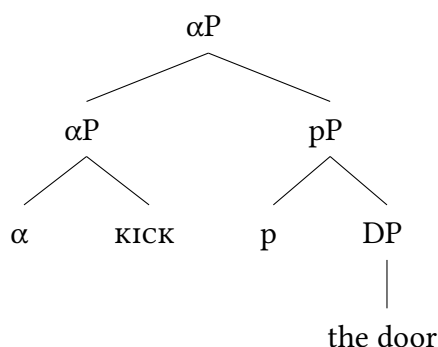
The predicates in (25) are telic because their verb roots, in terms of conceptual content, unmarkedly refer to bounded entities. These examples prove problematic for theories that attribute the determination of the aspectual interpretation of predicates to the checking of formal semantic features of their objects in a dedicated functional projection, since there is no object bearing formal semantic features in (25). The second fact following from the relations of identification arising in the interpretation of predicates like the one in (23) is that the object, in predicates of this type, is characterized as establishing a relation of hyponymy with the verb's root (*Gallego 2012; Hale & Keyser 1997a,b, 2002; Real-Puigdollers 2013*, among others). I claim that the relation of hyponymy arises as a by-product of the identification operation involving the root and the object. The operation of identification between these two elements, triggered by the syntactic configuration, forces the conceptual content of the root and the conceptual content of the phrasal direct object to match in the context of the predicate. The hyponymic relation is thus the consequence of a structural phenomenon. This is supported by the fact that such a relation does not have to be necessarily reflected in the lexical meaning of the verb's root and of the object's root involved. For instance, as observed in *Real-Puigdollers (2013)*, the DP *an orange* in (26) is interpreted as a kind of *dance* in the context of the predicate *dance an orange*, even though the conceptual meaning of ORANGE is not related by a hyponymic relation to the conceptual meaning of DANCE.

(26) *Real-Puigdollers (2013: 281)*

John dances an orange.

The structure in (19b) is akin to the structure assigned by Harley (2005) to transitive predicates of surface/contact (e.g., *kick the door*; *push the cart*, etc.), where it is proposed that the direct object in these predicates is merged with the root in a rootP complement of the v head. The analysis of Harley (2005) can be argued to be reminiscent of Levin & Rappaport Hovav's (1995) treatment of predicates of this type, whose objects are taken to be licensed by the constant (*mutatis mutandis*, the root) modifying an ACT primitive predicate (see (5)). In the vein of Marantz (2005b: 9-10) and Acedo-Matellán (2016: 36-37), however, I consider predicates of surface/contact as involving a direct object introduced as the complement of a PP adjoined to the unergative structure in (19a), as in (27).

(27) Sue kicked the door.



In the present system, a motivation for assigning a different structure than (19b) to predicates of surface/contact is that the mereological parts of the direct object in this class of predicates have no measuring effect on the temporal extension of the event denoted by the predicate. Namely, predicates of this type are always atelic, regardless of the boundedness of their object.

(28) Harley (2005: 51-52)

- | | | |
|----|----------------------|------------------------------------|
| a. | John pushed the cart | for five minutes/#in five minutes. |
| b. | Sue drove the car | for five minutes/#in five minutes. |
| c. | Sue kicked the wall | for five minutes/#in five minutes. |
| d. | A bird pecked Sue | for five minutes/#in five minutes. |

This is in contrast to what would be expected, assuming the operation of identification, if the direct object in these predicates occupied the structural position of the DP in (19b). Since these predicates are eventive, their argument structure, according to the present system, must involve the projection of a monadic α P. By the operation of identification, the conceptual content of the element serving as the complement of α in the monadic configuration provides a scale to the Davidsonian event arising from α . The fact that the direct objects in (28) do not affect the telicity of the predicate, then, indicates that these objects do not form part of α 's complement. Indeed, not only the boundedness of the direct object does not affect the telicity of the predicate, but also no relation of hyponymy arises between the verb's root and the object, a fact which is expected if the two elements are not merged together as it would instead be if the predicate involved the structure in (19b).¹⁴ *Acedo-Matellán (2016)* further argued that there is evidence for the presence of the *p* head in the argument structure of predicates like those in (27) and (28). For instance, (27) can be given a paraphrase like 'do kicking on/at the door', where the presence of the preposition is made explicit. Furthermore, he discussed cases in which the *p* head is either silent or overtly realized with no apparent change in meaning, as in the following examples.

- (29) *Anderson (1977: 369), in Levin & Rappaport Hovav (2005: 209)*
- a. The farmer plowed the field.
 - b. The farmer plowed in the field.

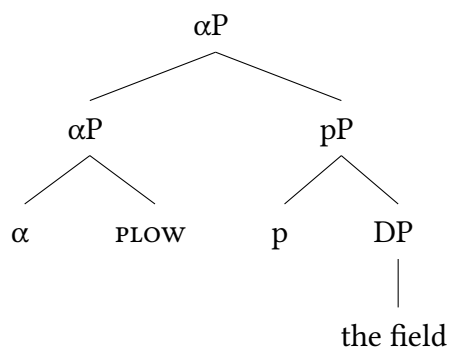
Levin & Rappaport Hovav (2005) referred that, according to *Anderson (1977)*, the two examples in (29) are not identical in meaning, since in (29a) the field is under-

¹⁴Similar reasons lead me to exclude the structure in (19b) for predicates denoting resultative events, *pace Alexiadou et al. (2015); Marantz (1997)*, among others. Further see *Cuervo (2003, 2015)* for the claim that the object of transitive predicates of surface/contact is e-merged within a rootP in the complement of *v*, as in *Harley (2005)*. *Cuervo* assumes that transitive predicates of surface/contact and transitive predicates of creation/consumption share the same argument structure, corresponding, *mutatis mutandis*, to (19b). The distinct aspectual and semantic properties of the two classes of predicates are thus not accounted for configurationally in *Cuervo (2003, 2015)*.

stood to be completely plowed while in (29b) this need not be the case. However, I argue that (29a) admits at least two readings: the one observed by Anderson, telic, in which the field is completely plowed, and another one, atelic, in which the field does not act as a measurer of the event. The latter reading of (29a), I argue, is the same one found in the example in (30), and it involves the same argument structure of (29b), which is the one in which the direct object is introduced as the complement of a prepositional adjunct to α P.

(30) *Tatevosov & Ivanov (2009: 121)*

Ali plowed the field for two hours (and then went home for lunch).



As for the telic reading of (29a), I take it to be based on an interpretation of the predicate as involving a resultative event. I turn to the argument structure of resultative predicates in the following subsection. Assuming a neo-constructionist perspective, whereby roots can be freely merged from the lexicon into different syntactic argument structure types and the only limits depend on the conceptual compatibility between such roots and the semantic construal arising from the interpretation of the argument structure, alternations of the type argued for for (29a) are no surprise, as they are actually naturally expected to take place. A similar alternation to the one in (29a), I argue, is present in the example in (31).

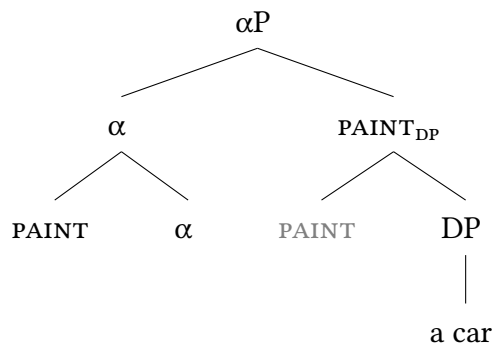
(31) *Adapted from Anderson (1977: 369), in Levin & Rappaport Hovav (2005: 209)*

John painted a car this morning.

I claim that the predicate in (31) admits three readings: one involving an event of creation, with the argument structure in (19b) (see (32)); one involving an atelic

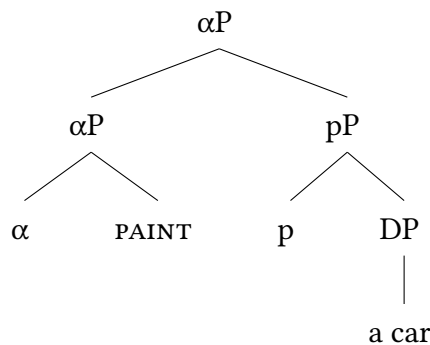
event of surface/contact, with the argument structure in (33), and one involving a resultative event. In the creation reading, the predicate is telic and involves a hyponymic relation between the direct object and the verb's root. The car is created during the painting event, and its creation provides a scale to the event. Indeed, the predicate can be given a paraphrase as *there is an event which consists of painting, and the painting consists of a car*.

(32) *Argument structure of (31) under a creation reading*



In the surface/contact reading, the mereological parts of the direct object do not contribute in any relevant way to the telicity of the predicate, and there is no hyponymic relation between the direct object and the verb's root. A paraphrase like *there is an event which consists of painting, and the painting consists of a car* is not compatible with this reading of the predicate: the painting event does not consist of a car, but is rather understood as an activity which takes place *in relation to* a car.

(33) *Argument structure of (31) under a surface/contact reading*



Under this reading, following [Acedo-Matellán \(2016\)](#), the predicate in (31) can be argued to be equivalent to the one in (34), where the preposition is overtly realized.

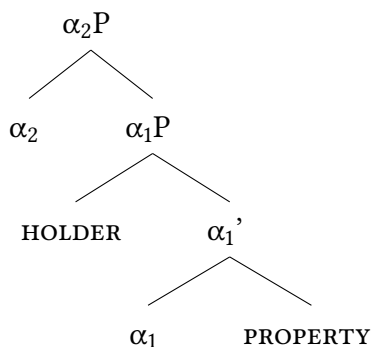
(34) John painted on a car this morning.

In the resultative reading, the predicate in (31) is telic, but the direct object and the verb's root are not related by hyponymy. The car is an entity which pre-exists the event, and it undergoes a change of state in terms of painting. In the next section I introduce the argument structure of resultative predicates, which I argue always denote what I refer to as complex Davidsonian events.

3.2.2.2 *Predicates denoting complex Davidsonian events*

Complex Davidsonian events arise when the dyadic configuration projected by a head α is merged as the complement of a further head α projecting a monadic configuration.¹⁵

(35) *Argument structure of predicates referring to complex Davidsonian events*¹⁶



At the level of the conceptual/intentional system, identification occurs between

¹⁵The structure in (35) essentially reflects [Hoekstra's \(1988, 1992\)](#) analysis of resultative predicates based on a V head that selects a small clause as complement, α_2 corresponding to V and α_1 being equivalent to the head of the small clause.

¹⁶The numbering of the α heads in this and following syntactic structures with multiple α P's is intended to provide an annotational distinction of the individual heads and reflects their relative order of merging in the structure.

the head α of the monadic configuration, interpreted as introducing a Davidsonian event argument, and its αP complement. The mereological parts of the αP complement, consisting of the predicative relation between the specifier and the complement of the inner α_1 , are mapped onto the Davidsonian event argument introduced by α_2 . The resulting structure gives rise to a Davidsonian event that is conceptualized as the process of association between the element denoted by the specifier and the element denoted by the complement of the inner α_2 . Typical examples of complex Davidsonian events are resultative events of change of state or location (Acedo-Matellán 2016; Mateu 2002; Rappaport Hovav 2014a, among others). For instance, the resultative predicate in (36) has the syntactic derivation in (37).¹⁷

¹⁷Resultative predicates where the verb is understood as a degree achievement can include hyponymous arguments which further specify the change expressed by the verb, by picking out a range of values in the open scale provided by the verb's root (e.g., *a century's expansion* in (ia) and *250 points* in (ib)).

(i) Nakajima (2006: 676)

- a. The tree trunk grew a century's expansion in only ten years.
- b. The stock market dropped 250 points today.

Such arguments can be taken to be e-merged with the verb's root in the innermost complement position of the predicate, similarly to what I have proposed for the direct objects of creation/consumption predicates (§3.2.2.1) and of stative predicates denoting Kimian states (§3.2.1) (see Oltra-Massuet 2014 for an analysis compatible with the present proposal). See Nakajima (2006) for an analysis of these objects as low adjuncts, relating them structurally to objects of achievement verbs such as the ones in (ii).

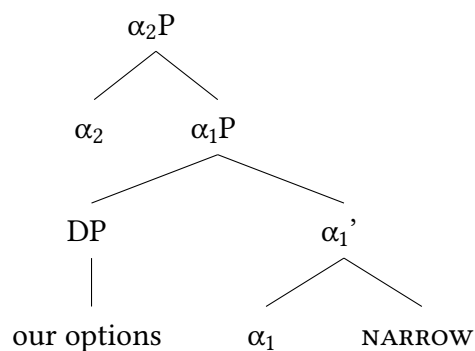
(ii) Kuno & Takami (2004: 111)

Mark Twain died a gruesome death.

Nakajima proposed that the direct object in (ii) is e-merged as an adjunct to an unaccusative structure, observing that the predicate can be paraphrased as 'Mark Twain died gruesomely' (Nakajima 2006: 679). However, (ii) might also be claimed to involve the argument structure of creation/consumption predicates, the subject being structurally an external argument which is interpreted as a theme conceptually. Support for this proposal comes from considering predicates like Italian (iii), where the unergative configuration is made explicit by the presence of the light verb

(36) *Hale & Keyser (2002: 102)*

The fall in prices narrows our options.

(37) *Derivation of (36)*a. *Structure at Spell-Out*b. *Semantic interpretation*

NARROW ⇒ access to the encyclopedic content of NARROW

α₁ ⇒ predicative relatorDP ⇒ referring expression predicatively related to NARROW
via α₁α₁P ⇒ predicationα₂ ⇒ Davidsonian event argumentα₂P ⇒ identification of the Davidsonian event argument with
α₁P

Since the entire ‘state of affairs’ expressed by the inner αP is mapped homomorphically (via identification) onto the Davidsonian argument introduced by the higher α, the DP in predicates of this type does not directly measure out the event named

fare (‘do’) selecting a DP object.

(iii) *Italian; CORIS (Corpus di Riferimento dell’Italiano Scritto, Università di Bologna)*

[...] deve aver fatto una morte orribile.

must.3SG have.INF do.PTCP.PST a death gruesome

‘He/she must have died a gruesome death.’ (lit. He/she must have done a gruesome death)

by the verb as is the case, instead, in predicates of creation/consumption, as observed in Harley (2005). This can be illustrated by predicates like, e.g., *become an architect*. As discussed in Dowty (1991: 569), a sentence like *John was becoming an architect but was interrupted before he could finish his degree* does not imply that only a part of John became an architect while the rest did not, contrary to what would be expected if there was a homomorphism between the mereological parts of the DP and those of the event. Dowty takes this evidence to conclude that the ‘Path’ (i.e. the entity providing a scale to the event) in predicates like *become an architect* is not syntactically realized. Specifically, in the case considered he argues that the Path entity consists of the stages through which one has to go to become an architect. However, in the present syntactic model, such stages correspond precisely to the mereological structure of the inner α P predication in the eventive context provided by the higher monadic configuration: the inner α P can be understood as expressing a figurative dislocation of *John*, introduced as the specifier of the lower α , to the status of being *an architect* denoted by α ’s complement.

3.3 Root-adjunction and the emergence of co-events

In this section I introduce a syntactic process which has been argued to be responsible for the arising of co-events in the interpretation of predicates. This operation, in the neo-constructionist literature, has been alternatively referred to as ‘Manner conflation’ (Acedo-Matellán & Mateu 2014), ‘Direct Merge’ (Embick 2004), ‘Manner Incorporation’ (Harley 2005), ‘m(orphological)-conflation’ (McIntyre 2004), or more simply ‘conflation’ (Mateu 2012, after Haugen 2009), and it is traditionally taken to consist in the e-merging of a root with the *v* head to form a complex head which presents an independent, phrasal element as its complement.¹⁸ In the present theory, the process consists in the E-Merge of a root with a head α which projects a monadic configuration, after an independent phrasal element has been e-merged as α ’s complement. Since α has already undergone an operation of E-

¹⁸The term *conflation* is thus used in this context to denote a different operation than the one referred to by Hale & Keyser (2002) by means of the same term (see §2.2).

Merge with its complement, and the root is not interpreted as an argument of α (occupying, e.g., its specifier position) but rather as a modifier, I refer to such an occurrence of E-Merge as an operation of adjunction, following [Acedo-Matellán \(2016\)](#). In these predicates, α is understood as introducing two Davidsonian event arguments. The first one, arising from the merging of α with its complement, denotes either an atomic or a complex Davidsonian event, depending on the nature of α 's complement (as discussed in §3.2.2): if α 's complement is a dyadic αP , a complex Davidsonian event arises; if α 's complement is a DP, an atomic Davidsonian event arises. The second Davidsonian event argument associated with α arises from the e-merging of the root with α and introduces an atomic Davidsonian event which is typically interpreted as denoting an activity. The verb in these predicates is understood as denoting a co-event of the main event which arises from the interpretation of the overall syntactic structure.¹⁹ The co-event is typically interpreted as specifying the manner or cause by which the main event occurs. However, the exact type of relation established between the co-event and the main event is determined on the basis of world knowledge and pragmatic considerations, and it can therefore vary based on the conceptual content of the elements that make up the predicate. Examples of predicates referring to complex Davidsonian events (of change of state or location) with the expression of a co-event in the verb are provided in (38). (39) illustrates a predicate referring to an atomic Davidsonian event of creation/consumption where the verb expresses a co-event.

- (38) a. *Goldberg (1995: 185)*
The dog barked the chickens awake.
- b. *Goldberg (1995: 29)*
Sam sneezed the napkin off the table.

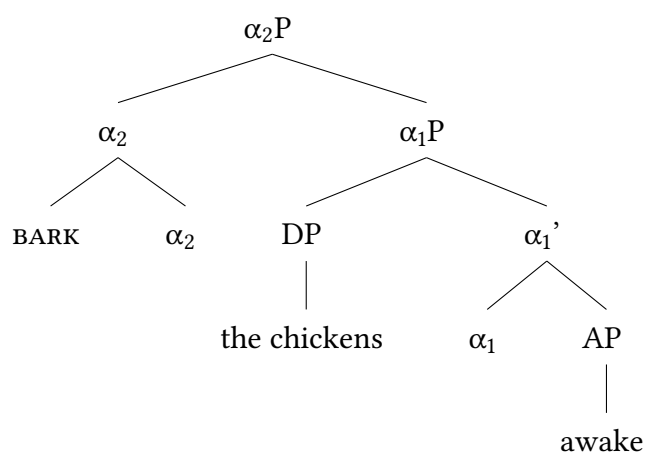
¹⁹The operation of adjoining a root to α can be seen as the equivalent, in syntactic terms, of the rule of Template Augmentation proposed within a lexicalist approach by [Rappaport Hovav & Levin \(1998\)](#) (see §2.1.1) to account for cases in which verbs assumed to be lexically associated with the event structure of activities appear, for instance, in predicates denoting accomplishments (e.g., the verb *sweep* in *Phil swept the floor clean*; see (7)).

(39) *Mateu & Rigau (2002: 213), adapted from Levin & Rapoport (1988: 279)*

She brushed a hole in her coat.

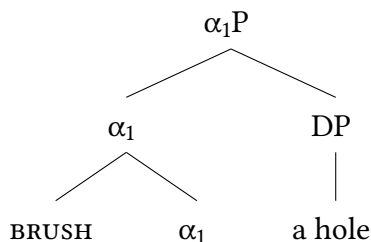
In (38a), for example, the DP *the chickens* is the subject of a stative subpredicate denoted by *awake*, while the verb denotes an activity which is understood as giving rise to the result state specified by *awake*.

(40) *Argument structure of (38a)*



In (39), *a hole* is interpreted as an entity which is created during the activity denoted by the verb *brush*. Following *Mateu (2012)*, and based on the considerations in §3.2.2, I take the semantics of creation to arise as a result of the interpretation of the argument structure of the predicate, which can be taken to involve the direct object *a hole* merged as the complement in an unergative configuration (in present terms, consisting of a monadic α P).

(41) *Argument structure of (39)*



Contrary to standard creation/consumption predicates, where a relation of hyponymy is established conceptually between the verb's root and the entity denoted

by the direct object (see, e.g., the discussion about (22)), in predicates of the type in (39) it is predicted that such a relation does not take place. This is because the verb's root and the object are not e-merged together, and therefore they do not undergo identification at the level of the conceptual/intentional system. Indeed, a paraphrase like *there is an event which consists of brushing, and the brushing consists of a hole* would not be felicitous for the predicate in (39), since the brushing event does not consist of a hole in this predicate. However, the direct object in (39) still directly affects the telicity of the predicate, since identification does occur between it and the head α . As a consequence of identification, the mereological parts of the direct object are mapped onto those of the Davidsonian event arising from the interpretation of the monadic structure.

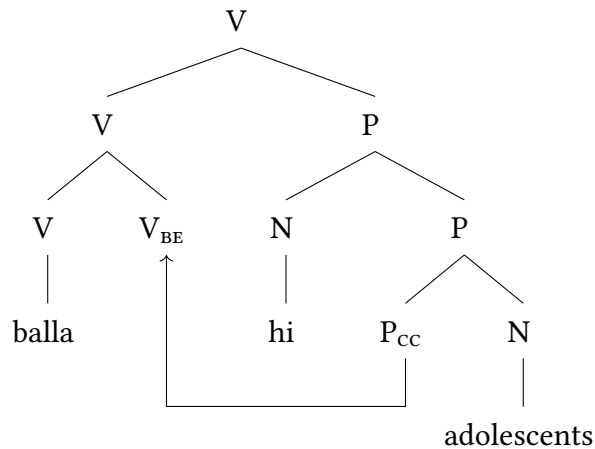
- (42) a. She brushed a hole in her coat #for hours/in five minutes.
 b. She brushed holes in her coat for hours/#in five minutes.

Another prediction of the present theory is that root-adjunction to α is not possible in the case of stative unaccusative predicates. In eventive predicates of the type in (38) and (39), the co-event arises from an operation of identification between the root adjoined to α and a Davidsonian event argument which is introduced by α by virtue of α merging with the root in a monadic configuration. The introduction of a Davidsonian event argument by α due to its merging with the root, however, is contingent on the fact that α also projects a monadic configuration with its complement: this allows α to preserve its capability to be associated with Davidsonian event arguments, due to the fact that it is not assigned a semantic function as a predicative relator at LF. Stative unaccusative predicates, however, are argued to involve a head α that projects a dyadic configuration, whereby α in such predicates is understood as a predicative relator and thus cannot be associated to Davidsonian event arguments. Because of this, it does not undergo identification with the elements e-merged with it (see condition b) from (5) and the related discussion in fn. 12), nor can it introduce a Davidsonian event argument via the E-Merge of a root that gets adjoined to it. A root adjoined to α without identification occurring between them would be uninterpretable, since its contri-

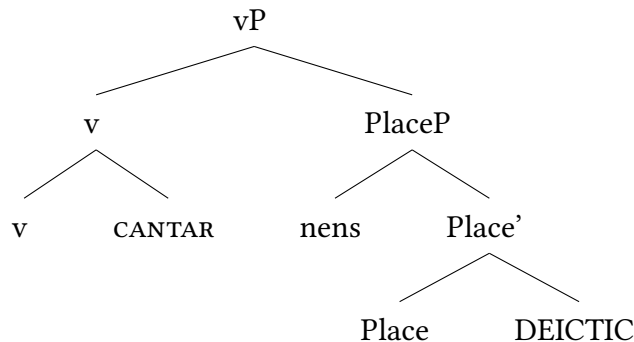
bution in terms of conceptual content would not be associated with any element of the predication. Contra the prediction of the present theory, cases of stative unaccusative predicates involving the expression of a co-event in the verb are discussed in *Acedo-Matellán (2010, 2016)*; *Hoekstra & Mulder (1990)*; *Mateu (2002)*; *Mateu & Rigau (2002)*; *Rigau (1997)*; *Torreño (1989)*, among others. I am referring to examples like those in (43), in which the existence of a temporary or permanent relation between an entity and a point in space and time is asserted (*Rigau 1997*) while also specifying, by means of the main verb, a co-event which defines the prototypical ‘manner of being’ of such a stative relation. I refer to constructions of this type as *complex existential constructions*. According to *Mateu & Rigau (2002: 226)*, these predicates “involve conflation of an unergative verb into a null unaccusative verbal head expressing static or negative transition (i.e., be)”.

- (43) a. *Spanish; based on Torreño (1989: 255)*
 En este árbol anidan cigüeñas.
 in this tree nest.3PL storks
 ‘There are storks nesting in this tree.’
- b. *Catalan; based on Rigau (1997: 415)*
 En aquesta coral, hi canten nens.
 in this choir LOC sing.3PL children
 ‘There are children singing in this choir.’
- c. *Catalan; based on Mateu & Rigau (2002: 227)*
 En aquest esbart, hi ballaran adolescents.
 in this group LOC dance.FUT.3PL teenagers
 ‘There will be teenagers dancing in this group.’

Mateu & Rigau (2002) assigned to the predicates in (43) the syntactic argument structure in (44). In this structure, a phonologically null preposition of central coincidence (P_{cc}) incorporates into a phonologically null unaccusative verb expressing stativity, deriving a semantics of possession (*Freeze 1992*; *Kayne 1993*; *Mahajan 1994*; *Nash 1994*; *Harley 1995*, among others). The [v P V] complex head is licensed phonologically thanks to the conflation of an unergative verb with it.

(44) *Mateu & Rigau (2002: 229)*

A similar analysis is given by *Acedo-Matellán (2010, 2016)*, who argued that the predicates in (43) involve a syntactic argument structure in which a root is adjoined to a phonologically null *v* head that takes a PlaceP as complement (thus deriving, in his system, the stativity of the predicate; see §2.3.2).

(45) *Based on Acedo-Matellán (2016: 83)*

The main difference between *Mateu & Rigau's (2002)* and *Acedo-Matellán's (2010, 2016)* analysis concerns the positioning of the arguments of the predicate in the syntactic structure. Following *Rigau (1997)*, *Mateu & Rigau (2002)* proposed that the subject of the stative predications in the examples in (43) is an impersonalizing element which is phonologically null in Spanish and realized as a locative clitic (*hi*) in Catalan. In contrast, *Acedo-Matellán (2010, 2016)* (see also *Mateu 2002*) assumed that the subject of the stative predication is the nominal argument, while an abstract deictic element occupies the complement position. The two analy-

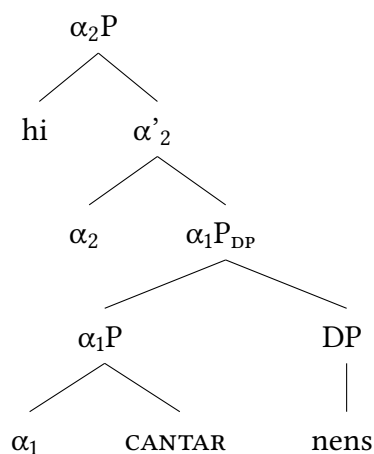
ses have in common the idea that the main verb in these predicates expresses a co-event through the formation of a complex verbal head where both the stative relation and the activity co-event are encoded. Such a conclusion, for the reasons discussed above, is incompatible with the present theory, according to which root-adjunction to a head α that projects a dyadic configuration gives rise to an uninterpretable structure at the level of the conceptual/intentional system. I propose that the predicates in (43) involve an argument structure in which a monadic α P is merged as the complement of a dyadic α P, licensing a Davidsonian event argument which functions as the property of a Kimian state. Following Mateu & Rigau (2002); Rigau (1997), I assume that the subject of the stative predication, merged as the specifier of the head α that projects a dyadic α P, is the locative deictic element, which acts as an impersonal subject of the sentence by raising to the specifier position of T.²⁰ Instead, I regard the nominal argument as being e-merged with the monadic α P in the complement of the higher α_2 , thereby concurring, by identification, to the specification of the property provided by the monadic α P.²¹

²⁰I do not review the theoretical and empirical reasons behind the claim that a locative deictic element is the subject of the predication in the constructions in (43), since this is an issue beyond the scope of this section; see Rigau (1997); Torrego (1989) and, more recently, Ojea (2019) for arguments supporting this view. My aim in the present discussion is to show that the constructions in (43) should not be understood as involving the adjunction of a root with the head α that projects a dyadic configuration, in line with what is predicted by the present theory of argument structure.

²¹Complex existential constructions like the ones in (43) are further different from existential constructions like the one in (i), where the PP (e.g., *a l'habitació* 'in the room') is an argument of the stative predication.

- (i) *Catalan*
 Hi ha nens a l' habitació.
 LOC have.3sg children at the room
 'There are children in the room.'

Constructions like (i) can be claimed to be based on two dyadic α P projections in a complementation relation. In the lower α P, the nominal element (e.g., *nens* 'children') is merged as specifier and the PP is merged as complement. The lower α P, in turn, is merged as the complement of a further α that relates it to the locative element *hi*. To an extent, the analysis would be reminiscent of Hale & Keyser's (2002) treatment of *there*-insertion unaccusatives (see Hale & Keyser 2002: 202).

(46) *Argument structure of (43b)*

A prediction of the present analysis is that not only monomorphemic verbs of the type found in (43), but also phrasal expressions can appear specifying the co-event component in complex existential constructions. Evidence in favor of the present analysis comes from data of the type in (47), where the co-event arises by means of an analytic unergative structure in which a phonologically overt light verb (e.g., Catalan *fer* and Italian *fare* ‘do’) takes a phrasal element as its complement (see the similar Basque structures in (17), from Hale & Keyser 2002).²²

(47) a. *Catalan; example from a web search (Gemma Rigau, p.c.)*

Al restaurant de les Solivelles només hi fan feina dones.
 at.the restaurant of the Solivelles only LOC do.3PL work women
 ‘Only women work at the Solivelles restaurant.’

²²That the verb’s object in these predicates is phrasal, whereby it does not form a complex head with the light verb, is further shown by the fact that the verb in analytic structures not only appears as a light verb, but it can also merge with a root and take a separate phrasal object, as in (i) (some native speakers, however, judge the sentence as ill-formed).

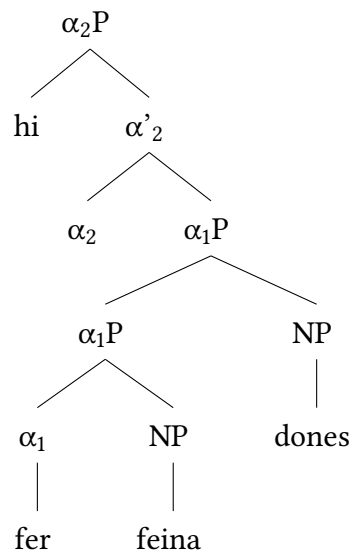
(i) *Catalan; McNally & Fontana (1995: 7)*

En aquesta tenda hi compren ordinadors estudiants.
 in this store LOC buy.3PL computers students
 ‘Students buy computers in this store.’

b. *Italian*

Su questo ring, ci fanno pugilato professionisti.
 on this ring LOC do.3PL boxing professionals
 ‘Professionals do boxing on this ring.’

These examples are problematic for analyses assuming that the predicates in (43) involve the formation of a complex head denoting both the stative relation and a co-event. In contrast, they are naturally accounted for assuming that complex existential constructions are based on an argument structure in which the verb (and its possible arguments) is provided by a monadic α P in the complement of a dyadic α P.

(48) *Argument structure of (47a)*

I briefly come back to complex existential constructions in section §4.3.2, where I discuss their relevance for the account of Talmy’s typology that I put forth in Chapter 4 based on the theory of argument structure outlined in this chapter. In the next section, I turn to the implementation of the external argument.

3.4 Implementation of the external argument

Building on Marantz (1984), Kratzer (1994, 1996) (see also Alexiadou et al. 2015; Borer 2005b; Harley 2013; Legate 2014; Pylkkänen 2008, among others) proposes

that the external argument is introduced in the specifier position of a dedicated functional head, Voice, placed right above the syntactic domain where the building of predicates takes place (in standard terms, the vP; in present terms, the higher occurrence of an α P projection in the main spine of a clause). Kratzer (1996) argues that the subject of transitive predicates is always licensed by a Voice head.²³ In particular, she proposes a basic repertoire of active voice heads selected based on the Aktionsart properties of the predicate, comprising at least a Voice head responsible for the introduction of agents in action predicates and a Voice head responsible for the introduction of holders in stative predicates.

(49) *Active Voice heads*

- a. *Agent*; Kratzer (1996: 121)
 $\lambda x_e \lambda e_s [\text{Agent}(x)(e)]$
- b. *Holder*; Kratzer (1994: 114)
 $\lambda x_e \lambda s_s [\text{holder}(x)(s)]$

In this thesis I assume Kratzer's (1994, 1996) seminal idea that the external argument is introduced as the specifier of a Voice head in eventive predicates. However, the configurational theory of argument structure proposed in this chapter is not compatible with Kratzer's proposal with respect to the licensing of the subject of transitive stative predicates, which is argued by Kratzer to be introduced by the Voice head in (49b). I comment on this incompatibility in 3.4.1. In 3.4.2, I discuss the interpretations attributed to the external argument in eventive predicates.

3.4.1 Stative predicates

The Voice head in (49b) is taken by Kratzer to introduce the subject argument in stative predicates like the one in (50).

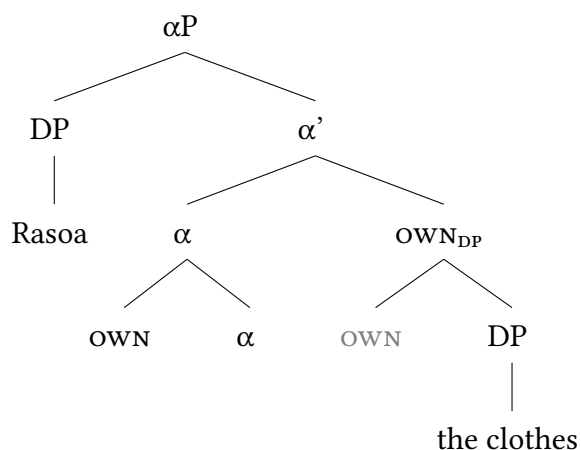
²³See, e.g., Kratzer (1996: 123): "If a language learner encounters a transitive verb that has an external argument that doesn't correspond to an active voice head in the basic repertoire, (s)he has to posit a non-active voice head, and build an external argument from a PP via preposition incorporation in Voice (which thereby becomes active)."

(50) *Kratzer (1994: 114)*

Rasoa owns the clothes.

In particular, the subject of the predicate in (50) is regarded by Kratzer as an external argument denoting the person that holds the state of *owning the clothes* which is referred to by the predicate. Since (50) refers to a Kimian state, according to the configurational theory of argument structure proposed in this chapter its subject cannot be introduced by a dedicated functional head like Kratzer's Voice. Such an argument is introduced as the specifier of a head α which, by virtue of having a specifier, projects a dyadic configuration and therefore gives rise to a Kimian state at LF. In other words, in the present theory, the specifier of α receives its interpretation as the holder of a state because of its positioning as α 's specifier in the argument structure of the predicate.²⁴ The argument structure of (50) according to the present theory is provided in (51).

(51) *Argument structure of (50)*



The direct object in (51) is merged as part of α 's complement, where it contributes, together with the verb's root, to the specification of the property which is predicated of α 's specifier.

²⁴See also Bale (2007); Jaque (2014) for arguments in favor of considering the subject of transitive stative predicates as an internal argument, merged lower in the structure than the specifier of VoiceP.

While I remain agnostic as to whether the subject in (50), after being e-merged in the specifier of α , further moves to the specifier of a Voice head (e.g., to check Voice's uninterpretable [D] feature), I propose that the subject of transitive stative predicates is indeed introduced by a Voice head external to the dyadic α P in determinate cases. I am referring to examples like (52), where the subject is understood as the 'granter' of a state which, in turn, holds of a different entity, which is realized as the object of the predicate.

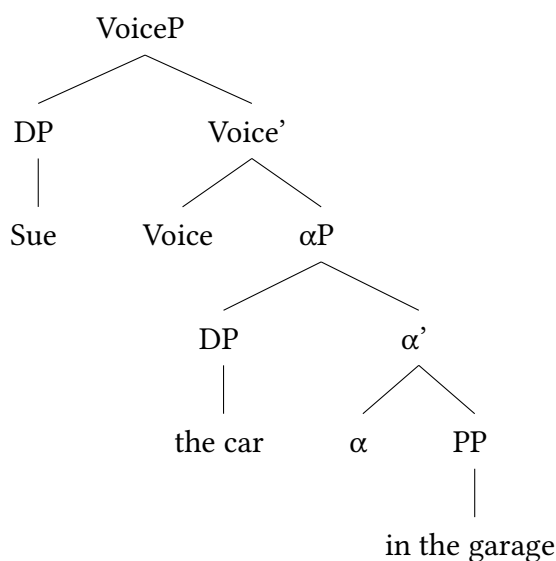
(52) *Acedo-Matellán (2016: 40)*

Sue kept the car in the garage.

(52) can be regarded as providing support for the postulation of a Voice head of the type in (49b), also in a system like the present one in which the subject of stative transitive predicates is typically introduced lower than VoiceP, as α 's specifier. Indeed, α 's specifier in (52) is occupied by the object *the car*, which is related to the property of *being in the garage* which I claim to be introduced as α 's complement by the PP. At the same time, the subject in (52) can be volitive, which is not expected for the holder of a Kimian state property. I propose that these facts can be accounted for if, as assumed in *Acedo-Matellán (2016)*, the subject in (52) is a true external argument, introduced by a Voice head. In particular, I take Voice to select a dyadic α P as its complement in (52), where the stative predication between the direct object and the PP is realized. The semantic interpretation of (52), adopting *Mateu's (2002: 14)* words, is therefore that of a "static causation".²⁵

²⁵The verb *keep* in (52) can be regarded as the pronunciation of α when it projects a dyadic configuration that is in a sister relation to Voice. See *Acedo-Matellán (2016)* for a similar analysis.

(53) *Argument structure of (52)*

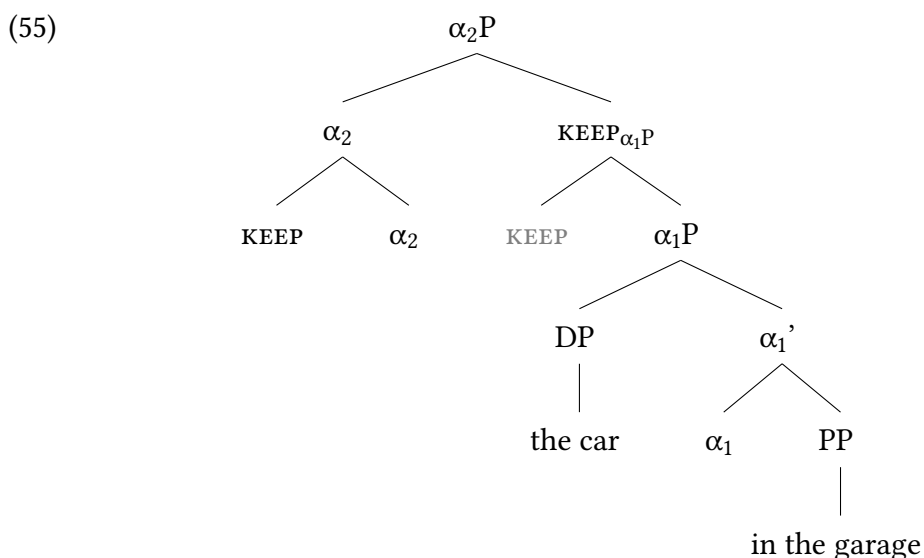


Thus, while both (50) and (52) are stative predications, the two examples involve two distinct argument structures according to the present theory. The structural difference between (51) and (53) captures the fact that the verb's root and the direct object contribute to the denotation of the state property predicated of the subject in (50), while the PP denotes the state property predicated of the object in (52).

An alternative analysis of (52) as involving an eventive predicate might be taken to receive support, at first sight, from examples like those in (54), which seem to show that predicates of the type in (52) can successfully pass *Maienborn's* (2007, 2019) diagnostics for the presence of a Davidsonian event argument. For instance, predicates of this type can give rise to well-formed sentences serving as infinitival complements of perception verbs, as in (54a), and combining with manner modifiers like *gently*, as in (54b).

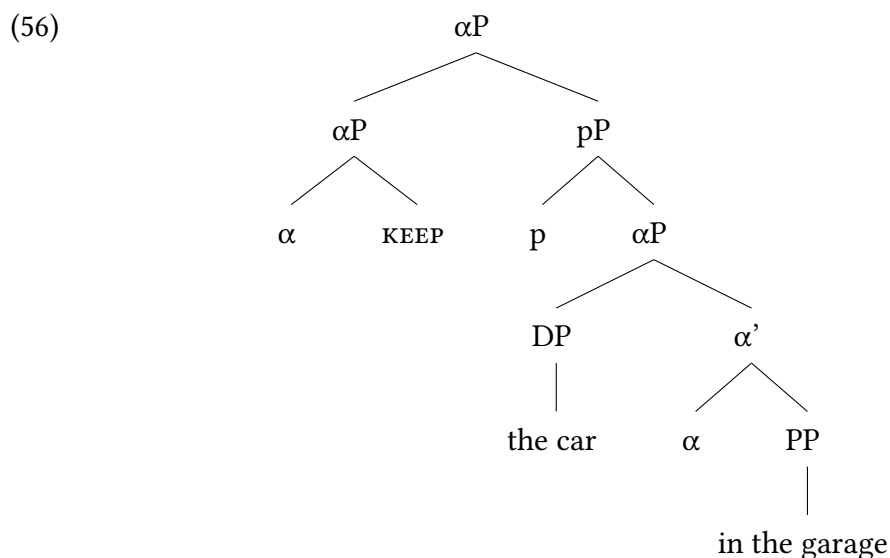
- (54) a. *Example from a web search*
 Yes, woodpigeons eat a lot [...]. But I have never noticed them keep the smaller birds away from the feeder [...].
- b. *Bleak House, C. Dickens*
 My Lady, with that motherly touch of the famous Ironmaster night, lays her hand upon her dark hair and gently keeps it there.

If predicates of this type were really eventive, however, it would constitute a problem for the theory of argument structure put forth in this chapter. Of the three syntactic argument structures argued for eventive predicates in §3.2.2, in fact, none seem to be compatible with the semantics of ‘static causative’ which can be attributed to predicates like the one in (52), suggesting, contra the evidence in (54), that (52) (as well as the examples in (54)) should not be regarded as referring to a Davidsonian event. Supposing that the predicate in (52) is eventive, one logical possibility (illustrated in (55)) would be that it involves a monadic α P in which a possible root *KEEP* is merged as the complement of α together with a dyadic α P, which in turn introduces a stative predication between the direct object *the car* and the locative PP *in the garage*.



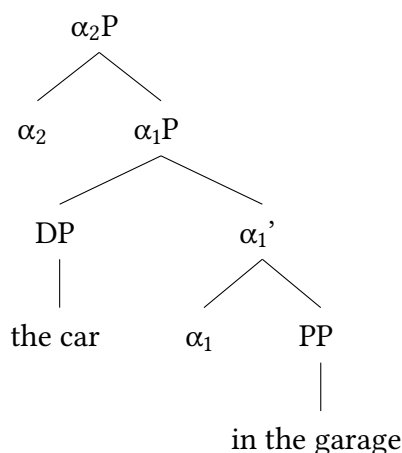
This structure, however, typically gives rise to predicates denoting events of creation/consumption, and in the case of (52) it would arguably be problematic to interpret with respect to telicity: on the one hand, the conceptual content of *KEEP* would be likely to impose an atelic reading to the predicate; on the other hand, a dyadic α P in the complement of a monadic α P is associated to a semantics of transition, which gives rise to telic predicates if the entities denoted by the specifier and the complement of the dyadic α P are bounded (as in, e.g., (52)). Another logical possibility would be that (52) involves the argument structure of predicates of surface/contact, which are taken to be unergative predicates involving a monadic

aP with an adjoined pP introducing, typically, the direct object (see (56)). In this case, α would take the root KEEP as complement while the pP adjoined to α P would introduce as its complement a dyadic α P in which the relation between *the car* and *in the garage* is established.



Such a structure, however, cannot be regarded as the right one since the stative relation introduced by the dyadic α P in predicates of the type in (52) does not (and, in fact, cannot) serve as a locative frame for the activity denoted by the complement of the monadic α , as is instead the case in predicates of surface/contact like, e.g., *paint the fence*. Finally, the possibility that (52) involves the argument structure of resultative predicates (see (57)) is also to be discarded due to the expected telicity of the predicate. If a dyadic α P introducing the stative relation between the direct object and the PP in (52) was merged as the complement of a monadic α P, a semantics of transition would be expected to arise, which is incompatible with the non-dinamicity of the predicate.

(57)



The present theory, thus, disallows an interpretation of predicates of the type in (52) as involving a Davidsonian event. Following Maienborn's (2007) analysis of examples like those in (58), however, I argue that the examples in (54) are not problematic for the claim that predicates of the type in (52) are not eventive.

- (58) a. *German*; Maienborn (2007: 118)
 Hans ist mit den Hunden im Park.
 Hans be.3SG with the dogs in.the park
 'John is in the park with the dogs.'
- b. *Mittwoch* (2005b: 79)
 Dan is in the country illegally.

(58) illustrates copular constructions, that refer to Kimian states, appearing with manner modifiers (e.g., the comitative PP *mit den Hunden* 'with the dogs' in (58a) and the adverbial expression *illegally* in (58b)). At first sight, these examples could be taken as evidence against Maienborn's claim that stative predicates do not involve a Davidsonian event argument (see, e.g., Mittwoch 2005a). However, Maienborn (2007, 2019) concluded that this is not the case, arguing that the felicity of the examples in (58) relies on a process of reinterpretation based on *event coercion* (Pustejovsky 1995; Egg 2003). Namely, she argued that the examples in (58) are well-formed because they involve the inference of a suitable event that stands in some natural relation to the Kimian state which is actually referred to by the predicate. For instance, she noted that the sentence in (58a) can be easily reinterpreted,

resulting in the insertion, non-compositionally, of a Davidsonian event which can be inferred by world knowledge based on characteristic activities that can be associated with the state of ‘being at the park’ (e.g., jogging, feeding ducks, walking the dog etc.). She further claimed that the comitative PP in (58a) is modifying such an inferred Davidsonian event, rather than the Kimian state referred to by the predicate. Similarly, she argued that (58b) is well-formed as long as it is not only understood as denoting the state of ‘being in the country’, but also as indicating, by inference, an event of, e.g., ‘residing’, or ‘staying’ temporarily in the country illegally. I claim that event coercion also accounts for the acceptability of the examples in (54). For instance, what is (not) *noticed* by the speaker in (58a) is not the ‘keeping the smaller birds away’ but rather an event that is likely to take place in association with such a stative expression (e.g., the event of showing aggressive behavior). In a similar way, *gently* in (58b) can be argued to modify an inferred event that can be easily associated, by world knowledge, to the stative expression of keeping the hand on someone’s hair referred to by the predicate (e.g., the event of exerting a light pressure with the hand on the head).

3.4.2 Eventive predicates

In the case of eventive predicates, Kratzer’s (1994, 1996) proposal that the external argument is introduced as the specifier of a Voice head integrates naturally with the theory of argument structure put forth in the present chapter. According to the present theory, in fact, the external argument of transitive predicates denoting Davidsonian eventualities must be a “functionally integrated” participant (Maienborn 2007: 109) which, crucially, cannot form part of the α P where the Davidsonian argument is introduced. I thus conclude, in line with the vast majority of the neo-constructionist literature concerned with the licensing of the external argument, that the subject of transitive eventive predicates is introduced by a Voice head both in the case of unergative predicates referring to atomic Davidsonian events (and denoting, e.g., activities, events of surface/contact, and events of creation/consumption) and in the case of transitive resultative predicates referring to complex Davidsonian events. The main aim of this section is to account, in configurational terms, for a phenomenon that concerns the interpretation of the exter-

nal argument of predicates denoting activities and events of creation/consumption, and that has been accounted for in terms of flavors of *v* in pre-existing work within the neo-constructionist approach (see [Folli & Harley 2007, 2008](#)).

3.4.2.1 *Teleological capability in external arguments*

Semantic requirements on the external argument vary based on the argument structure and event structure properties of the predicate. Predicates denoting non-resultative events, like activities and events of creation/consumption, have been argued to require agent (that is to say, animate and volitional; [Dowty 1991](#); [Gruber 1965](#)) external arguments ([Folli & Harley 2005](#); [Levin & Rappaport Hovav 1995](#), among others), as shown in (59). The restriction is not found in predicates denoting resultative events of change, as in (60) and (61).²⁶

(59) [Folli & Harley \(2005: 95\)](#)

- a. *The sea ate the beach.
- b. The groom ate the wedding cake.

(60) [Folli & Harley \(2005: 95\)](#)

- a. The sea destroyed the beach.
- b. The groom destroyed the wedding cake.

(61) [Folli & Harley \(2008: 198\)](#)

- a. John ate up the apple.

²⁶I refer to predicates as ‘resultative’ if they involve change along a scale denoting a property or a path ([Rappaport Hovav 2008, 2014a](#)). The predicates in (60) qualify as resultative since the verb refers to a property (e.g., the state of being *destroyed*) which is obtained by the internal argument at the end of the event. In contrast, predicates like those in (59) are not resultative – albeit their possible telicity – because they denote events of creation/consumption along a volume/extent scale that is provided by the direct object. The particles in (61) are assumed to denote an abstract result in a resultative construction, whereby these predicates can be well-formed with an inanimate external argument (see (61b)) even though the conceptual scene they denote qualifies as an event of consumption.

- b. The sea ate away the beach.

The restriction causing the ungrammaticality of (59a) is revised in Folli & Harley (2007, 2008) in light of data like those in (62) and (63), which involve sound emission verbs denoting activities. According to the traditional account, these predicates are predicted to disallow external arguments that do not comply with the requisites of animacy and volitionality. Yet, this is contrary to fact. Indeed, (62) is only acceptable with inanimate external arguments, and (63) is acceptable with both animate and inanimate external arguments.

(62) Folli & Harley (2008: 192)

The phone/#John rang.

(63) Folli & Harley (2008: 200)

John/the train whistled.

Folli & Harley (2007, 2008) captured the semantic conditions for the selection of the external argument in non-resultative predicates denoting activities and events of creation/consumption by appealing to Higginbotham's (1997) notion of 'teleological capability'. An external argument qualifies as teleologically capable if it can initiate and carry out the event denoted by the predicate by virtue of its own inherent qualities or abilities. Defined in these terms, the restriction correctly predicts the contrasts in (59) and (62) above, as well as the well-formedness of (63) irrespective of the external argument selected. For instance, the *sea* cannot *eat the beach* in (59a) because it lacks the inherent qualities or abilities required for engaging in an eating event. Similarly, *the phone*, but not *John*, can *ring* in (62) because phones possess the inherent ability to do so, whereas this ability is not proper to human beings. Finally, both *John* and *the train* can *whistle* in (63) because both human beings and trains possess the inherent ability to perform this activity (trains being typically built with a whistle in them). Taking into account these considerations, Folli & Harley (2007, 2008) concluded that the key factor defining agentivity is the external argument's inherent teleological capability to independently initiate and complete the event expressed by the predicate (Folli & Harley 2008: 200).

The semantic correlation between activities or events of creation/consumption and the selection of a teleologically capable external argument has a syntactic reflection; activities and events of creation/consumption are typically realised by means of unergative predicates, while resultative events are expressed by predicates involving a small clause (Hale & Keyser 1993, 2002; Harley 2005; Mateu 2002; Mateu & Acedo-Matellán 2012, among others). Folli & Harley (2007, 2008) provided a formal syntactic account of their semantic proposal in terms of distinct flavors of the functional head v , assumed to be involved in the argument structure of eventive predicates. The head v according to Folli & Harley comes in two flavors, v_{DO} and v_{CAUSE} , each with its own semantic and structural requirements, as summarized in Table 2.

Table 2: Semantic and structural properties of v_{DO} and v_{CAUSE} ; based on Folli & Harley (2007: 210)

Flavor of v	Specifier	Complement
v_{DO}	Agent	Nominal or small clause
v_{CAUSE}	Causer or agent	Small clause

Unergative predicates are headed by v_{DO} because this is the v head that can select a nominal complement, which is the type of complement that appears in the unergative configuration (Hale & Keyser 1993, 2002; see §2.2). These predicates always display teleologically capable external arguments because of a semantic-selectional (s -selectional) requirement on v_{DO} , which is assumed to take only agents as its specifier. Predicates involving a small clause, instead, can have either agents or causers as external arguments (see, e.g., (60) and (61) above), both because v_{DO} , that introduces an agent external argument, may select a small clause as its complement and because v_{CAUSE} , which can only select a small clause as its complement, can take either an agent or a causer as its specifier. The analysis in Folli & Harley (2007, 2008) offers an alternative description of the facts, but it does not provide a principled explanation for the specific semantic and structural properties exhibited by flavors like v_{DO} and v_{CAUSE} . Furthermore, the account fails to clarify why teleological capability, as opposed to factors such as animacy or volitionality, seems

to be a relevant concept in the selection of the external argument depending on the argument structure and event structure properties of the predicate. In the next section, I put forth an explanation for the relevance of teleological capability in the selection of the external argument based on the syntactic structure of the predicate and the resulting semantics, assuming the theory of argument structure developed in §3.2.

3.4.2.2 *A syntactico-conceptual correlation*

Based on the data discussed by [Folli & Harley \(2007, 2008\)](#) and presented in §3.4.2.1, the present system allows me to conclude that eventive predicates require teleologically capable external arguments when they refer to atomic Davidsonian events. A fundamental difference between atomic and complex Davidsonian events is that only complex Davidsonian events involve a referring expression as an inherently constitutive part of them. Indeed, the DP optionally found in atomic Davidsonian events (i.e. the direct object of creation/consumption predicates) is interpreted configurationally as a hyponym of the root that provides conceptual content to the event argument, further specifying and restricting the content of the root in the context of the event by contributing its mereological structure to it. Events of this type thus have a conceptually simplex (or atomic) structure, since they ultimately consist in a temporally uniform spatiotemporal manifestation of the conceptual content specified by the root.²⁷ On the other hand, the DP in complex Davidsonian events plays a necessary role in the conceptualization of the event, since it forms an essential part of the inner stative predication upon which the event is based. Davidsonian events of this type are thus ‘complex’ in that they are made of at least two distinct subparts, comprising a property and a referring entity that is understood as the holder of that property. I propose that the reason why atomic Davidsonian events, contrary to complex Davidsonian events, always require a teleologically capable external argument is related to this difference. As discussed

²⁷For the idea that events of this type do not have inherent scalar properties, whereby they are intrinsically uniform through time, further see [Rappaport Hovav \(2008, 2014a\)](#).

above, atomic Davidsonian events are uniform through time. For instance, the predicate analysed in (23) refers to an event of *eating* that can vary in duration based on the size of the direct object *a wedding cake*, but the qualitative nature of the event remains the same regardless of the specific point on the scale provided by the direct object. The temporal consistency of atomic Davidsonian events can be observed by the fact that predicates denoting events of this type do not allow degree modification on the verb (Rappaport Hovav 2008, 2014a; Rappaport Hovav & Levin 2010), which is the element associated with the Davidsonian event argument. This is shown by the contrast in (64), based on the consumption predicate *read the book*.

(64) Based on Rappaport Hovav (2014a: 281)

- Margie read the book some more. → *The book will be more read.
→ More of the book will be read.

Atomic Davidsonian events are uniform (i.e. do not entail change) in the temporal dimension. It follows that, when an external argument is related to a predicate denoting an atomic Davidsonian event, the only interpretation available is one in which the entity denoted by the external argument takes part in the event denoted by the predicate for the entire, inherently unspecified course of its duration. In order to meet the criteria for such an interpretation, the external argument must possess “the inherent qualities and abilities [...] to participate in the eventuality denoted by the predicate” (Folli & Harley 2008: 191), which corresponds to Higginbotham’s (1997) definition of teleological capability.

Contrary to atomic Davidsonian events, complex Davidsonian events are not temporally uniform. These events fundamentally consist in the generation of an association between a property and an entity which is understood as the holder of that property. Because of the transition from a state of non-association to a state of association between the property and its holder, change is an intrinsic characteristic of these events, whose inherent scale consists in the progress of the state of association. When an external argument is related to a predicate denoting a complex Davidsonian event, such an argument can be understood either as being

involved in the process of association of the property with its holder or as merely triggering such a process of association. The interpretation depends on what point of the inherent scale of the event the action of the external argument is attributed to, either its middle or its beginning.²⁸ A consequence of this double interpretation is that teleological capability to carry out the event denoted by the predicate does not arise as a requirement in predicates denoting complex Davidsonian events, since the external argument can be understood as merely acting as the trigger of the association of the property with its holder in these predicates.

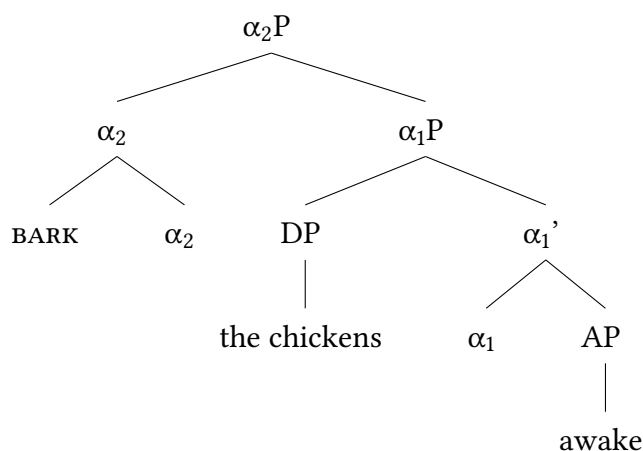
As discussed in the previous section, atomic Davidsonian events consist of activities and events of creation/consumption. These events give rise to unergative predicates and transitive predicates with a nominal complement. The correlation with the facts observed in [Folli & Harley \(2007, 2008\)](#) (see (2)) is thus derived, since these two classes of predicates are those that have been argued by [Folli & Harley](#) to strictly require a subject that is teleologically capable of performing the event denoted by the predicate.

3.4.2.3 *Teleological capability and resultative predicates*

A class of predicates expressing complex Davidsonian events may require external arguments that are teleologically capable of performing the event denoted by the verb. These are resultative predicates of the type in (65), repeated from (38). In §3.3 I have argued that predicates of this type involve a root e-merged with the higher α head, as in (66) (repeated from (40)).

- (65) a. [Goldberg \(1995: 185\)](#)
The dog barked the chickens awake.
- b. [Boas \(2003: 269\)](#)
Tom sneezed the napkin off the table.

²⁸Possibly, no interpretation of the external argument as acting on the end-point of the scale of the event is licensed since such an end-point no longer denotes an event, but rather a state.

(66) *Argument structure of (65a)*

In these predicates, the higher α_2 head is understood as introducing two Davidsonian event arguments. The first one, arising from the merging of α with its complement, gives rise to a complex Davidsonian event referring to a change (of state or location). The second one, arising from the merging of the root with α , gives rise to an atomic Davidsonian event referring to an activity. These predicates denote changes of state or location in which the main verb expresses a co-event, which is typically interpreted as specifying the manner or cause by which the event of change occurs. No identification occurs between the atomic and the complex Davidsonian event arguments, since both are independently associated with the same head α .²⁹ The inherent scale of change of the complex Davidsonian event

²⁹Evidence that the higher α in (66) is associated with both a complex Davidsonian event argument and an atomic Davidsonian event argument comes from intransitive predicates involving the configuration in (66) in languages like Dutch and German. In these languages, unaccusative constructions select the BE auxiliary. The syntactic configuration that gives rise to complex Davidsonian events (i.e. the configuration in which a dyadic α P is merged as the complement of a monadic α P; see (35)) results in unaccusative constructions if an external argument is not introduced, since the subject of the inner stative predication (that is to say, the element merged as the specifier of the lower α head) also becomes the subject of the complex Davidsonian event. Predicates referring to both a complex Davidsonian event and an atomic Davidsonian event, as in (65), display the BE auxiliary in these languages if an external argument is not introduced. This proves that the higher α is associated with a reading as introducing a complex Davidsonian event argument (see also Mateu 2002; Gehrke 2008; Acedo-Matellán 2016, among others). The fact that the verb further provides information about an atomic Davidsonian event, conceptually specified by the root e-merged with

is thus not transferred to the atomic Davidsonian event. The atomic Davidsonian event, which lacks an inherent scale, can be understood as taking place either at the beginning, in the middle, or at the end of the scale of change associated with the complex Davidsonian event. That is to say, resultative predicates of the type in (65) can be found in which the co-event takes place at the onset of the change event, co-extensively with the change event, or at the end of the change event, when the state expressed by the inner α P already holds.³⁰

(67) *Placement of co-events in the scale of change events*

- a. *Onset; Talmy (2000b: 45)*
Our tent blew down into the gully from a gust of wind.
- b. *Co-extension; Talmy (2000b: 53)*
The rock slid past our tent.
- c. *Conclusion; Talmy (2000b: 47)*
They locked the prisoner into his cell.

The placing of the atomic Davidsonian event in the scale of the complex Davidsonian event depends on extra-linguistic considerations based on world knowledge. Thus, while all the predicates in (67) share the same argument structure, one understands that the *blowing* event occurs at the beginning of the change of location event in (67a), that the *sliding* event co-extends in time with the change of location event in (67b), and that the *locking* event takes place at the end of the change of

the higher α , additionally shows that the higher head α also introduces an atomic Davidsonian event argument.

- (i) *Dutch; Mateu (2002: 234)*
Jan is de kamer in gedanst.
Jan be.3SG the room in dance.PTCP.PST
'John has danced into the room.'

³⁰This is in contrast to the interpretation of the action exerted by external arguments on the scale of change of complex Davidsonian events; see fn. 28.

location event in (67c) because this is how the two events denoted by each of these predicates are most likely to temporally relate to each other in the real world.

As the atomic Davidsonian event in predicates like (65) lacks an inherent scale, the introduction of an external argument triggers the requirement of teleological capability to carry out the atomic Davidsonian event denoted by the predicate even though a complex Davidsonian event is also expressed by the same predicate. I claim that this is the reason behind contrasts like the following.

- (68) a. *Rappaport Hovav & Levin (1996: 375)*
They drank the teapot dry.
- b. *Made up*
#A hole in the teapot drank the teapot dry.
- (69) a. *Goldberg (1995: 185)*
The dog barked the chicken awake.
- b. *Made up*
#The kennel barked the chicken awake.

Since *drinking* is a teleological capability of people, and *barking* is a teleological capability of dogs, the examples in (68a) and (69a) are felicitous. On the other hand, the examples in (68b) and (69b) are not well-formed because they display external arguments that are not teleologically capable of carrying out the atomic Davidsonian event denoted by their respective predicates.

A class of predicates that, *prima facie*, seem to involve the same argument structure of predicates of the type analysed here may be found with external arguments that are not teleologically capable of carrying out the event named by the verb's root. This is the case, for instance, of the example in (61b), repeated below.

- (70) *Folli & Harley (2008: 198)*
The sea ate away the beach.

In (70), the sea appears as the external argument of a predicate whose verb, lexi-

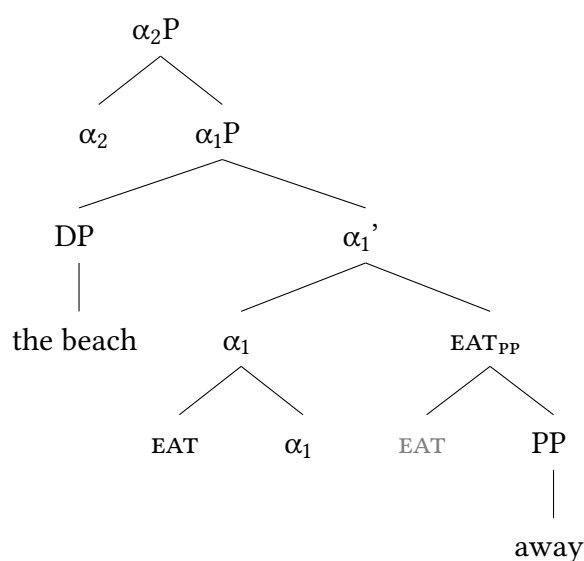
cally, denotes an activity that the sea is not teleologically capable of carrying out. The predication should thus be expected to be infelicitous, as in the case of the made up examples in (68b) and (69b), but this is contrary to fact. I argue that (70) is well-formed because the verb in this predicate is not interpreted as referring to an actual event of *eating*. Rather, the verb in (70) contributes to the abstract sense of ‘consumption’ that is already implied by the main event of change (namely, an event of removal) expressed by the predicate. This is in contrast to (59a), repeated below, where the verb can only be understood as involving an actual event of *eating*.

(71) *Folli & Harley (2005: 95)*

#The sea ate the beach.

The two predicates in (70) and (71) involve two different argument structures. While the predicate in (70) includes the expression of a complex Davidsonian event, the one in (71) refers exclusively to an atomic Davidsonian event of creation/consumption. Such a difference between the two predicates is relevant for the possibility of interpreting the verb’s root as ‘light’ in (70), but not in (71). In the consumption predicate in (71), the root EAT is merged as α ’s complement and is interpreted as providing conceptual content to the only Davidsonian event argument arising from the configuration, namely an atomic Davidsonian event argument. Because of the identification between the Davidsonian event argument and the root, the full conceptual content of the root is mapped onto the Davidsonian event argument, and the event is understood as consisting of *eating*. On the other hand, I propose that in (70) the root EAT is e-merged with the particle *away* in the complement of the inner α_1 , as in (72). This causes identification between the two elements at the level of the conceptual/intentional system. The interpretation of the root as referring to an abstract concept of ‘consumption’, rather than to an actual event of *eating*, in the context of the predicate, follows from the operation of identification: the abstract concept of ‘consumption’ is the only piece of conceptual content of the root EAT which can felicitously overlap with the idea of ‘removal’ provided by the particle *away*. The result is a conceptual interpretation

of the event of removal, based on *away*, as being characterized by an idea of gradual consumption, which is provided by the root *EAT*. Since no root is externally merged with the higher α_2 , no atomic Davidsonian event argument is introduced in the structure, and the requirement of teleological capability on the external argument does not arise.

(72) *Derivation of The sea ate the beach away*a. *Structure at Spell-Out*b. *Semantic interpretation*

- EAT* ⇒ access to the encyclopedic content of *EAT*
- PP* ⇒ preposition related to the encyclopedic content of *AWAY*
- EAT_{PP}* ⇒ identification of *EAT* with *PP*
- α_1 ⇒ predicative relator
- DP* ⇒ referring expression predicatively related to *EAT_{PP}* via α_1
- α_1P ⇒ predication
- α_2 ⇒ Davidsonian event argument
- α_2P ⇒ identification of the Davidsonian event argument with α_1P

Similar examples to (70) can be found involving the verb *drink* in conjunction with the particle *up*, as illustrated below.

- (73) COCA (Corpus of Contemporary American English, *Davies 2008-*)
- a. But those oldest pages had a dimension lost over time: depth. Their thickness drank up the ink of quill pens and did not easily yield to tearing.
 - b. He enjoyed watching the way his canvases drank up black.
 - c. But Harry filled the evening air with stories that were so bright and profound my ears hung down like thirsty mouths and drank up every syllable.

The examples in (73) are felicitous with external arguments that are not teleologically capable of carrying out an event of *drinking* (namely, *pages*, *canvases*, and *ears*, respectively) because the verb's root in (73) is not conceptualizing an atomic Davidsonian event. Rather, as in the case of (70), the verb's root in (73) can be argued to be e-merged with the particle *up* in the complement of the inner α_1 , integrating the abstract idea of 'total consumption' provided by the particle with an idea of 'gradual consumption' provided by DRINK. Successful identification between two elements that are provided with conceptual content, as in the case of verbs' roots with particles in (70) and (73), is contingent on the world-knowledge compatibility between the pieces of conceptual content of the two elements. The unacceptability of (68b) can thus be taken to arise from the total lack of compatibility between the conceptual content of DRINK and that of *dry*. The only acceptable interpretation for a predicate like *drink x dry* is one in which the verb's root is e-merged with the higher α_2 head, from where it provides its conceptual content to an atomic Davidsonian event argument. This, in turn, requires a teleologically capable external argument, giving rise to the contrast in (68). The same considerations apply with respect to the contrast in (69). Support for the proposal that predicates of the type in (72) do not involve the adjunction of a root with α_2 , but rather, in these predicates, the root concurs with the particle to the specifying of the final result achieved by the direct object, may come by looking at languages like Italian, which is argued by several authors to disallow the expression of a co-event in the verb (thus belonging to Talmy's class of verb-framed languages; *Talmy 1985*,

1991, 2000b). Indeed, examples like the one in (70) are widely attested in Italian, as the examples in (74) and (75) illustrate. As expected, the teleological capability to perform an event of *eating* is not required for the subject of predicates of this type.

(74) *Italian; Mateu & Rigau (2010: 248)*

L' intonaco è stato mangiato via dall' umidità.
 the plastering be.3SG be.PTCP.PST eat.PTCP.PST away by.the humidity
 'The plastering was eaten away by humidity.'

(75) *Italian; examples from a web search*

- a. [...] ha mangiato via il filetto dal cilindro.
 have.3SG eat.PTCP.PST away the thread from.the cylinder
 'It [the stud of the exhaust manifold: AB] ate away the thread from the cylinder.'
- b. Contemporaneamente l' altro torrente che incrocia Limone
 meanwhile the other stream which cross.3SG Limone
 ha mangiato via gli argini [...].
 have.3SG eat.PTCP.PST away the banks
 'Meanwhile, the other stream that intersects Limone ate away the banks.'
- c. [...] l' estate 2015 ha mangiato via un biennio di
 the summer 2015 have.3SG eat.PTCP.PST away a biennium of
 surplus o bilanci in pari [...]
 surpluses or budgets in balance
 'The summer of 2015 ate away two years of surpluses or balanced budgets.'
- d. Nel frattempo non è stato fatto un inventario di
 in meantime NEG be.3SG be.PTCP.PST make.PTCP.PST an inventory of
 quanta parte del nostro sistema industriale la crisi ci
 how_much part of.the our system industrial the crisis DAT.1PL

ha mangiato via.

have.3SG eat.PTCP.PST away

‘Meanwhile, we haven’t taken stock of how much the crisis has eaten away from our industrial system.’

- e. [...] la ruggine ha mangiato via quasi tutto lo spessore
the rust have.3SG eat.PTCP.PST away almost all the thickness
di un tubo [...] of a pipe

‘Rust has eaten away almost the entire thickness of a pipe.’

- f. [...] i magneti del volano hanno creato una
the magnets of.the flywheel have.3PL create.PTCP.PST an
elettrolisi che ha mangiato via il magnesio del
electrolysis which have.3SG eat.PTCP.PST away the magnesium of.the
pezzo.
piece

‘The flywheel’s magnets caused an electrolysis that ate away the magnesium from the piece.’

- g. [...] aveva il pistone talmente conciato che ha
have.IPFV.PST.3SG the piston so ruined that have.3SG
mangiato via la cromatura del cilindro.
eat.PTCP.PST away the chrome_plating of.the cylinder

‘Its piston was so damaged that it ate away the chrome plating of the cylinder.’

- h. Dietro la curva troviamo una piccola frana che ha
behind the curve find.3PL a small landslide which have.3SG
mangiato via una parte della carreggiata.
eat.PTCP.PST away a part of.the roadway

‘Beyond the curve we find a small landslide that has eaten away a portion of the roadway.’

Similar examples to those in (73) are further attested in Friulan, as shown in (76).

(76) *Vicario (1995: 191), in Mateu & Rigau (2010: 248)*

Al à bevût fûr dute la butilie di bessôl.
he have.3SG drink.PTCP.PST out all the bottle by alone
He drank the bottle up on his own.'

Another class of resultative predicates which, *prima facie*, may be taken to require teleologically capable external arguments refers to so-called 'internally caused' events of change (Levin & Rappaport Hovav 1995). These involve verbs, such as *wilt*, *wither*, *blossom*, or *rust*, denoting changes of state that are brought about due to some property inherent to the undergoer of the change (Levin & Rappaport Hovav 1995: 91). These verbs are known to resist causativization. Exceptions involve external arguments denoting ambient conditions which, also due to some inherent physical property of theirs, are likely to bring about the change denoted by the predicate. The following contrast illustrates this.

(77) a. *Alexiadou (2022: 112)*

*The gardener wilted the plants.

b. *Wright (2002: 340)*

Early summer heat wilted the petunias.

At first sight, the contrast in (77) may be related to a requirement of teleological capability imposed on the external argument in a similar way to what has been observed for predicates denoting activities and events of creation/consumption. This, however, would be problematic for the present theory since the resultative predicates in (77) do not involve atomic Davidsonian event arguments, and therefore should not impose a requirement of this type on their external argument. I argue that the contrast in (77) is not due to a requirement of teleological capability on the external argument. Evidence in favor of this conclusion comes from observing that the external argument, in predicates of the type in (77), is not required to perform the event denoted by the predicate from start to finish, which is instead a characterizing property of the external arguments of predicates denoting atomic Davidsonian events. Indeed, as Rappaport Hovav (2014b) puts it, ambient condi-

tions in transitive predicates denoting internally caused changes of state merely act as ‘enabling conditions’ that ‘trigger or facilitate these changes’ (Rappaport Hovav 2014b: 22), but are not required to actually carry out the event for its entire course. I propose that the contrast in (77) is due to an independent requirement found in resultative predicates, whereby their external argument must be interpreted as a direct cause of the change denoted by the predicate (Levin 2020, among others). Levin (2020) illustrates this with examples like the following.

(78) Levin (2020: 210)

Sam kicked the door open.

As Levin observes, (78) can be used to describe an event in which Sam’s kicking of the door causes the door to open. However, this predicate cannot describe an event in which the door opens as a result of Sam kicking a distinct object, say, a ball, which consequently hits the door, causing it to move.³¹ The ill-formedness of (77a) can be taken to follow from a violation of the requirement of direct causation found in resultative predicates. This squares nicely with the descriptive statement in Alexiadou et al. (2015), according to which predicates denoting internally caused events “only permit a very specific type of causer as the subject of their causative variant, namely those ambient conditions that can be conceptualized as *direct causers* of the events under consideration” (Alexiadou et al. 2015: 56; emphasis mine). The fact that these predicates generally consist of anticausative constructions is a result of the restricted availability of direct causers for the events they denote, as informed by general world knowledge. However, the direct causers

³¹The requirement of direct causation may be argued to follow from the fact that the action of the external argument, in predicates denoting complex Davidsonian events, must be related to at least one point in the scale of change associated with the complex Davidsonian event argument. The ruling out of indirect causation follows since, in such a case, the action of the external argument falls outside the scale of change of the event denoted by the predicate, namely it anticipates it. Possibly, predication involving indirect causation requires the licensing of an independent Davidsonian argument in the syntax, to which the action of the external argument is associated. This might be the reason behind the appearance of *make* in periphrastic causative constructions of the type *Sam made the door open*. I leave the investigation of this issue to further research.

introduced as external arguments of predicates of this type should not be confused with the teleologically capable external arguments of predicates involving atomic Davidsonian events.

3.5 Conclusions

In this chapter, building on Déchaine (1996) and Suzuki (1997, 1999, 2005), I have defended the hypothesis that there exists a direct mapping between syntactic configurations and event structure interpretations of predicates, and that the state/event semantic distinction is encoded in the syntactic configurations of predicates. I have proposed the existence of a functional head, labeled α , which is responsible for the interpretation of syntactic structures as involving the introduction of either a stative or an eventive predicate, depending on the configuration involved. When α takes both a complement and a specifier, projecting a dyadic configuration, a stative expression arises. When α only takes a complement, projecting a monadic configuration, an eventuality arises. I have defended such a view in light of Maienborn's (2007, 2019) semantic distinction between Kimian states and Davidsonian eventualities. I have further distinguished between two types of Davidsonian events, referred to as atomic and complex Davidsonian events, respectively. Atomic Davidsonian events arise from a monadic configuration in which α takes a root or DP as its complement. Complex Davidsonian events arise from a monadic configuration in which α takes as its complement a dyadic configuration projected by a further α head. I have also defended the idea that two elements that are either provided with conceptual content or devoid of formal semantic features undergo an operation of identification at the level of the conceptual/intentional system when they are merged together without a functional head mediating their relation in a specifier-complement configuration. When identification takes place, the conceptual content of the two elements is combined within the context denoted by the predicate, in a way that depends on the conceptual interpretation of the predicate. I have discussed cases of identification involving a root and a phrase, as in the case of rhematic direct objects of stative predicates (§3.2.1); a root and a phrase and, subsequently, its output with a monadic α head introducing a

Davidsonian event argument, as in the case of predicates denoting events of creation/consumption (§3.2.2.1); and two phrases, as in the case of some existential constructions found in Romance languages (§3.3). In Chapter 5, analyzing a peculiar type of verb-particle constructions found in Italian, I further discuss cases involving identification between a root and a phrase in the context of resultative predicates.

In the second half of the chapter (§3.4) I have offered an explanation, based on the present configurational theory of argument structure, of Folli & Harley's (2007, 2008) observation that unergative predicates denoting activities and events of creation/consumption only select external arguments that are teleologically capable of carrying out the event denoted by the predicate, while this is not the case for resultative predicates involving a small clause. I have proposed that this phenomenon should be understood as a conceptual requirement emerging as a by-product of the semantic interpretation of the syntactic structures of predicates. In particular, atomic Davidsonian events, which are associated to the unergative configuration, are uniform through time, while complex Davidsonian events, which arise from a monadic configuration in which α takes as its complement a dyadic configuration projected by a further α head, always entail a scale of change predicated of the internal argument e -merged as the specifier of the inner dyadic αP . I have proposed that the teleological capability to carry out the event denoted by the predicate arises for the external argument of predicates denoting atomic Davidsonian events, due to the temporal uniformity of these events. On the other hand, the requirement does not arise for the external arguments of predicates denoting complex Davidsonian events. In this case, the action of the external argument can also be understood as applying only at the onset of the scale of change associated with the event, thereby giving rise to an interpretation of the external argument as a mere trigger of the event denoted by the predicate. In contrast to Folli & Harley (2007, 2008), the present account is based on a view of semantic construal as arising strictly from the syntactic configuration. The burden of distinguishing between predicates that impose distinct semantic requirements on their external arguments is thus not attributed to different lexically stored flavors of functional heads, such as v_{DO} or v_{CAUSE} .

In the next chapter, I assess the predictive accuracy of the current configurational theory of argument structure in relation to Talmy's typology.

Chapter 4

A morphophonological account of Talmy's typology

In this chapter I argue that the configurational theory of argument structure proposed in Chapter 3 provides a more precise explanation of phenomena associated with Talmy's typology compared to prior neo-constructionist accounts and semantic accounts. The chapter is structured as follows. §4.1 offers an overview of Talmy's typology. In §4.2, I discuss several semanticocentric accounts of the typology and point out some of their main drawbacks. §4.3 is devoted to showing how the typology can be accounted for based on the configurational model of argument structure presented in Chapter 3. I propose a morphophonological account of the typology (§4.3.1), and I then compare it with previous neo-constructionist accounts (§4.3.2). The remainder of the chapter is dedicated to testing the predictions of the current model against the predictions of the other models discussed in §4.3.2, with a specific focus on the availability of predicates denoting complex events of creation/consumption across different typological classes of languages (§4.4). I argue that the present account of Talmy's typology yields more accurate predictions regarding the distribution of such predicates cross-linguistically, compared to prior neo-constructionist accounts and to semanticocentric accounts. §4.5 provides a summary of the key proposals and findings of the chapter. Parts of this chapter reproduce a partially reworked version of *Bigolin (to appear)*.

4.1 Talmy's typology: an overview

At the heart of Talmy's (1985, 1991, 2000b) influential works on the lexicalization patterns involved in the expression of motion and change events across languages is the study of how meaning and surface expression relate to each other in language.¹ Meaning is understood by Talmy in terms of abstract, conceptual elements that constitute linguistically relevant components of thought (e.g., notions such as *Path*, *Figure*, *Ground*, *Manner*, etc., to be clarified below). Surface expression instead stands for the overt linguistic forms that are assigned to meaning components (e.g., verbs, adpositions, subordinate clauses, satellites). The association of certain conceptual components with a particular morphosyntactic surface expression is referred to as *lexicalization* (Talmy 2000b: 23).² The following example is provided to illustrate the typical lexicalization of a motion event in English, based on Talmy's theory.

- (1) *Talmy (2000b: 227)*

The bottle floated into the cave.

This sentence tells us something about an entity, *the bottle*, which undergoes physical displacement with respect to another entity, *the cave*. The moving entity is referred to by Talmy as *Figure*, and the reference entity is referred to as *Ground*. The trajectory followed by the *Figure* with respect to the *Ground* is defined as *Path*. In Talmy's (2000b: 26) own words, "[t]he *Figure* is a moving or conceptually movable object whose path or site is at issue. The *Ground* is a reference frame, or a reference object stationary within a reference frame, with respect to which the *Figure's* path or site is characterized". The *Path* alone, or the *Path* together with the *Ground*, forms the core part of a motion event, which is called *Core Schema*

¹For a general summary of the cross-linguistic variation associated with Talmy's typology and existing accounts from both the semantic and the syntactic perspective, see Acedo-Matellán & Mateu (2015); Demonte (2016); Levin & Rappaport Hovav (2019).

²Two further ways to associate meaning with surface expression are considered in Talmy (2000b), namely *deletion* and *interpretation*. I only focus on the process of lexicalization.

by Talmy.³ Finally, the verb (*float*) conveys the Motion component. The motion event undergone by the Figure with respect to the Ground in (1) constitutes a Framing Event, which is the main event within a macro-event. In addition to Motion, however, the verb in (1) also lexicalizes a further conceptual component, which is related to the Manner in which the Framing event unfolds. Specifically, the verb in (1) tells us that the motion event undergone by the bottle takes place by *floating*. The Manner component is thus understood as a Co-Event of the Framing event.^{4,5} The lexicalization processes involved in (1) are schematically represented in Table 3.

Table 3: Lexicalization processes in English satellite-framed motion constructions

The bottle	floated	into	the cave.
[FIGURE]	[MOTION + CO-EVENT]	[CORE SCHEMA] _(PATH)	[GROUND]

³In English, the Core Schema generally consists of the Path alone (Talmy 2000b). Exceptions are found in cases involving satellites where the Ground is conflated with the Path, as in *She drove her home* (Talmy 2000b: 229).

⁴Talmy further considered constructions where the verb lexicalizes a stative locative component, understood by Talmy (2000b) as a subtype of Motion characterized by the absence of translational motion. He argued that a Co-Event can also be lexicalized by the verb in such constructions. For instance, he claimed that an expression like *The lamp lay on the table* can be approximately paraphrased as 'The lamp was (located) on the table, with the manner of lying there' (cf. Talmy 2000b: 29). In the theory proposed in this thesis, there can be no structural expression of a Co-Event component in the main verb in constructions of this type. According to the tests in (2) to (4) of Chapter 3, these constructions seem to involve a Davidsonian argument and do not constitute Kimian states. Their argument structure is therefore unergative, with the verb's root being the only complement of a head α that projects a monadic configuration. Consequently, the root cannot be understood as being adjoined to α if α does not take a distinct element as its complement. Additionally, if these constructions involved Kimian states, a root adjoined to α would arguably remain uninterpreted at LF (see discussion in §3.3). I do not deal with constructions of this type in this thesis. However, see Gómez Vázquez (2019) for an investigation of the crosslinguistic variation in the domain of stationary motion, within Ramchand's (2008) nanosyntactic framework.

⁵In addition to a relation of Manner, a Co-Event can bear any of a number of further conceptual relations to a Framing event, according to Talmy (2000b) (e.g., Cause, Precursion, Concomitance, Enablement etc.).

As noted by Talmy, lexicalization is subject to cross-linguistic variation, and the various ways in which this meaning-in-form operation takes place in different languages gives rise to typological patterns. The most influential typological distinction proposed by Talmy concerns precisely how languages express motion events. In particular, by focusing on the lexicalization of the Core Schema, Talmy describes two main possibilities as to its surface expression: in the verb, fused with the Motion component, or in a satellite morphologically distinct from the verb, in which case the verb typically expresses a Co-Event.⁶ Languages that encode the Core Schema in the verb are referred to as verb-framed languages, while languages which encode it in a satellite are called satellite-framed languages.⁷ As illustrated in Table 3, English behaves as a satellite-framed language. Romance languages, instead, generally qualify as verb-framed languages (Talmy 2000b). Thus, the verb in these languages expresses the Core Schema, while the Co-Event is either left unexpressed or realized as an adjunct. For instance, the macro-event depicted in (1) in verb-framed Spanish would be realized as in (2).

(2) *Spanish; Talmy (2000b: 227)*

La botella entró (flotando) a la cueva.
the bottle enter.PST.3SG float.GER to the cave
'The bottle moved into the cave (floating).'

⁶Talmy (2000b: 102) defines satellites as "[...] the grammatical category of any constituent other than a noun phrase or prepositional-phrase complement that is in a sister relation to the verb root". Following Mateu (2017), among others, I adopt a broader definition of satellite, which includes non-adjunct PPs with a goal of motion interpretation (e.g., *into the cave* in (1)). I further reject Talmy's definition for being based on the specific structural relation of sisterhood. I regard an element as a satellite if it is morphologically distinct from the verb, in the sense that it consists of a different abstract morpheme from the one that surfaces as the verb.

⁷Work on serial-verb languages has further led to the identification of a third typological class of languages, referred to as equipollently-framed languages by Slobin (2004) (further see Ameka & Essegbey 2013; Zlatev & Yangklang 2004). In equipollently-framed constructions, the Core Schema and a Co-Event are expressed by elements that are regarded as "equal in formal linguistic terms, and appear to be equal in force or significance" (Slobin 2004: 228). See Talmy (2016) for arguments against the proposal that serial-verb languages form a third typological class with respect to Talmy's typology.

The lexicalization processes involved in (2) are represented in Table 4.

Table 4: Lexicalization processes in Spanish verb-framed motion constructions

La botella	entró	(flotando)	en la cueva.
[FIGURE]	[MOTION + CORE SCHEMA]	[CO-EVENT]	[GROUND]

The typological pattern originally observed in the domain of motion events is also found in predicates expressing changes of state (Talmy 2000b). This is consistent with the localist hypothesis (Gruber 1965; Jackendoff 1983; Mateu 2008b; Talmy 1991, 2000b, among others), whereby the entity undergoing an event of change of state can be understood as a Figure which moves to an abstract Ground. Namely, satellite-framed languages, like English, license constructions like the one in (3), where the verb expresses the Co-Event of a change of state whose result is specified in a morphologically independent (in (3), adjectival) satellite. Verb-framed languages, instead, consistently express the final state in the main verb and optionally specify the manner in which the change of state event is brought about by means of adjuncts, as in (4).⁸

- (3) *Goldberg (1995: 136)*
She shot him dead.

⁸Son & Svenonius (2008) claimed that there is no necessary correlation between the licensing of satellite-framed adjectival resultative constructions, as exemplified in (3), and the licensing of satellite-framed change-of-location constructions, as shown in (1), within a given language. They concluded that Talmy's typology cannot be captured by a single, language-wide parameter, and that variation depends on the licensing properties of individual lexical items. However, Acedo-Matellán (2016) rebutted this analysis, arguing that the alleged satellite-framed constructions in some verb-framed languages discussed by Son & Svenonius (2008) are not true satellite-framed constructions. Acedo-Matellán (2016) showed that the satellite-like element in these constructions is better understood as a modifier rather than an argument of the predicate, and the predicate either does not involve a Core Schema or lexicalizes it in the verb, as expected in a verb-framed language.

- (4) *Spanish; CORPES XXI (Corpus del Español del Siglo XXI, Real Academia Española)*

Lo mató de un disparo.

ACC.M.SG kill.PST.3SG of a shot

'He/she killed him with a shot.'

Slavic languages, along with Latin, have been further referred to as 'weak satellite-framed' (Acedo-Matellán 2010, 2016) since, although they allow the lexicalization of Path in a satellite, this must form a prosodic word with the verb.⁹ For instance, the object *svoju ručku* ('her pen') in the Russian predicate in (5a) is understood to be brought into a state of exhaustion which is lexicalized by the prefixal satellite *iz-* ('out', spelled as *is-* in (5a)), while the verb, *pis-* ('write'), specifies a Co-Event that causes the transition underwent by the object (Mateu 2008b; Spencer & Zaretskaya 1998). Similarly, the object *tenuissimas radices* ('the most slender roots') in the Latin example in (5b) undergoes a change of location which is expressed by the verb prefix *ex-* ('out'), while the main verb refers to a Co-Event that specifies the way in which the change-of-location event is brought about.

- (5) a. *Russian; Spencer & Zaretskaya (1998: 17)*

Ona is-pis-a-l-a svoju ručku.

she.NOM out-write-TH-PST-AGR POSS pen.ACC

'She wrote her pen out of ink.'

- b. *Latin; Cato Agr. 61, 1, in Acedo-Matellán (2016: 88)*

Tenuissimas radices ex-ar-a-bit.

slender.SUPERL.ACC.PL roots.ACC out-plough-TH-FUT.3SG

'He will plough out the most slender roots.'

⁹The types of Co-Events that can be expressed by the verb in resultative change-of-location predicates have been argued to be fewer in weak satellite-framed Slavic languages compared to other satellite-framed languages (see, e.g. Filipović 2010; Kopecka 2010; Lewandowski & Mateu 2016, 2020; further see Filipović 2007 for a corpus-based study of motion event expression across different language types, from a cognitive perspective).

The satellite-framed/verb-framed distinction is also found in the domain of predicates denoting events of creation/consumption (see, e.g., Levin & Rapoport 1988; Martínez Vázquez 1998; Mateu 2003, 2012). Namely, in a similar way to (1) and (3), satellite-framed languages allow the lexicalization of a Co-Event in the verb in creation/consumption predicates, giving rise to creation/consumption predicates of the type in (6) (hereafter, 'complex creation/consumption predicates').

- (6) *Mateu & Rigau (2002: 213), adapted from Levin & Rapoport (1988: 279)*

She brushed a hole in her coat.

Verb-framed languages, instead, consistently express the event that leads to the creation/consumption of the object in the main verb, which may be either a verb denoting a generic event of creation (e.g., *make*, as in the Spanish example in (7a)), or a verb that denotes a more specific activity which, nonetheless, strongly implies the creation/consumption of the object, as in (7b). The object, in turn, is interpreted as a hyponym of the verb. The specification of a possible Co-Event, as in the verb-framed resultative examples in (2) and (4), is relegated to an optional adjunct.¹⁰

- (7) *Spanish*

- a. *Bigolin (to appear: iii)*

Hizo un agujero en su abrigo (al cepillar=lo).
 make.PST.3SG a hole in POSS coat at.the brush.INF=ACC.M.SG
 'She made a hole in her coat, by brushing it.'

- b. *CORPES XXI*

Comenzó a cavar un hoyo con la punta de su bota.
 begin.PST.3SG to dig.INF a hole with the tip of POSS boot
 'He/she began to dig a hole with the tip of his/her boot.'

¹⁰See Martínez Vázquez (2014) for the claim that some complex creation/consumption predicates are licensed in verb-framed Spanish, and Napoli (1992) for similar evidence in verb-framed Italian. Further see Calle Bocanegra (2024) for the claim that Spanish allows the expression of a Co-Event in the main verb also in some change-of-location predicates. See Bigolin & Ausensi (2021) for an analysis of Martínez Vázquez's (2014) examples as involving a verb-framed strategy.

The typological patterns associated with Talmy's typology constitute a challenge to theories of language structure. This is because such a cross-linguistic variation does not seem to be simply the expression of general tendencies, but rather exhibits a particular principled distribution. Namely, satellite-framed languages seem to allow a superset of the constructions that are possible in verb-framed languages. That is, while verb-framed constructions may be found in both verb-framed languages and satellite-framed languages, satellite-framed constructions generally appear to be a prerogative of satellite-framed languages. For instance, as illustrated in (8), literal translations of the English satellite-framed constructions in (3) and (6) are impossible in verb-framed Spanish. However, the Spanish verb-framed constructions in (4) and (7) are available in satellite-framed English, as shown by their respective translations.¹¹

(8) *Spanish*

a. *Bigolin & Ausensi (2021: 519)*

*Juan lo disparó muerto.

Juan ACC.M.SG shoot.PST.3SG dead

Intended: 'Juan shot him dead.'

b. *Cepilló un agujero en su abrigo.

brush.PST.3SG a hole in POSS coat

Intended: 'She brushed a hole in her coat.'

¹¹Verb-framed resultative predicates denoting events of change of location where the manner component is expressed as an adjunct are at best marginal and at worst ungrammatical in satellite-framed English, according to *Croft, Barðdal, Hollmann, Sotirova & Taoka (2010)* (see (i)). I remain agnostic as to the nature of the contrast between (i) and well-formed verb-framed change-of-state predicates with manner adjuncts, like *He/she killed him with a shot*.

(i) *Croft et al. (2010: 212)*

a. The bottle floated into the cave.

b. *?The bottle entered the cave floating.

Some Romance constructions involving prepositions like Spanish *hasta* ('until') or *hacia* ('toward') might at first sight be taken to constitute an exception to Talmy's typology, as they seem to involve predicates that refer to changes of location where the verb denotes a Co-Event rather than the actual transition.

(9) *Spanish*

a. *Aske (1989: 7)*

Juan caminó hasta la cima (?* en dos horas).

Juan walk.PST.3SG until the top in two hours

Juan walked up to the top (in two hours).

b. *Aske (1989: 3)*

La botella flotó hacia la cueva.

the bottle float.PST.3SG toward the cave

'The bottle floated toward the cave.'

Examples like those in (9), however, should not be considered problematic for Talmy's typology, since they involve atelic predicates in which the PP acts either as providing a boundary to an activity, as in (9a), or as a mere indicator of directionality (which is not, by itself, to be understood as equivalent to Talmy's Path, which always entails a result) of an activity, as in (9b) (*Aske 1989; Beavers 2008; Real-Puigdollers 2013*). Since change of location in (9) is not encoded linguistically as an event on its own, the event referred to by the main verb does not qualify as a Co-Event but rather as a main event, whereby the examples in (9) are not to be regarded as satellite-framed constructions. In the same vein, Spanish constructions like the one in (10), which appear to refer, conceptually, to an event of change of state entailing death, should also not be considered counterevidence to the claim that Spanish does not allow satellite-framed resultative constructions.

(10) *Spanish; Bigolin & Ausensi (2021: 536)*

Los adultos mayores necesitan trabajar hasta la muerte.

the adults elder need.3PL work.INF until the death

'The old adults need to work themselves to death.'

For example, Bigolin & Ausensi (2021) argued that (10) is to be analysed as referring to an activity of working, denoted by the verb *trabajar* ('work'), which goes on until death comes. However, the causal relation between the event denoted by the verb and the state of being dead is only inferred based on pragmatic considerations, while no sub-event referring to the state of being dead is encoded in the structure of the predicate. Thus, as in (9), the main verb of the infinitive clause in (10) does not refer to a Co-Event but rather to a main event, and the predicate does not qualify as satellite-framed.

Another apparent exception to Talmy's typology is constituted by examples like (11), which, contra (8a), seems to provide evidence, *prima facie*, of satellite-framed change-of-state predicates with adjectival satellites in verb-framed languages like Spanish (see Washio 1997 and Mateu 2000 for discussion of similar examples in other Romance languages and in Japanese).

(11) *Spanish; Rodríguez Arrizabalaga (2014: 135)*

Se cuecen unos huevos duros.
PASS cook.3PL some eggs hard
'Some eggs are boiled hard.'

However, that predicates like (11) are licensed in verb-framed languages is explained by the fact that the adjectival result in these predicates is further specifying a result component which is provided by the verb's root (e.g., in (11), *duros* 'hard' restricts semantically the scale of change expressed by the verb *cocer* 'cook'), whereby the verb in (11) does not specify a Co-Event (Mateu 2000; Morimoto 1998; Washio 1997, among others). Due to this reason, constructions like (11) have been referred to as *weak resultatives*, in contrast to *strong resultatives* of the type in (12) where the verb does not share a scale with the adjective (Washio 1997).¹²

¹²There is a degree of intra-typological variation in the availability of weak resultatives. Some verb-framed languages, such as Japanese (Washio 1997), are more flexible than others, such as Spanish (Demonte & Masullo 1999, among others) and Romance languages more generally, in licensing this construction. I remain agnostic regarding the reasons behind this type of variation.

(12) *Washio (1997: 6)*

They beat the man bloody.

(11) should further be distinguished from predicates like (13).

(13) *Catalan; Mateu (2000: 90)*

M' he lligat els cordons de les sabates ben estrets.

DAT.1SG have.1SG tie.PTCP.PST the laces of the shoes well tight

'I have tied my shoelaces very tight.'

(13) is different from (11) in that the adjective in (13) is not modifying a scale provided by the verb's root, but rather an entity which is not syntactically realized and which can be identified conceptually with the verb's root (*Washio 1997; Mateu 2000; Levinson 2010*). Based on these considerations, adjectives in constructions of this type have been referred to as 'pseudo-resultative predicates' by *Levinson (2010)*. For instance, what ends up being tight in (13) is not the shoelaces, but rather the tie which is produced during the event denoted by the predicate.¹³ Constructions like (13) are also licensed both in satellite-framed languages and in verb-framed languages. Like in the case of (11), this is because the verb's root, in these predicates, expresses a result that applies to the internal argument (e.g., in (13), the shoelaces end up tied), whereby the verb does not qualify as specifying a Co-Event, but rather as expressing the Core Schema of the event referred to by the predicate.

In the next section, I provide an overview of some semantic approaches to the pattern of Co-Event conflation displayed by satellite-framed languages, and I show how these approaches fail to provide a principled explanation to the cross-linguistic contrasts observed.

¹³(13) can also be regarded as the instantiation of a type of construction, called the *V ben V* construction by *Espinal & Mateu (2018)*, where the verb and its object are followed by the adverb *ben* ('well') and either a past participle or an adjective. See *Armstrong (2012)* for an analysis of this construction in Spanish. While *Espinal & Mateu (2018)* argued that the '*ben* + past participle / adjective' modifier behaves like a pseudo-resultative predicate, *Armstrong (2012)* analysed other instances of this construction in Spanish as involving a weak resultative of the type in (11), where the AP is understood as a modifier of the direct object.

4.2 Semanticocentric approaches to the typology and their drawbacks

The first semantic approach dealt with is Levin & Rapoport's (1988) lexicalist one. In this approach, constructions where the verb expresses a Co-Event of the main event denoted by the predicate are understood in terms of a rule of 'lexical subordination'. This rule applies to the lexical entry of the verb, extending its Lexical Conceptual Structure (LCS; Jackendoff 1983, 1990) by means of a semantic operator BY in the way schematized in (14). LCSs represent the locus where meaning is assigned to lexical entries. They consist of function-argument structures where arguments are related to some primitive semantic predicates (e.g., CAUSE, BECOME, etc.), similarly to Levin & Rappaport Hovav's (1995)'s lexical semantic representations (see §2.1.1). BY applies to a verb whose 'original, or basic, sense' (Levin & Rapoport 1988: 282) gives rise to manner or instrument clauses, and subordinates it under a lexical predicate with a complex LCS that is derived via BY from the original LCS of the verb.

- (14) *Lexical subordination; Levin & Rapoport (1988: 282)*
 LCS: manner/instr → LCS: [result BY manner/instr]
 (BY is used to represent 'by means of' or 'in the manner of')

(15) illustrates this process with the verb *wipe*.

- (15) *Levin & Rapoport (1988: 282)*
- a. Evelyn wiped the dishes.
 wipe₁: [x 'wipe' y]
 - b. Evelyn wiped the dishes dry.
 wipe₂: [x CAUSE [y BECOME (AT) z] BY [x 'wipe' y]]

This proposal has the advantage of providing a unified explanation for the typological patterns noted in the domain of resultative predicates (Talmy 2000b) and in the domain of creation/consumption predicates (Mateu 2003, 2012), as it focuses on the

possibility of expressing a Co-Event in the main verb, independently of whether a result component is present or not in the construction. However, as noted in [Mateu \(2000\)](#), the problem with this proposal is that it does not offer a satisfactory account of the absence of predicates of the type in (15b) in verb-framed languages. [Levin & Rapoport \(1988\)](#) concluded that the cross-linguistic contrasts are due to the unavailability, in Romance languages, of the operation of lexical subordination, which is instead available in English. However, the idea that some languages lack semantic operations which are instead available in other languages, as put in [Levin & Rapoport \(1988\)](#), can only be regarded as another way of describing the facts, and not as a principled explanation.

Building on [Levin & Rapoport's \(1988\)](#) account of constructions such as (15b) in terms of lexical subordination, [Tenny \(1994\)](#) proposed to regard this rule as an operation over aspectual structure. In particular, she argued that a MEASURE aspectual role is added to an empty aspectual grid associated with the verb, as illustrated in (16) with the verb *wipe*.

- (16) [Tenny \(1994: 200\)](#)
 wipe₁ – – – → wipe₂
 Aspectual structure: [] – – – → [MEASURE]

This extends the verb's basic meaning by adding a result component to it, as exemplified in (17) with reference to [Levin & Rapoport's \(1988\)](#) original examples.

- (17) [Tenny \(1994: 200\)](#)
- a. Evelyn wiped the dishes.
 wipe₁: Aspectual structure: []
 - b. Evelyn wiped the dishes dry.
 wipe₂: Aspectual structure: [MEASURE]

Similarly to [Levin & Rapoport \(1988\)](#), [Tenny \(1994\)](#) concluded that Romance languages do not display constructions of the type in (17b) simply because they happen to not make use of the operation over aspectual structure schematically rep-

resented in (16). Therefore, Tenny's (1994) account is subject to the same criticism made for Levin & Rapoport's (1988), that is to say, it lacks an explanatory status (Mateu 2000). Tenny's (1994) account faces an additional problem with respect to Levin & Rapoport's (1988). Namely, by focusing on the change in meaning of the verb, it does not predict the absence of creation/consumption predicates where the verb expresses a Co-Event in verb-framed languages. This is because in predicates of this type, as discussed in §3.2.2.1, the aspectual properties of the predicate depend on the boundedness of the direct object, irrespective of whether the verb expresses a Co-Event or the actual event of creation/consumption.

A further semantic account is Pustejovsky's (1991) event-type shifting account, according to which satellite-framed constructions are the result of an operation of event-type shifting from processes to transitions. This operation is achieved by adding a resultative phrase to an otherwise activity predicate, as in (18).

- (18) *Pustejovsky (1991: 65)*
- a. Mary hammered the metal. (*hammer* ∈ process)
 - b. Mary hammered the metal flat. (*hammer* ∈ transition)

Like previous analyses, Pustejovsky's (1991) account does not offer an explanation to the systematic absence of such constructions in verb-framed languages (Mateu 2000). Furthermore, similarly to Tenny (1994), this account runs into problems when typological variation in the domain of creation/consumption predicates is considered, as these predicates can be argued to denote accomplishments irrespective of whether the verb expresses a Co-Event or the main event of creation/consumption.

Another semantic approach to Talmy's typology has been considered in relation to *The Compounding Parameter* (TCP) of Snyder (1995, 2001, 2012). In the formulation of Snyder (2012), TCP is understood as an LF parameter specifying whether a language allows or not a specific rule of semantic composition, termed *Generalized Modification*, which has been argued to be required (setting [+TCP]) for the arising of satellite-framed motion constructions. However, as Snyder (2012) himself points out, the setting of TCP in a given language should not be under-

stood as a way to classify such a language as verb-framed or satellite-framed in the sense of Talmy (2000b).¹⁴ For example, Japanese is classified as [+TCP] by Snyder even though it behaves as a verb-framed language. In contrast, Russian is classified as [-TCP] despite the fact that, as discussed in §4.1, it is commonly considered as a satellite-framed language. Snyder concluded that Russian is [-TCP] based on the fact that this language lacks creative endocentric bare-root compounding, a condition used to establish that a language is [+TCP] by Snyder.¹⁵ He then argues that Russian constructions such as the one in (5a) should not be put on a par with English satellite-framed constructions like *Mary wiped the table clean* or *John pushed the ball out*, since, according to him, in the latter the verb is the primary predicate and the adjective or particle are secondary predicates, while in Russian prefixed resultative constructions the primary predicate is the prefix. This difference is crucial since Generalized Modification is argued by Snyder to be involved only in predicates of the English type where the verb serves as the primary predicate, leading to the conclusion that Russian prefixed resultatives cannot be considered as satellite-framed in the same way as the English adjectival and PP/particle resultatives. It is not clear, however, on what basis the adjectival or PP/particle resultative is to be considered as a secondary predicate in English, while the prefix is to be considered as a primary predicate in Russian. Indeed, Snyder's (2012)

¹⁴See, e.g., Snyder (2012: 280): "Note that my goal will not be to argue that Talmy's typology is correct or incorrect. Typology and parameter theory have somewhat different domains of inquiry, and very different criteria for success"; and Snyder (2012: 281): "the precise surface consequences of a parameter-setting like [+/-TCP] can vary considerably, depending on the settings of other parameters. As a result, the forms of data collection that are useful in language typology are often insufficient for testing a parametric hypothesis. A surface-level diagnostic for a typological characteristic can often be satisfied by languages that are really quite different in their underlying grammars."

¹⁵Endocentric bare-root compounding refers to constructions like *frog chair* (Snyder 2012), in which the head of the compound (*chair*) is understood as the subtype of a kind that stands in a pragmatically suitable relation with the kind denoted by the modifier. For example, as Snyder (2012) notes, an endocentric compound like *the frog chair* could refer to a chair utilized by frogs, one that resembles a frog, or one that bears an image of a frog, among many other potential interpretations that might arise based on context.

paraphrasis of the Russian predicate in (5a) as “she exhausted her pen by writing” reflects the standard paraphrases given to satellite-framed constructions by Talmy (2000b), as illustrated in (19).

(19) *Talmy (2000b: 30)*

I kicked the keg into the storeroom. = [I_{A[gentive: AB]}MOVED the keg into the storeroom] WITH-THE-CAUSE-OF [I kicked the keg]

An explicit connection between Snyder's TCP and Talmy's typology is proposed in Gehrke (2008). Gehrke argues that languages with a [+TCP] setting can compound a PredP (i.e. a small clause) secondary predicate bearing an incremental structure with an activity VP, thus giving rise to satellite-framed constructions. Verb-framed languages, in which this compounding operation is not possible due to a [-TCP] setting, are instead bound to expressing incremental structures in the verb directly. Based on this reasoning, Gehrke (2008) classifies Russian as a verb-framed language because the incremental structure in predicates denoting change is expressed by verbal prefixes (therefore, in the ‘verb’, broadly speaking) in this language. Assuming Gehrke's (2008) account of Talmy's typology, however, the qualification of Russian as a verb-framed language is quite surprising. This is because Russian resultative prefixes are treated as Pred heads by Gehrke, and these prefixes can indeed co-appear with activity verbs in complex predicates in Russian, as shown in (5a).¹⁶ It is thus not clear what the mechanism responsible for the compounding operation between the activity verb and the resultative prefixal Pred should be in predicates of this type, if Russian is [-TCP]. Gehrke's (2008) account is also problematic because, as observed by Acedo-Matellán (2010, 2016), it regards verbs as words, which may include prefixes. Due to this fact, resultative constructions are classified as verb-framed as long as the result component is expressed within the verb word, e.g., prefixally. However, as emphasized by Acedo-Matellán

¹⁶Here and elsewhere in the thesis I employ the term ‘complex predicate’ to refer to predicates where the main verb expresses a Co-Event of the main event conveyed by the predicate, irrespective of whether the main event is resultative or pertains to creation/consumption.

(2010, 2016), Talmy's typology is built upon considerations related to morphemes, not to words. The expression of the result component through prefixes on the verb in Russian, thus, does not conclusively classify it as a verb-framed language, since the key determinant for verb-framedness lies in whether the result component is expressed in the verb morpheme itself.

I come back to the classification of weak satellite-framed languages such as Russian in relation to Talmy's typology in §4.3.1, where I put forth an account of the typology in terms of a morphophonological (PF) requirement found in verb-framed languages. Specifically, I argue that weak satellite-framed languages should be viewed as verb-framed languages that, despite their verb-framedness, have the capacity to license specific satellite-framed constructions (e.g., the one illustrated in (5a)) that comply with their PF requirement.

4.3 A morphosyntactic approach

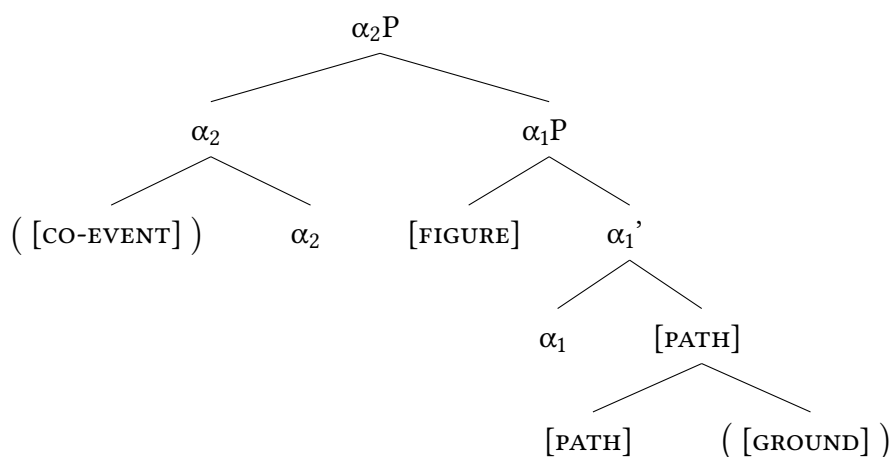
In this section I present a morphosyntactic approach to Talmy's typology based on the configurational theory of argument structure proposed in Chapter 3. Specifically, I propose that the typology should be understood as the result of a morphophonological (PF) requirement on the head α in verb-framed languages (§4.3.1). Afterward, I compare this account with other morphosyntactic accounts found in the neo-constructionist literature on the typology, arguing that the account put forth in this section should be preferred in explanatory terms and for its predictions (§4.3.2).

The conceptual components considered by Talmy are syntactically represented in the present system as follows. The element representing the Figure is introduced as the specifier in a dyadic α P. Talmy's Path component instead consists of the element merged as α 's complement in a dyadic α P, when such an α P is merged as the complement of a monadic α P. This is because an eventive context is required in order for the complement of a dyadic α P to be interpreted as a Talmian Path, and the merging of the dyadic α P as the complement of a monadic α P provides such a context. The Ground component consists of the complement of a dyadic α P which is not selected by a further α head projecting a monadic configuration, therefore

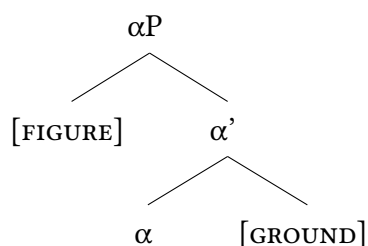
giving rise to a stative predication. In an eventive configuration, the Ground component is provided by the element optionally involved in a relation of identification (understood in the structural sense discussed in §3.2) with the element representing the Path component.¹⁷ Finally, the Co-Event component is specified by the element e-merged with α when it projects a monadic configuration (see §3.3). The mapping between Talmian conceptual components and morphosyntactic surface expressions, based on the structural relations established between the latter, is represented in (20).

(20) *Syntactic mapping between conceptual components and surface expressions*

a. *Eventive context*



b. *Stative context*

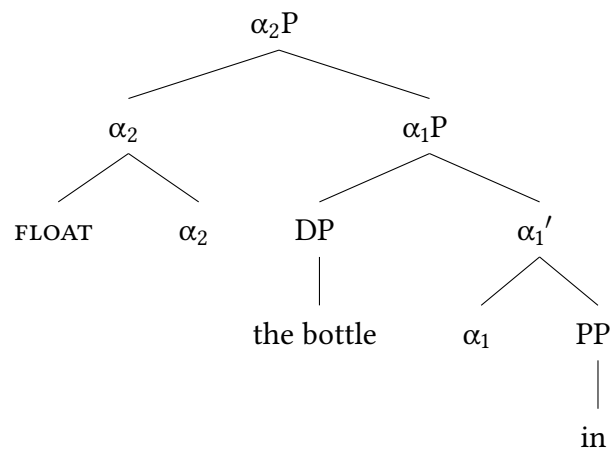


In the syntactic theory of argument structure defended in this thesis, satellite-framed constructions are thus understood as involving the adjunction of a root

¹⁷The optionality of the Ground component and of the Co-Event component in eventive predicates is indicated by parentheses in the syntactic representation in (20a).

with a phonologically null head α projecting a monadic configuration, whose complement receives a morphophonological realization independently of α . The root conflated with α is understood as specifying a Co-Event of the main event arising from the predicate. In the case of resultative (change-of-state/location) predicates, as discussed in §3.2.2.2, the α head projecting a monadic configuration takes as complement a dyadic α P where the undergoer of the transition and the final state/location are introduced (Hoekstra 1988).

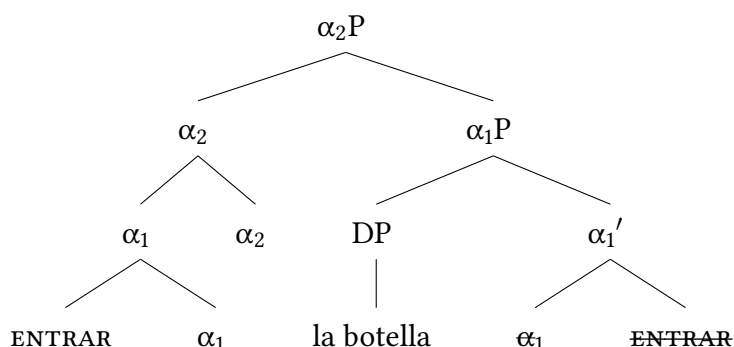
(21) The bottle floated in.



Verb-framed languages are different from satellite-framed languages in that they never show constructions in which a root is adjoined to α in the way depicted in (21). In verb-framed languages, the predicative complement of the dyadic α P always ends up forming a unit with the higher α head that projects the monadic configuration, whereby the only resultative predicates attested are those formed via incorporation (Mateu 2002, 2017; Mateu & Rigau 2002; Folli & Harley 2020, among others).

(22) *Spanish*

La botella entró (flotando).
 the bottle enter.PST.3SG float.GER
 ‘The bottle moved in (floating).’



The key question, therefore, concerns the nature of the operation responsible for the creation of such a unit, and the reason why this operation seems to be mandatory in verb-framed languages.

4.3.1 A PF requirement in verb-framed languages

I endorse a view of cross-linguistic variation as primarily consisting of differing morphophonological realization conditions of functional heads (Acedo-Matellán 2010, 2016; Mateu 2000, 2017, among others). In order to account for the variation observed in relation to Talmy's typology, I propose that the head α in verb-framed languages is associated with a PF requirement that imposes the head of α 's complement to form a complex head with α .

(23) *Verb-framed languages PF requirement*

A phonologically null α must form a complex head with the head of its complement.

The requirement in (23) can be captured via the adoption of Arregi & Pietraszko's (2021) theory of GenHM, laid out in §1.3.2.¹⁸ In §3.2, I have proposed that the head α is characterized by the absence of abstract semantic features, featuring as its single feature the [edge] feature required to take part to Merge operations in the computational system. Here I propose that α , in verb-framed languages, is further

¹⁸I am grateful to Víctor Acedo-Matellán (p.c.) for drawing my attention to Arregi & Pietraszko (2021).

provided with an [hm] feature that triggers GenHM (Arregi & Pietraszko 2021). As a consequence, whenever the head α is part of a syntactic structure, it triggers, at PF, the formation of a complex head with the head of its complement, deriving the verb-framedness effect at the base of Talmy's typology.¹⁹ In what follows, I discuss the consequences of adopting the requirement in (23) under a GenHM approach with respect to different types of argument structure configurations. In §4.3.1.1 I analyse the derivation of resultative predicates, like the one in (22). In §4.3.1.2 I discuss the derivation of stative predicates, with a focus on the class of Romance statives analysed in §3.3 in which the verb seems to specify a Co-Event. §4.3.1.3 is devoted to the syntactic and PF derivation of verb-framed predicates of creation/consumption. In 4.3.1.4, I focus on why predicates involving the adjunction of a root to α are generally not present in verb-framed languages. I further propose that the requirement in (23) also applies to weak satellite-framed languages. These languages should thus be better understood as a class of verb-framed languages that, despite their verb-framedness, are able to feature satellite-framed constructions by concomitantly ensuring that the requirement in (23) is satisfied.

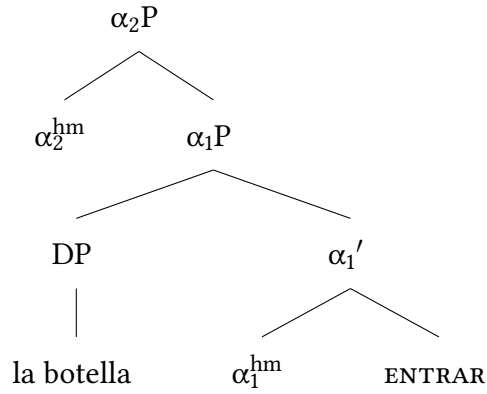
4.3.1.1 Resultative predicates

Assuming GenHM, a proper representation of a verb-framed construction like the Spanish one in (22) is as in (24).

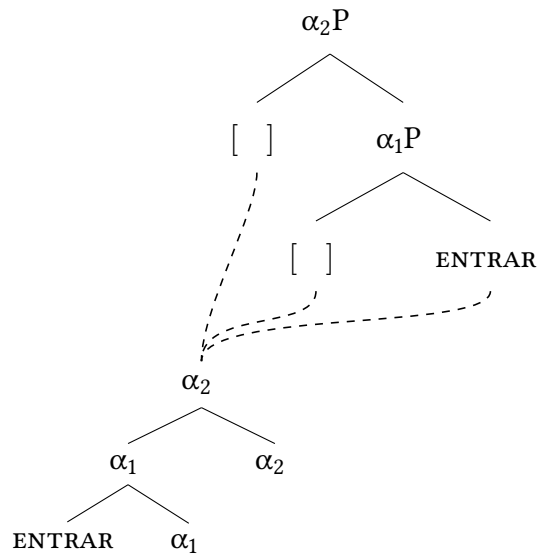
¹⁹I assume that GenHM applies at PF, following Kwapiszewski's (2022) (see §1.3.2).

(24) *Proposed syntactic and PF derivation of (22)*

a. *Input to PF*



b. *Output of GenHM*



(23) predicts that the typological patterns noted by Talmy hold regardless of whether a result component is involved (as in the case of change-of-location/state predicates) or not (as in stative predicates and creation/consumption predicates). This is so because the head α is found in all types of verbal predicates, as discussed in §3.2. I analyse the derivation of stative predicates in §4.3.1.2 and the derivation of creation/consumption predicates in §4.3.1.3.

4.3.1.2 *Stative predicates*

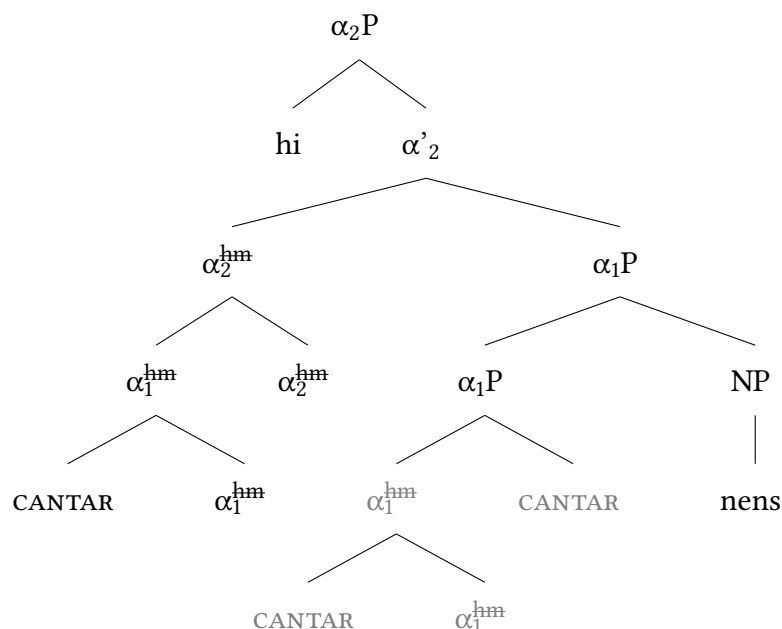
With respect to stative predicates, the prediction aligns with what has been argued for in §3.3. There, I have argued that not only in verb-framed languages, but more generally in all languages there can be no construction involving the adjunction of a root to α when α projects a dyadic configuration, since the conceptual content provided by the root would not be interpretable in such a configuration. The account of Talmy's typology put forth in this chapter is thus compatible with the claim that the existential constructions found in Romance languages like those in (43) from Chapter 3, repeated in (25), do not display the Co-Event conflation pattern (in the sense of Mateu 2012, i.e. involving the adjunction of a root to the verbal head) that is typical of satellite-framed languages.

- (25) a. *Spanish; based on Torrego (1989: 255)*
 En este árbol anidan cigüeñas.
 in this tree nest.3PL storks
 'Storks nest in this tree.'
- b. *Catalan; based on Rigau (1997: 415)*
 En aquesta coral, hi canten nens.
 in this choir LOC sing.3PL children
 'Children sing in this choir.'
- c. *Catalan; based on Mateu & Rigau (2002: 227)*
 En aquest esbart, hi ballaran adolescents.
 in this group LOC dance.FUT.3PL teenagers
 'Teenagers will be dancing in this group.'

In §3.3 I have proposed that constructions of this type involve identification between a monadic α P and a nominal expression that works as the logical subject of the predication. Such a structure is fully compatible with the verb-framed nature of these languages. In particular, the creation of a complex head between the higher α (α_2 in (26)), that projects a monadic configuration, and the lower α (α_1 in (26)) takes place before Spell-Out, in order to establish the lower α_1 as the head

of the constituent formed by the merging of α_1 P with the NP. The formation of a complex head between α_1 and the root e-merged as its complement (CANTAR in (26)) may also be considered as the result of an operation of I-Merge (alternatively, it might be regarded as the result of applying GenHM to α_1 and CANTAR in a previous cycle of the derivation). As a consequence, the configuration required by the [hm] features of both heads α is already met when the structure reaches the PF interface. I assume that, in such cases, the [hm] feature is canceled at PF without any further structural change taking place.²⁰

(26) *Proposed syntactic argument structure of (25b) at the input to PF*



4.3.1.3 Creation/consumption predicates

Creation/consumption predicates, as discussed in §3.2.2.1, involve an unergative configuration (à la Hale & Keyser 1993, 2002) consisting, in present terms, of a head α that takes as its complement either a root which subsequently undergoes I-Merge with it (the overt object emerging as a hyponym of the verb; Hale & Keyser

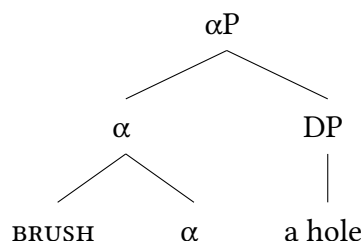
²⁰Co-indexed, unpronounced copies of elements that undergo I-Merge are represented in gray in (26) and following trees.

1997b, 2002), or an independent DP. In the latter case, α may either appear as an overt light verb or have a root e-merged with it, giving rise to the complex creation/consumption predicates that are peculiar to satellite-framed languages (Mateu 2012; §3.3). The pattern involving the adjunction of a root to α is typical of satellite-framed languages because, in these languages, α is by assumption not endowed with an [hm] feature (see (23)), which requires that α forms a complex head with the head of its complement. The syntactic structure associated with this pattern, exemplified by (6) (repeated in (27)), is represented in (28), repeated from §3.3.

(27) *Mateu & Rigau (2002: 213), adapted from Levin & Rapoport (1988: 279)*

She brushed a hole in her coat.

(28) *Argument structure of (27)*



The syntactic structure of the verb-framed pattern involving the I-Merge of the root with α , exemplified in (7b) (repeated in (29)), is represented in (30).²¹ As in the case of (26), I argue that the [hm] feature on α in (30) does not give rise to GenHM at PF, since the configuration required by the feature is already satisfied syntactically by the I-Merge of the root with α .

(29) *Spanish; CORPES XXI*

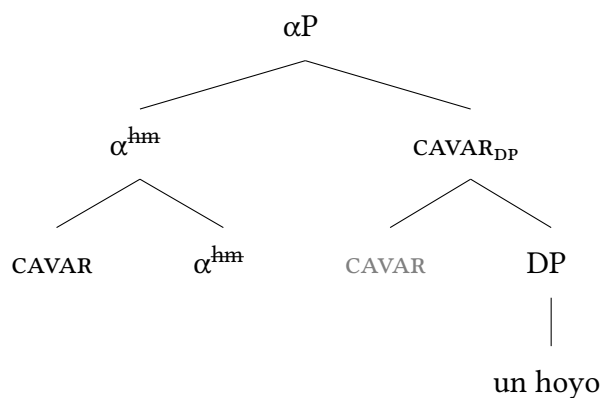
Comenzó a cavar un hoyo con la punta de su bota.

begin.PST.3SG to dig.INF a hole with the tip of POSS boot

‘He/she began to dig a hole with the tip of his/her boot.’

²¹The spatial PPs in (30) and (28) are treated as vP-external adjuncts and are omitted from the syntactic representations for ease of exposition. I discuss the adjunct status of such PPs in §4.4.1.1.

- (30)
- Argument structure of Spanish 'cavar un hoyo'; see (29)*

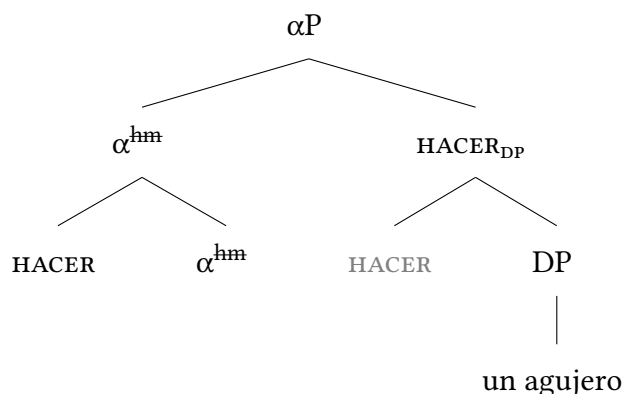


Following considerations in Folli & Harley (2013), I assume that creation predicates where a generic creation verb is used (such as Spanish *hacer* 'make' in (7a), repeated in (31)) are standard verb-framed constructions that involve the merging of a root as α 's complement and the subsequent formation of a complex head between the root and α via I-Merge, as in (32).

- (31)
- Bigolin (to appear: iii)*

Hizo un agujero en su abrigo (al cepillar=lo).
 make.PST.3SG a hole in POSS coat at.the brush.INF=ACC.M.SG
 'She made a hole in her coat, by brushing it.'

- (32)
- Argument structure of Spanish 'hacer un agujero'; see (7b)*



Based on Italian, Folli & Harley (2013) argue that a verb like *hacer* ('make') in (31) is not a light verb (understood as the default pronunciation attributed to a functional

head in a particular context; in present terms, an α head projecting a monadic configuration) because predicates of this type allow passive forms, which are not licensed when a true light verb is involved. Consider, for instance, the contrast between (33), involving a causative light verb *fare* ('do'), and (34) (which is similar to the creation predicate in (31)), involving a root *FARE* according to Folli & Harley (2013).

(33) *Italian; Folli & Harley (2013: 107)*

- a. Gianni ha fatto ridere Mario.
Gianni have.3SG do.PTCP.PST laugh.INF Mario
'Gianni made Mario laugh.'
- b. *Mario è stato fatto ridere da Gianni.
Mario be.3SG be.PTCP.PST make.PTCP.PST laugh.INF by Gianni
'Mario was made to laugh by Gianni.'

(34) *Italian; Folli & Harley (2013: 107-108)*

- a. Gianni ha fatto una torta.
Gianni have.3SG make.PTCP.PST a cake
'Gianni made a cake.'
- b. Una torta è stata fatta da Gianni.
A cake be.3SG be.PTCP.PST.F.SG make.PTCP.PST by Gianni
'A cake was made by Gianni.'

True light verbs can then be argued to be involved in examples like the one in (35), showcasing the analytic expression of an unergative configuration by means, in present terms, of the pronunciation of α and its complement as two independent morphemes (namely, *fare* 'do' and *latte e cereali integrali* 'milk and whole grain cereals', respectively).

(35) *Italian; example from a web search*

- Per quanto riguarda la colazione io faccio latte e cereali
For much concern.3SG the breakfast I do.1SG milk and cereals

integrali [...].

whole_grain

'As for breakfast, I have milk and whole grain cereals.'

That *fare* ('do') is not the expression of a root in (35) is suggested by the fact that the predicate in (35) has no semantics of creation proper. Indeed, there is no possible way of interpreting (35) as involving the creation of the direct object *latte e cereali integrali* ('milk and whole grain cereals'), in contrast to, e.g., (31) and (34), in which the creation reading is the only possible one. Furthermore, as illustrated in (36), the predicate in (35) resists passivization, as correctly predicted by Folli & Harley's (2013) account.²²

(36) *Italian*

*Per quanto riguarda la colazione sono fatti da me

For much concern.3SG the breakfast be.3PL make.PTCP.PST.M.PL by me

latte e cereali integrali.

milk and cereals whole_grain

'As for breakfast, milk and whole grain cereals were made by me.'

Other instances of light verbs of this type can be seen in analytic expressions of unergative structures, such as the following.

(37) *Italian;*

a. fare una risata

do.INF a laugh

'laugh'

b. fare pausa

do.INF break

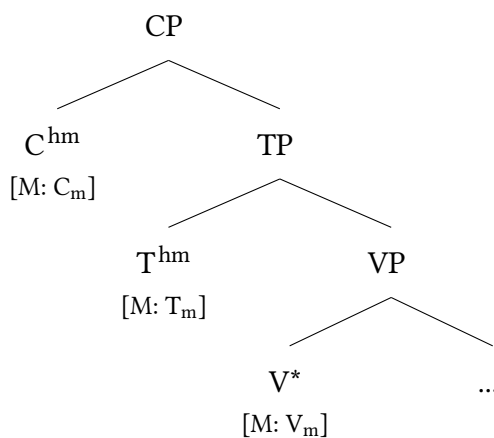
'take a break'

²²Remarkably, (36) is felicitous under a creation reading of its subject, which is coherent with Folli & Harley's (2013) prediction.

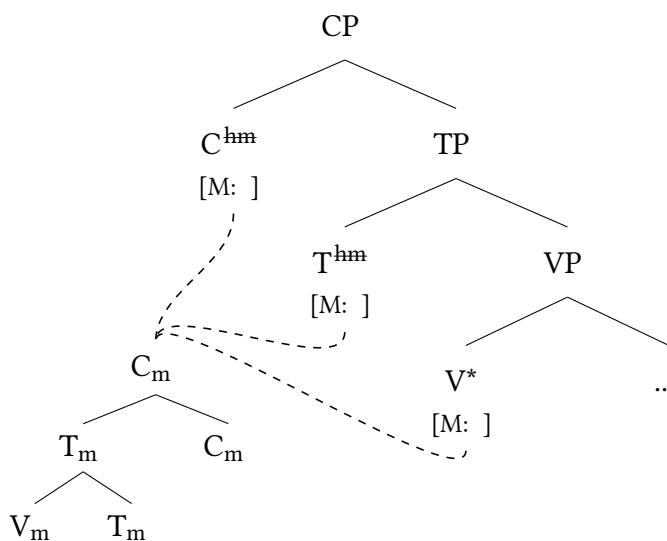
For the account of Talmy's typology developed so far in this chapter, predicates of this type are surprising in verb-framed languages since they appear to involve a head α which does not form a complex head with the head of its complement. This is contrary to what is expected if the requirement in (23) is active (that is, if α is provided with an [hm] feature), as I have proposed to be the case in verb-framed languages. I propose that predicates of the type in (35) can be licensed in verb-framed languages thanks to the PF operation of *Orphan Assignment* (Arregi & Pietraszko 2021). Orphan Assignment applies to head chains produced by GenHM that have been split, and it grants their pronounceability. According to Arregi & Pietraszko (2021), a split head chain consists of two chains, each including a copy of the M-value of the original chain. Orphan Assignment attributes a feature [O] to morphological terminals in a split chain that are no longer associated with the syntactic position they were base generated in. This feature has an effect on the phonological pronunciation of the terminal it is assigned to. Consider, for instance, English *do* support sentences under subject-auxiliary inversion as analysed in Arregi & Pietraszko (2021). These authors argue that, given the configuration in (38) for a sentence like *Where does Sue eat fish?*, the DP occupying the specifier position of TP triggers Chain splitting on V in English. By Orphan Assignment, a feature [O] is attributed to the occurrence of V in the higher head chain and to the occurrence of T and C in the lower head chain. Arregi & Pietraszko (2021) argue that the feature [O] on the orphan M-value of V in the higher head chain forces its realization as *do*. Instead, the feature [O] on the orphan M-values of T and C in the lower head chain triggers an operation of Obliteration, which works by deleting all the morphological features that make up the M-value of a functional morpheme (see Arregi & Nevins 2012 for the claim that Obliteration precedes Linearization).

(38) *Adaptation of Arregi & Pietraszko's (2021: 263) syntactic and PF derivation of do-support in Where does Sue eat fish?*

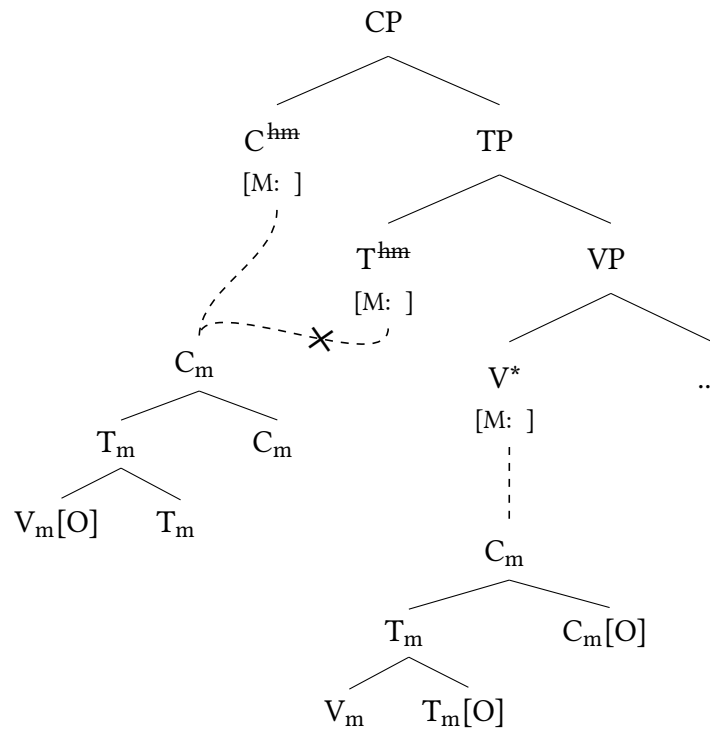
a. *Input to GenHM*



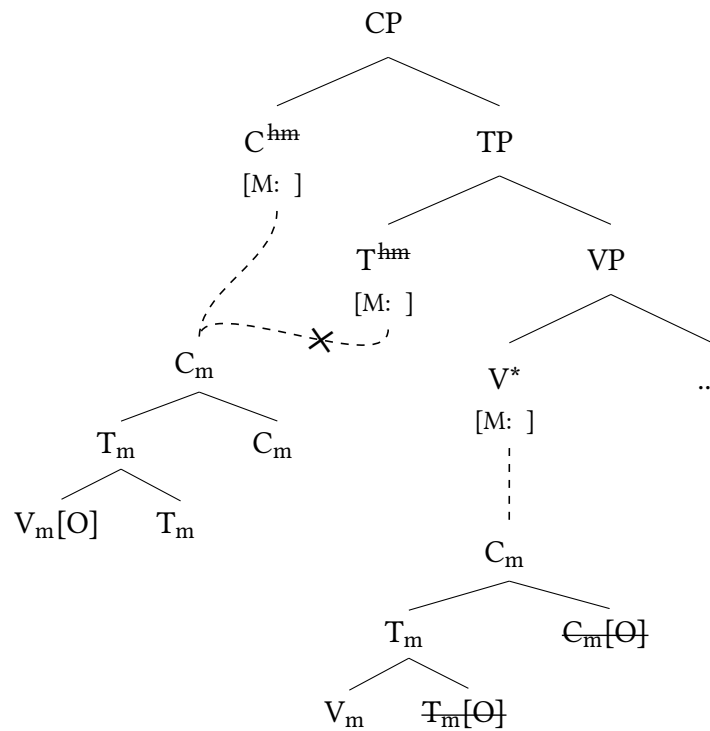
b. *Output of GenHM*



c. Chain splitting and Orphan Assignment



d. Obliteration of $T_m[O]$ and $C_m[O]$



e. *Linearization*

Higher head chain:

 $V_m[O]-T_m-C_m$

Lower head chain:

 V_m f. *Vocabulary Insertion*

Higher head chain:

do-es- \emptyset

Lower head chain:

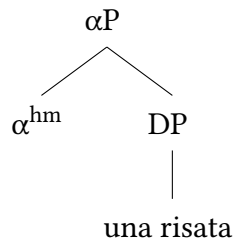
eat

Based on their analysis, Arregi & Pietraszko (2021) conclude that V and T do form a complex head in English *do*-support sentences, the appearance of *do* being related to the very formation of the complex V-T head via GenHM. I propose that Chain splitting and Orphan Assignment also apply in the verb-framed constructions where a light verb appears with a stranded phrasal complement. Let us consider again a predicate like Italian *fare una risata* ('laugh', lit. 'make a laugh'), in (37a). As discussed above in relation to (37a), assuming that Italian is a verb-framed language, where α bears an [hm] feature requiring that it forms a complex head with the head of its complement, the presence of a DP as α 's complement in a predicate of this type is surprising, since it seems to provide counterevidence to the claim in (23) that α is always required to form a complex head with the head of its complement in verb-framed languages. On the other hand, if α and the head of its complement were to be pronounced as a complex head in the predicate in (37a), there would likely occur a crash at PF, due to a lack of exponents for the expression of D in the context of the complex D- α head. However, if the head chain formed by GenHM between D and α is split, the derivation can proceed flawlessly. Chain splitting produces an orphan head D in the higher head chain linked to the syntactic position of α , and an orphan head α in the lower head chain linked to the syntactic position of D. Both the orphan head D in the higher head chain and the orphan head α in the lower head chain are then assigned, by Orphan Assignment, an [O] feature, which in turn triggers their deletion by Obliteration. Once

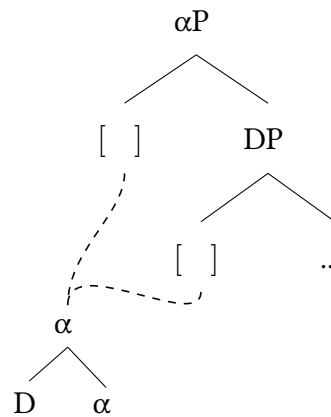
the structure is linearized, α 's occurrence in the higher head chain and D's occurrence in the lower head chain can be assigned an exponent straightforwardly, with α receiving (by assumption) the exponent *fare* ('do') on its isolated occurrence in the higher head chain, and D being assigned an exponent (e.g., *una* 'a') on its isolated occurrence in the lower head chain. Meanwhile, α 's requirement to form a complex head with the head of its complement is not violated, since α and D do form a complex head during the derivation. (39) illustrates this.²³

(39) *Proposed syntactic and PF derivation of (37a)*

a. *Input to PF*

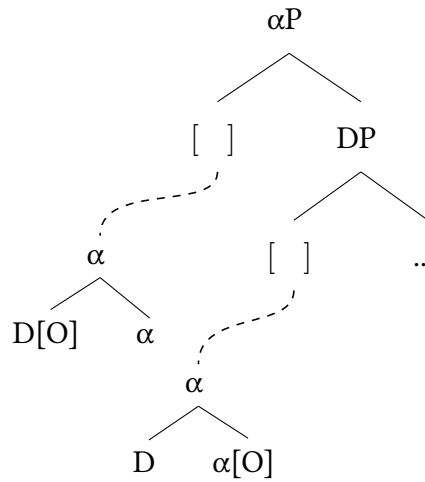


b. *Output of GenHM*

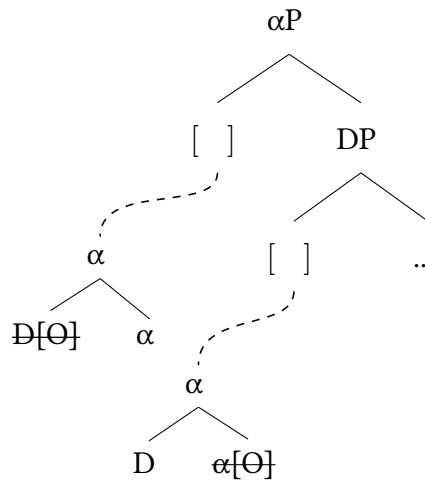


²³The analysis in (39), involving Orphan Assignment, can also be assumed for examples like the one in (31), should the verb in examples of this type eventually turn out to be a light verb and not involve a root.

c. *Chain splitting and Orphan Assignment*



d. *Obliteration of $D[O]$ and $\alpha[O]$*



e. *Linearization*

Higher head chain:

α

Lower head chain:

D

f. *Vocabulary Insertion*

Higher head chain:

fa-

Lower head chain:

una

4.3.1.4 *Satellite-framedness in the verb-framed system*

In the present account, the general absence of satellite-framed constructions involving the adjunction of a root to α in verb-framed languages arises as an indirect consequence of α 's PF requirement to form a complex head with the head of its complement. Verb-framed languages give the impression of lacking the operation adjoining a root to α because the syntactic configuration produced by such an operation is generally incompatible with the morphophonological context needed for the licensing of the morphemes involved in the complex head formation produced by GenHM at Vocabulary Insertion. The syntactic and PF derivations of the Spanish made up ungrammatical examples in (40), (repeated from (8)) illustrate this.

(40) *Spanish*

- a. *Bigolin & Ausensi (2021: 519)*
 *Juan lo disparó muerto.
 Juan ACC.M.SG shoot.PST.3SG dead
 Intended: 'Juan shot him dead.'
- b. *Cepilló un agujero en su abrigo.
 brush.PST.3SG a hole in POSS coat
 Intended: 'She brushed a hole in her coat.'

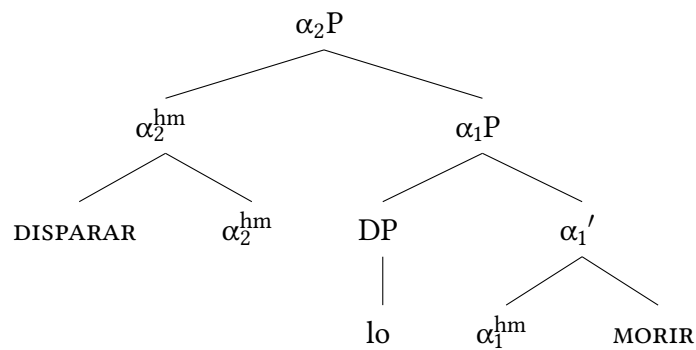
(40) refers to a change of state and, according to the present theory, involves a dyadic α P merged as the complement of a monadic α P. In this example, ungrammaticality arises because neither the AP *muerto* ('dead') nor its root MORIR can emerge as verbal prefixes in Spanish, whereby the fulfillment of α 's PF requirement would give rise to an unpronounceable sequence of morphemes.²⁴ Suppose,

²⁴I use the term 'AP' in a pre-theoretical sense, to refer to the notion of 'adjective' without assuming the existence of a specific functional head dedicated to the categorization of syntactic elements as adjectives. Instead, I understand 'A' nodes as representing various possible feature bundles associated with adjectives, such as degree, quantity, and agreement features (Corver 1997; Kennedy 1999, among others). This understanding of 'AP' is compatible with the idea that adjectives

for instance, that the root MORIR is e-merged as the complement of α_1 , as in (41a). At PF, GenHM forms a complex head consisting of α_2 , the root e-merged with it in the course of the syntactic computation (namely, DISPARAR), α_1 , and the root e-merged as α_1 's complement (namely, MORIR), as depicted in (41b). Once Vocabulary Insertion takes place, neither for MORIR nor for DISPARAR a phonological exponent is found that is compatible with the context of insertion produced by GenHM (notice that these roots are known to give rise to independent verbs in Spanish), causing the derivation to crash. A similar scenario would produce if the highest functional head in the AP *muerto* ('dead') were to be involved in the GenHM operation, instead of the root MORIR.

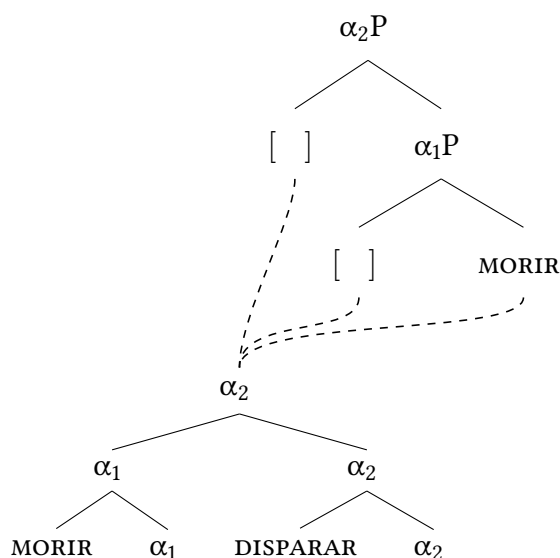
(41) *Proposed syntactic and PF derivation of (40a)*

a. *Input to PF*



tives are not primitive categories, but rather they involve a functional relational head to put the property they introduce in relation with a holder (Déchaine 1996; Mateu 2002, among others). In the case of (40a), if an AP were merged as the complement of α_1 , this relational function would be performed by the α_1 head, which projects a dyadic configuration and establishes a relation between the adjective in its complement and the Figure entity in its specifier.

b. *Output of GenHM*



c. *Linearization*

MORIR- α_1 -DISPARAR- α_2

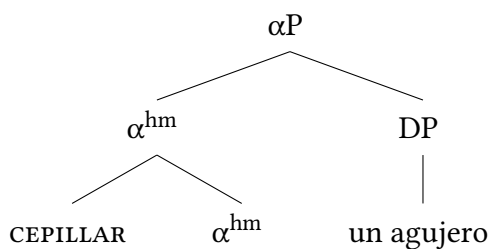
d. *Vocabulary Insertion*

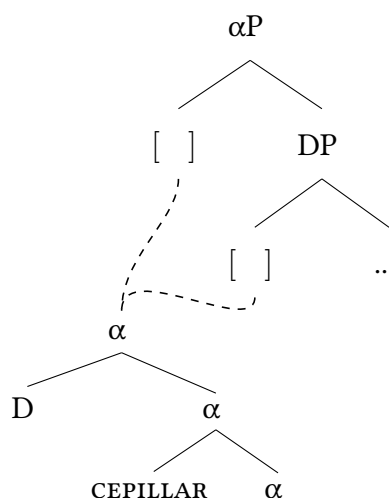
?- \emptyset -?- \emptyset

In the case of the creation/consumption predicate in (40b), ungrammaticality is due to the similar fact that neither the highest head in α 's complement (e.g., D) nor the root e-merged with α (e.g., CEPILLAR) can be associated with a suitable phonological exponent given the context of insertion formed by GenHM, as illustrated in (42).

(42) *Proposed syntactic and PF derivation of (40b)*

a. *Input to PF*

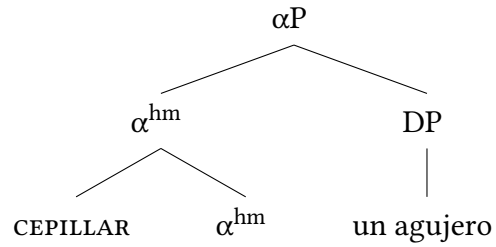


b. *Output of GenHM*c. *Linearization*D-CEPILLAR- α d. *Vocabulary Insertion*?-?- \emptyset

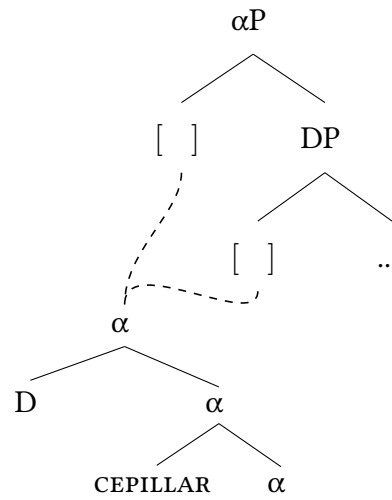
Contrary to (39), the derivations in (41) and (42) cannot be saved via Chain splitting and Orphan Assignment. Suppose, for instance, that Chain splitting were to occur on the output of GenHM in (42b). By Orphan Assignment, D would be assigned a feature [O] in the higher head chain associated to the syntactic position of α , and both CEPILLAR and α would be assigned a feature [O] in the lower head chain associated with the syntactic position of D. While the feature [O] on D would trigger the deletion of D by Obliteration in the higher head chain, and the feature [O] on α would trigger the deletion of α by Obliteration in the lower head chain, the feature [O] on CEPILLAR in the lower head chain would arguably have no effect, since Obliteration targets featural M-values of functional heads and therefore does not apply to roots. Linearization would thus produce a D-CEPILLAR string on the lower head chain, leading to a crash at Vocabulary Insertion. The derivation in (43) illustrates this. Similar considerations apply with respect to the predicate in (41).

(43) Syntactic and PF derivation of (40b), assuming Chain splitting

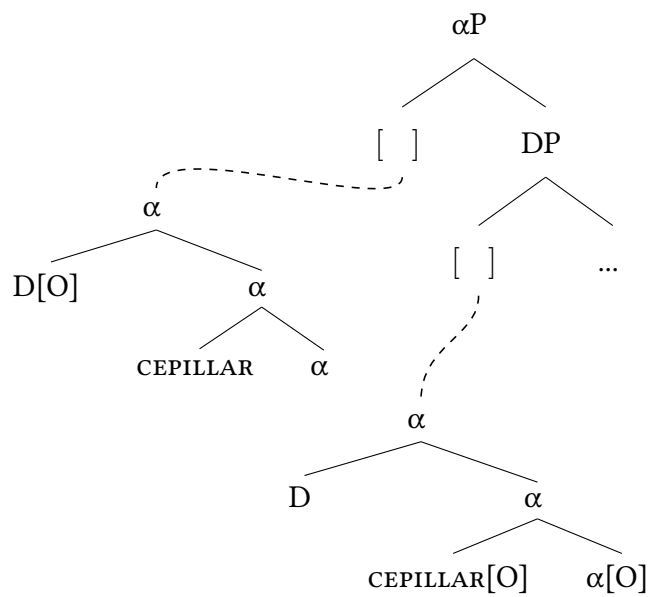
a. Input to PF



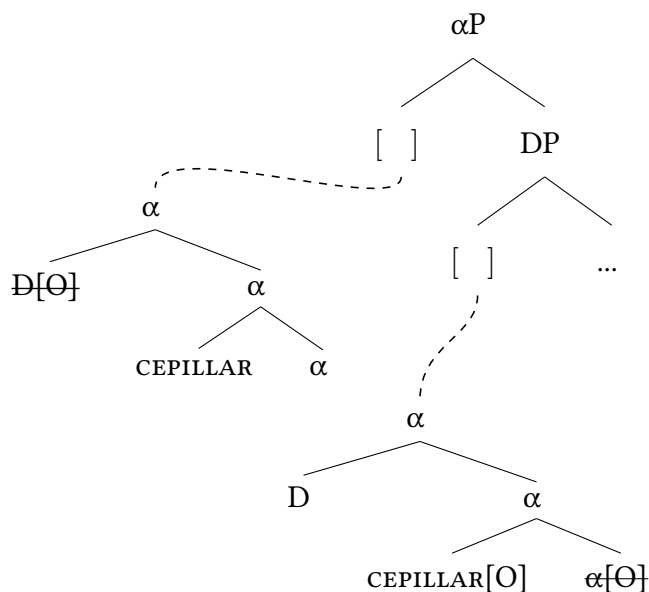
b. Output of GenHM



c. Chain splitting and Orphan Assignment



d. *Obliteration of D[O] and α [O]*



e. *Linearization*

Higher head chain:

CEPILLAR- α

Lower head chain:

D-CEPILLAR[O]

f. *Vocabulary Insertion*

Higher head chain:

cepill- \emptyset

Lower head chain:

?-?

In summary, according to the current PF account of Talmy's typology, if in a language with the requirement in (23) the head of α 's complement cannot be phonologically realized as an affix attached to α along with a root that is e-merged with α in syntax, then the language cannot license constructions where the main verb denotes a Co-Event. The ability to license such constructions, thus, should not be subject as such to parametrization for typological purposes. For example, given a language where the requirement outlined in (23) is active on α (thus, a verb-framed language, in the present account), if a Vocabulary Entry for the head

of α 's complement is compatible with the context of its insertion – forming a complex head with α and a root e-merged with α – then the language is expected to license constructions where the main verb expresses a Co-Event, despite the requirement in (23) on α (that is, despite its verb-framedness). I propose that prefixed resultative predicates of the type found in weak satellite-framed languages exemplify precisely this phenomenon. Namely, I propose that the requirement in (23), found in verb-framed languages, is also responsible for the pattern illustrated in (44) (repeated from (5a)) concerning Slavic languages and weak satellite-framed languages in general, in which the result component of resultative predicates with manner-denoting verbs must form a prosodic word with the verb (Talmy 2000b; Acedo-Matellán 2010, 2016). I thus propose that weak satellite-framed languages are, fundamentally, verb-framed languages.

(44) *Russian; Spencer & Zaretskaya (1998: 17)*

Ona is-pis-a-l-a svoju ručku.
 she.NOM out-write-TH-PST-AGR POSS pen.ACC
 'She wrote her pen out of ink.'

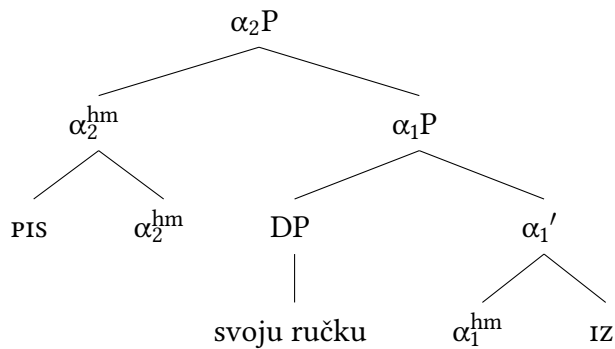
The reasoning goes as follows. As the account of the Spanish made up examples in (40) shows (see (41) and (42)), in addition to PF requirements on functional heads of the type in (23), a relevant factor in determining the availability of specific predicates in a given language consists in whether or not the predicate in question can be spelled out in compliance with the PF restrictions on the individual lexical items that compose it. I propose that weak satellite-framed languages differ from standard verb-framed languages in the domain of resultative predicates in that they possess result-denoting morphemes which can be realized as verbal prefixes (e.g., *iz-* 'out' in (44)). The prefixal nature of the Vocabulary Items associated with these morphemes make it possible to satisfy α 's requirement to form a complex head with the head of its complement, by concomitantly leaving open the possibility of conflating an independent root with α .²⁵ This gives rise to a satellite-framed

²⁵The pattern is commented in Mateu (2017), who however continues to consider Slavic lan-

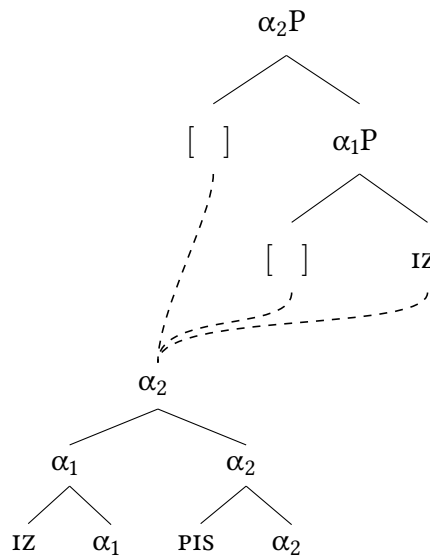
behavior in the domain of resultative predicates, as noted in Talmy (2000b) and further discussed in Acedo-Matellán (2010, 2016). The derivation in (45), referred to the Russian predicate in (44), illustrates this.

(45) *Proposed syntactic and PF derivation of (44)*

a. *Input to PF*



b. *Output of GenHM*



languages (and weak satellite-framed languages in general) as fundamentally satellite-framed languages. The parallelism between prefixed resultative predicates with manner-denoting verbs of Slavic languages and English satellite-framed resultative constructions is put forth in Spencer & Zaretskaya (1998) and Mateu (2008b).

- c. *Linearization*
IZ- α_1 -PIS- α_2
- d. *Vocabulary Insertion*
is- \emptyset -pis- \emptyset

From the hypothesis that weak satellite-framed languages are actually verb-framed (in the sense of (23)), it also follows that languages of this type should display a clear verb-framed behavior in the case of creation/consumption predicates where no complex head is formed between α and the head of its complement. In §4.4, I test empirically the prediction that both standard verb-framed languages and weak satellite-framed languages like Slavic languages and Latin disallow predicates of creation/consumption of this type. Before that, I compare the present account of Talmy's typology with other accounts within the neo-constructionist approach, discussing how they differ in terms of their predictions.

4.3.2 A comparison with some predecessors

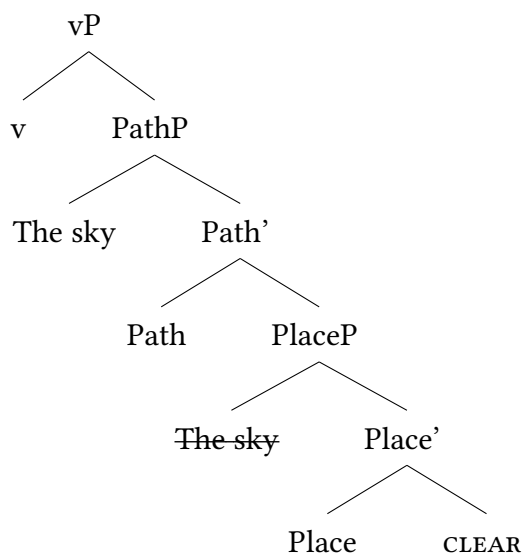
Previous neo-constructionist accounts of Talmy's typology put emphasis either on the fact that verb-framed languages always express the Path component in the main verb (Acedo-Matellán 2010, 2016; Acedo-Matellán & Mateu 2013; Acedo-Matellán & Kwapiszewski 2024; Folli & Harley 2020; Mateu & Rigau 2002; Real-Puigdollers 2013, among others) or on the fact that verb-framed languages lack predicates where, more generally, the verb expresses a Co-Event (Mateu 2012; McIntyre 2004; Zubizarreta & Oh 2007). In this section I revise some of these accounts and compare their predictions with the ones following from the account proposed in this chapter. In particular, I analyse Acedo-Matellán (2016), Folli & Harley (2020), and Acedo-Matellán & Kwapiszewski (2024) as exponents of the former approach (in §4.3.2.1, §4.3.2.2, and §4.3.2.3, respectively) and Mateu (2012) (§4.3.2.4) as exponent of the latter. I draw a summary in §4.3.2.5.

4.3.2.1 *Acedo-Matellán (2016)*

As mentioned in §2.3.2, *Acedo-Matellán's* (2016) theory of argument structure (see also *Acedo-Matellán 2010*) is based essentially on three functional heads (namely Place, Path, and *v*) whose combination in syntactic structures give rise to predicates with different types of event structural interpretations associated to them. Place and Path are adpositional heads equivalent to Hale & Keyser's prepositions of central coincidence and terminal coincidence, respectively. Adopting *Hale & Keyser's* (2002) proposal that the relation of terminal coincidence arises from the composition of two P projections and the relation of central coincidence is provided by a single P projection, *Acedo-Matellán (2016)* argued that the terminal coincidence semantic value of resultative predicates is provided by a PathP that takes a PlaceP as its complement. The head *v*, in turn, provides eventivity to the predicate. The syntactic argument structure of resultative predicates of this type is thus as depicted in (46), which refers to an inchoative event of change of state.

(46) *Acedo-Matellán (2016: 34)*

The sky cleared.

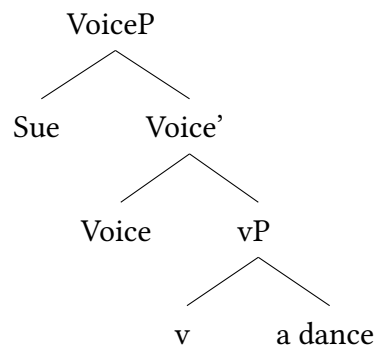


Predicates denoting events of creation/consumption are instead based on Hale & Keyser's unergative configuration (see §2.2), with an effected DP object as the di-

rect complement of v.²⁶

(47) *Acedo-Matellán (2016: 34)*

Sue did a dance.

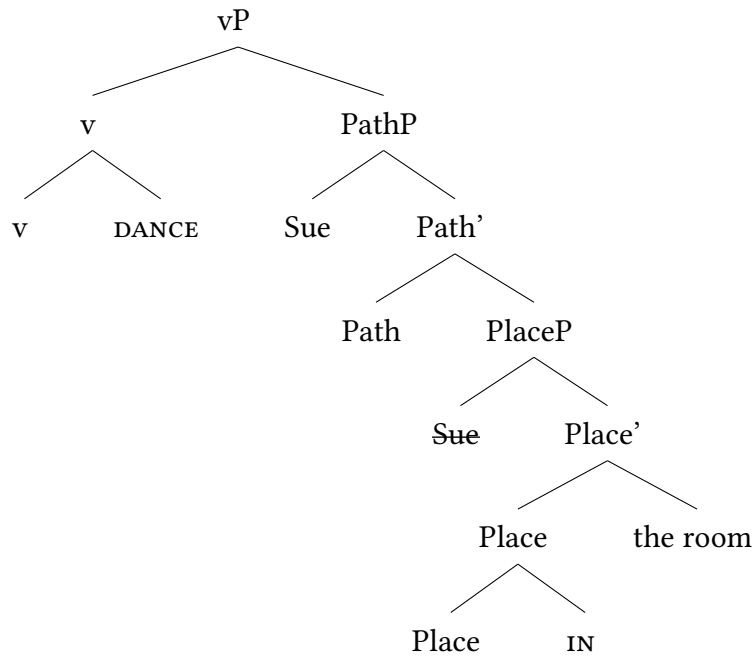


Based on Embick (2004); Mateu (2008b, 2012); McIntyre (2004); Zubizarreta & Oh (2007), Acedo-Matellán (2016) assumed that a root adjoined to v is interpreted as referring to a Co-Event. Satellite-framed resultative predicates and complex creation/consumption predicates are thus attributed the structures in (48) and (49), respectively.

²⁶Being primarily concerned with the syntactic structure of predicates denoting events of transition, Acedo-Matellán (2016) remained agnostic as to the positioning in the syntactic structure of the verb's root and the direct object in creation/consumption predicates where a relation of hyponymy (in the sense of Hale & Keyser 1997b, 2002) is established between the verb and the internal argument.

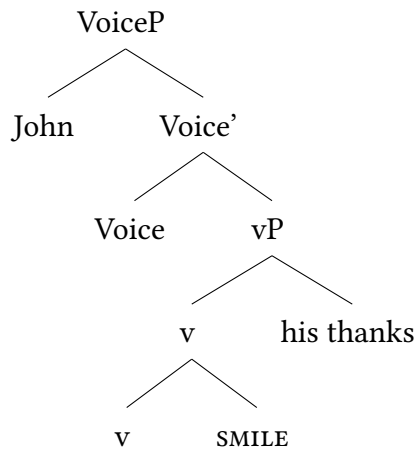
(48) Based on *Acedo-Matellán (2016: 39)*

Sue danced into the room.



(49) Based on *Acedo-Matellán (2016: 257)*

John smiled his thanks.



The classification of a language with respect to Talmy's typology, in *Acedo-Matellán (2016)*, depends on the characteristics of the Vocabulary Items associated with the functional head **Path** in that language. *Acedo-Matellán (2016)* argued that, while in satellite-framed languages the **Path** head can be phonologically realized independently of **v**, in verb-framed languages **Path** must appear as strictly left-

adjacent to *v*, as a prefix, in order to be assigned a phonological exponent. Weak satellite-framed languages, instead, are languages where the only Vocabulary Item for Path requires that Path and *v* form one word, but it does not impose strict adjacency between the two heads.

Acedo-Matellán (2016) assumed that Path lacks an elsewhere exponent in verb-framed languages and weak satellite-framed languages, whereby syntactic structures that fail to meet the conditions for the insertion of an exponent for Path in these languages are doomed to crash at PF. Assuming that resultative predicates where the verb expresses a Co-Event are based on the syntactic structure in (48), the absence of such predicates from verb-framed languages is thus explained by the fact that, in these predicates, the context of insertion required for the association of a Vocabulary Item with Path is not realized. Consider, for instance, *Acedo-Matellán's* (2016) syntactic and PF derivation of the made up ungrammatical Catalan example in (50), understood as referring to an event of change of location. *Acedo-Matellán* (2016) assumed that Path and *v* form a complex head as the result of a PF operation of Raising (see §1.3.2.1). Following *Embick* (2010), he further assumed that Raising also applies to roots that have adjoined to *v*, as in the case of BALL in (50). In (50), thus, Raising applies both to Path and to BALL, yielding a complex head in which BALL intervenes between Path and *v*.²⁷ This prevents the context of insertion for Path from being met, causing the derivation to crash.²⁸

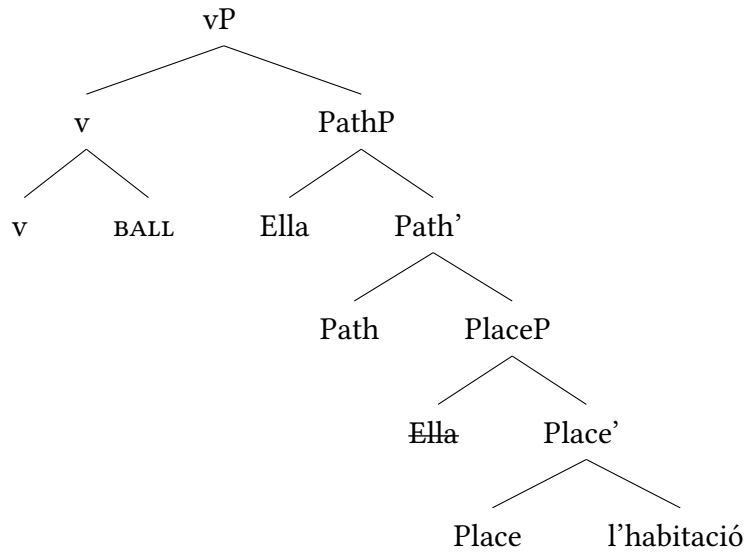
(50) *Based on Acedo-Matellán (2016: 65-66)*

*Ella ballà a l' habitació.
 she dance.PST.3SG at the room
 'She danced to the room.'

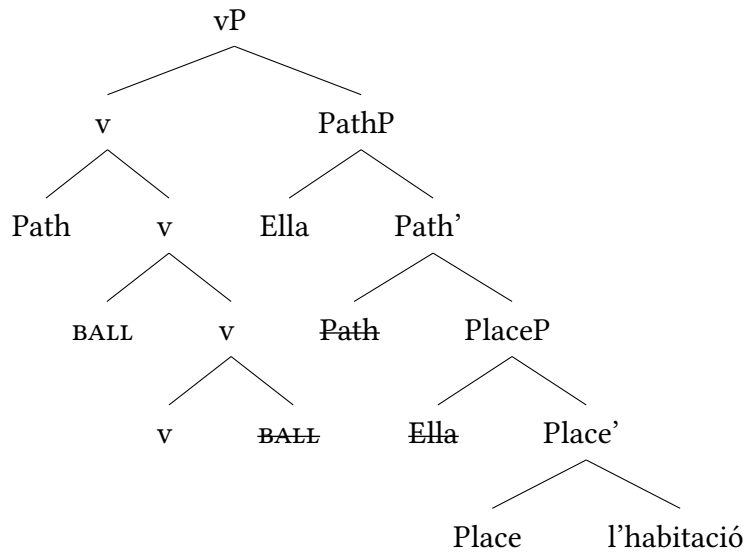
²⁷It is not clear to me what ensures that Raising of BALL takes place before Raising of Path in (50). The issue is relevant for the account of Talmy's typology offered by *Acedo-Matellán* (2016), since executing the two Raising operations in the opposite order would produce a complex head that linearizes as BALL-Path-*v* and that therefore complies with the conditions of insertion of an exponent for Path as specified for verb-framed languages.

²⁸'>' in (50) indicates a relation of linear precedence between elements that do not form a complex head.

a. *Structure at Spell-Out*



b. *Output of Raising*



c. *Linearization*

Path-BALL-v > Place

d. *Vocabulary Insertion*

?-ball-∅ > a

Acedo-Matellán's (2016) account of Talmy's typology predicts that complex creation/consumption predicates do not give rise to cross-linguistic variation in re-

lation to the typology. This is because such predicates do not involve the functional head Path in their syntactic argument structure, as shown in (47). In the absence of unrelated restrictions in individual languages, thus, complex predicates of creation/consumption are predicted to be well-formed in all three typological classes of languages, namely standard satellite-framed languages (referred to as ‘strong’ satellite-framed languages by [Acedo-Matellán 2010, 2016](#)), weak satellite-framed languages, and verb-framed languages. Based on [Mateu \(2003, 2012\)](#), [Acedo-Matellán \(2016: 256-258\)](#) recognized that verb-framed languages do not appear to license complex predicates of creation/consumption and pointed to the necessity of solving such an issue. In contrast, he provided examples from Latin that are argued to demonstrate that complex creation/consumption predicates are possible in weak satellite-framed languages. I return to the Latin examples provided by [Acedo-Matellán \(2016\)](#) in §4.4.3, where I propose that these examples should be analysed as verb-framed predicates in which the verb does not express a Co-Event.

4.3.2.2 *Folli & Harley (2020)*

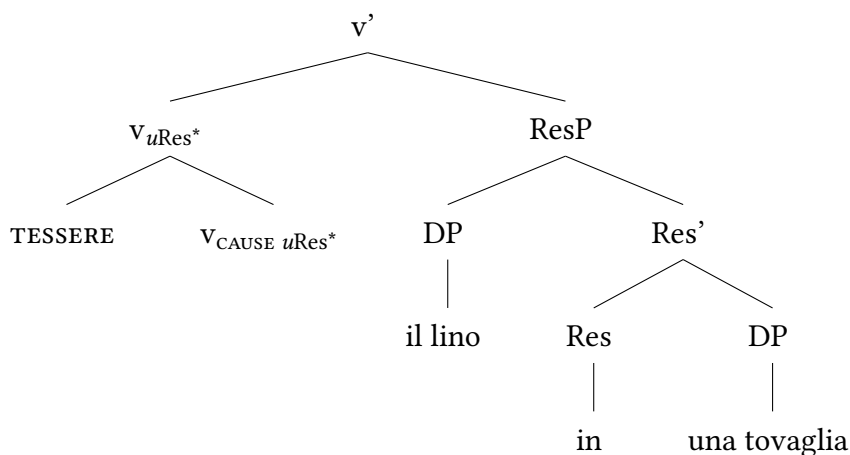
In [Folli & Harley \(2020\)](#), the cross-linguistic variation dealt with by Talmy is captured in the form of a syntactic, feature-driven head movement parameter. They assumed that there is an eventive head v which is stored in the lexicon in various flavors, differing from each other in terms of formal features that affect their c-selectional and s-selectional properties (see [Adger 2003](#)). They considered three flavors of v , namely v_{DO} , v_{BECOME} , and v_{CAUSE} . v_{BECOME} and v_{CAUSE} refer, respectively, to caused and non-caused events of change of state or location. v_{DO} refers to activities and events of creation. They further assumed that v_{BECOME} and v_{CAUSE} share an uninterpretable $uRes$ c-selectional feature requiring that they take a ResP (for ResultP; see [Ramchand 2008](#)) as complement, denoting a result. The key proposal of [Folli & Harley \(2020\)](#) is that verb-framed languages and satellite-framed languages differ in the nature of the $uRes$ feature involved in their v_{BECOME} and v_{CAUSE} heads. Namely, they proposed that $uRes$ in verb-framed languages is further associated with a movement-triggering property, ‘*’ (from [Adger 2003](#)), that initiates head movement from the ResP complement of v . In contrast, the $uRes$ feature of v_{BECOME} and v_{CAUSE} can be checked against Res in situ in satellite-framed languages. To il-

illustrate this, [Folli & Harley \(2020\)](#) discuss the possible derivations of the made up ungrammatical satellite-framed construction in (51) in Italian, taken to be a verb-framed language.

(51) *Italian; Folli & Harley (2020: 449)*

*Maria ha tessuto il lino in una tovaglia.
 Maria have.3SG weave.PTCP.PST the linen in a tablecloth
 'Maria wove the linen into a tablecloth.'

(52) *Derivation of (51); based on Folli & Harley (2020: 449)*

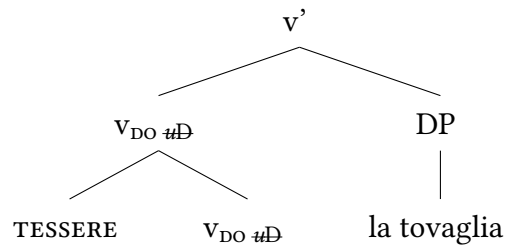


According to [Folli & Harley \(2020\)](#), (51) is ungrammatical because the head Res in this predicate remains stranded, leaving the $uRes^*$ feature on v unchecked. If Res were to incorporate into v in the structure in (52), [Folli & Harley \(2020\)](#) argued that the predicate would be ill-formed because both the root TESSERE and the head Res would have to be categorized as a verb by v , and v , following a proposal by [Embick \(2010\)](#), can only categorize once. Although [Folli & Harley \(2020\)](#) did not consider the class of weak satellite-framed languages, it is remarkable that their ruling out of structures like (52), under the hypothesis that Res incorporates into v , also appears to ban, on a theoretical level, the existence of such languages. This fact constitutes one of the main criticisms leveled against [Folli & Harley \(2020\)](#) by [Acedo-Matellán & Kwapiszewski \(2024\)](#), analysed in §4.3.2.3.

The argument structure of predicates referring to events of creation/consumption is based on v_{DO} . [Folli & Harley \(2020\)](#) proposed that v_{DO} carries a uD feature,

leading to the selection of a DP as complement, and that there is no variation in the properties of uD between verb-framed languages and satellite-framed languages, both classes of languages having an uD feature that is checked in situ. The verb, in creation predicates, arises from the adjunction of a root to v_{DO} , such that predicates denoting events of creation are always expressing a manner component in the verb. The derivation in (53), relative to the Italian creation predicate *tessere la tovaglia* ('weave the tablecloth'), illustrates this.

(53) *Italian; based on Folli & Harley (2020: 454)*



Folli & Harley (2020) thus predict that no variation associated with Talmy's typology arises in the domain of predicates denoting events of creation. Furthermore, they treat examples like (53) as direct counter-evidence to the observation that verb-framed languages seem to lack predicates where the verb expresses the manner in which the main event occurs. In other words, they give the same analysis to (53) and complex creation/consumption predicates like (27), repeated in (54), thus failing to account for why the latter seem to be generally unavailable in verb-framed languages (cf., e.g., (54) with (40b), repeated in (55)).

(54) *Mateu & Rigau (2002: 213), adapted from Levin & Rapoport (1988: 279)*

She brushed a hole in her coat.

(55) *Spanish*

*Cepilló un agujero en su abrigo.

brush.PST.3SG a hole in POSS coat

Intended: 'She brushed a hole in her coat.'

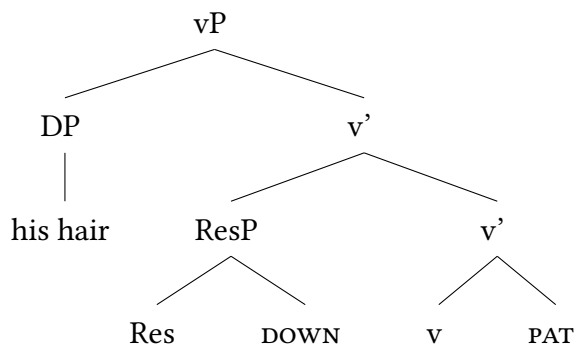
4.3.2.3 *Acedo-Matellán & Kwapiszewski (2024)*

Acedo-Matellán & Kwapiszewski (2024) argued for a morphosyntactic account of Talmy's typology based on the Spanning approach to the PF interface (*Svenonius 2016*). In this approach, syntactic objects are conceived of as sequences of heads in a head-complement relation referred to as *spans*. Spans are delimited by heads endowed with either of two types of features: 'w' and '@'. The feature w triggers exponent insertion at the span level, creating phonological words, while @ additionally causes the formation of free-standing words made of the span delimited by the head endowed with @ and, if present, any other span in its domain which is not yet part of a free-standing word. Specifiers are not included in spans, as they form spans of their own.

Like *Folli & Harley (2020)*, *Acedo-Matellán & Kwapiszewski (2024)* assumed the presence of two functional heads, Res and v, involved in the argument structure of resultative predicates. Unlike *Folli & Harley (2020)*, they assumed that verb roots can only merge in complement positions. When a root is merged as v's complement, ResP is merged as v's specifier, and the internal argument – assuming a Bare Phrase Structure model of syntax – is merged as a second specifier of v. This is the structure assigned by *Acedo-Matellán & Kwapiszewski (2024)* to satellite-framed predicates, like the one in (56).

(56) *Based on Acedo-Matellán & Kwapiszewski (2024)*

The boy patted his hair down.

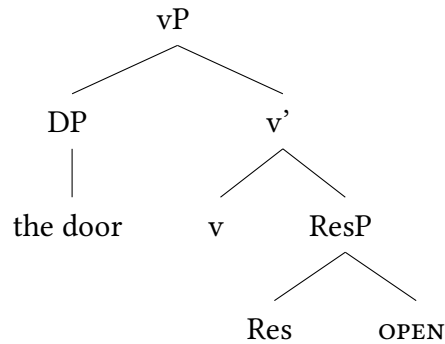


If the verb's root is e-merged as the complement of Res, it is interpreted as denoting the result component of the predicate. In this case, ResP is merged as the

complement of *v*, and the internal argument is merged as the only specifier of *v*. This structure, illustrated in (57), corresponds to the verb-framed pattern.

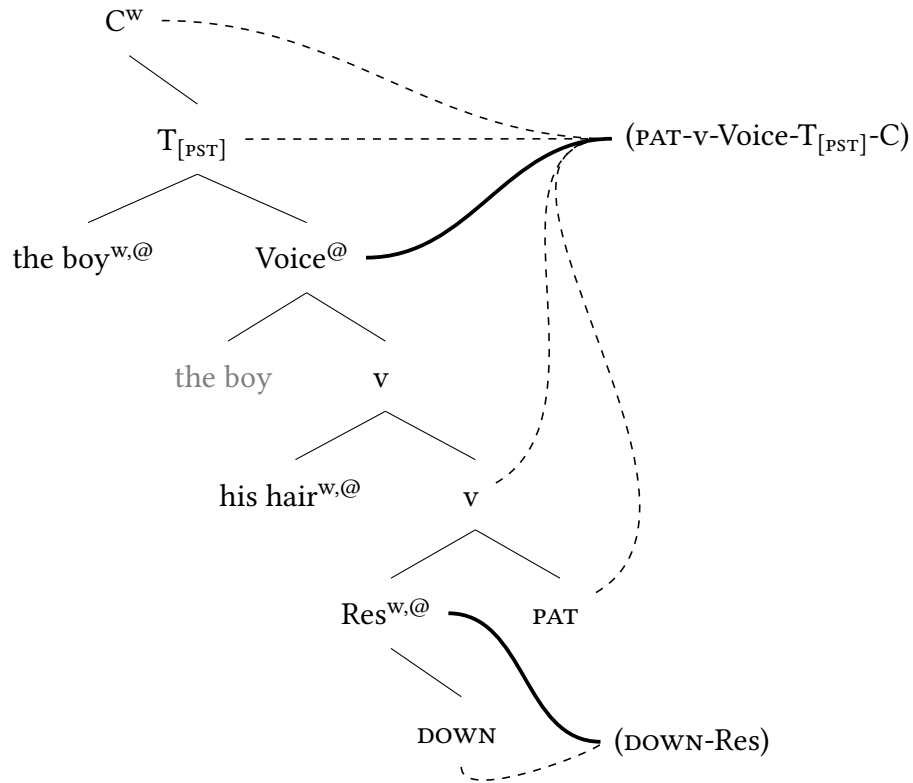
(57) Based on *Acedo-Matellán & Kwapiszewski (2024)*

The man opened the door.



Acedo-Matellán & Kwapiszewski (2024) reduced Talmy's typology to a typology of the heads Res available in a given language, based on whether Res can be endowed with a feature *w* or a feature *@*, or neither. The tripartite division arising from this system reflects the revision of Talmy's typology put forth in *Acedo-Matellán (2010, 2016)*, where the class of satellite-framed languages is split into strong and weak satellite-framed languages. In *Acedo-Matellán & Kwapiszewski's (2024)* analysis, satellite-framed constructions of the type in (56), where the result component (e.g., *down*) does not form a single prosodic word with the verb, require a head Res endowed with the feature *@*. The derivation in (58), where right nodes correspond to spans and left nodes represent specifiers, illustrates this.

(58) Derivation of (56); based on *Acedo-Matellán & Kwapiszewski (2024)*



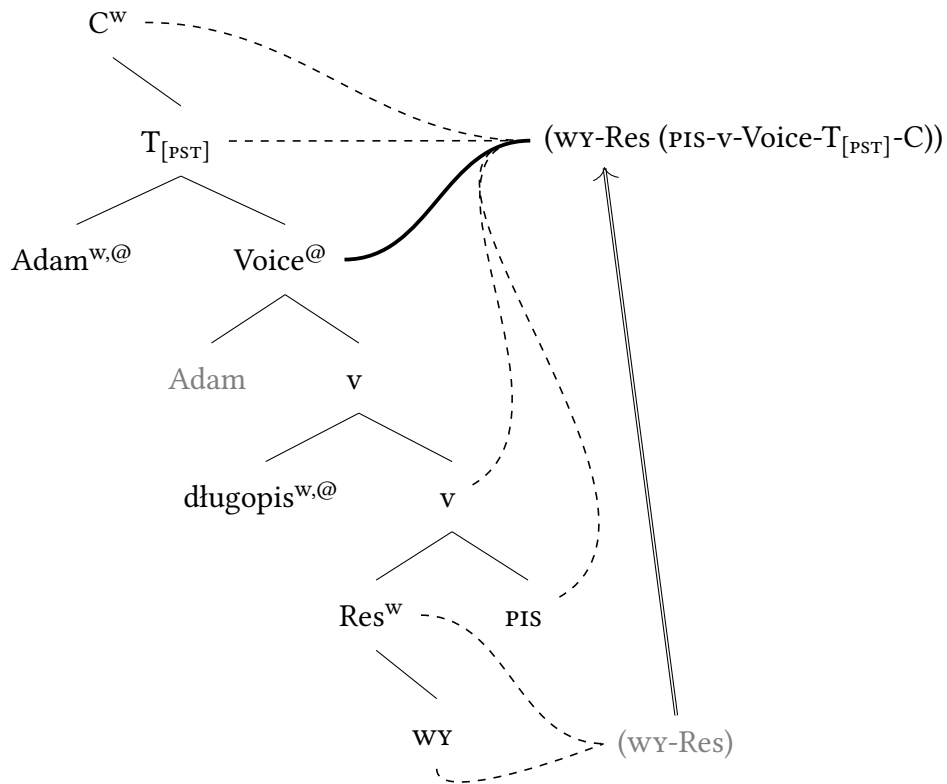
Weak satellite-framed constructions arise when Res, in a structure like the one in (56), is equipped with the feature *w*, but not with the feature *@*. The feature *w* triggers the Spell-Out of ResP independently of the span containing *v* and the verb's root, whereby ResP can be licensed as a specifier and a root can be merged as *v*'s complement. However, since *w* does not trigger the formation of a free-standing word at PF, ResP must appear affixed to the verb. The example in (59) illustrates this.

(59) Polish; based on *Acedo-Matellán & Kwapiszewski (2024)*

Adam wy-pis-a-ł długopis.

Adam out-write-TH-PST pen.ACC

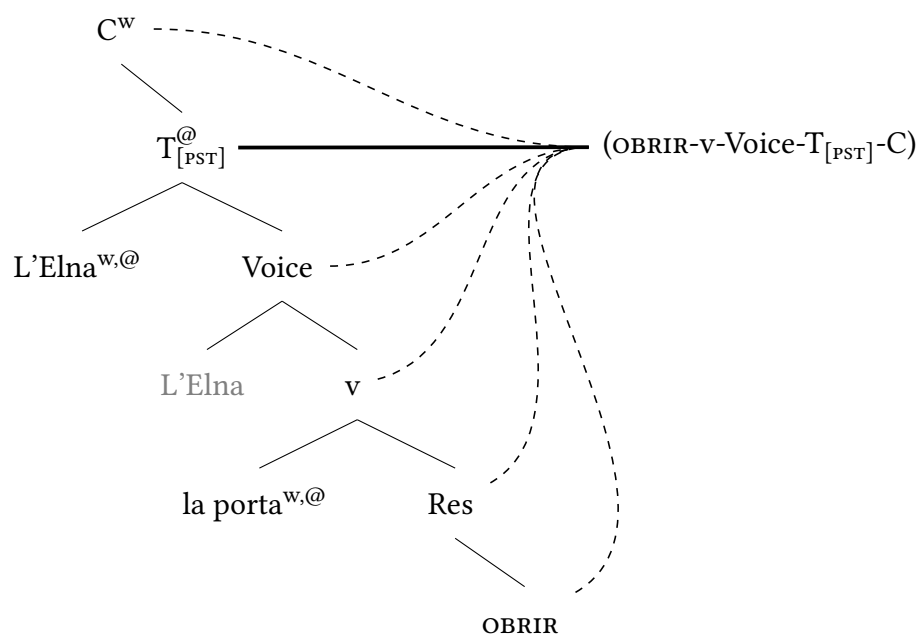
‘Adam wrote the pen out of ink.’



Finally, verb-framed languages are languages where Res cannot appear with either w or @. These languages can license the structure in (57), because Res, in this structure, can be expressed as part of a span containing the root merged as its complement and higher functional heads (such as v, Voice, T etc). The derivation in (60), corresponding to the Catalan translation of the example in (57), illustrates this.

(60) *Catalan; based on Acedo-Matellán & Kwapiszewski (2024)*

L' Elna obrí la porta.
 the Elna open.PST.3SG the door
 'Elna opened the door.'



In contrast, derivations of the type in (58) and (59) are not possible in verb-framed languages because ResP in these predicates is merged as v 's specifier, which causes the head Res to be outside the span containing v and the verb's root. Since Res cannot be endowed with a feature w or $@$ in verb-framed languages, ResP cannot be phonologically licensed as a specifier, causing the derivation to crash.

Acedo-Matellán & Kwapiszewski's (2024) account of Talmy's typology, in contrast to Folli & Harley's (2020), correctly predicts the existence of weak satellite-framed constructions. However, similarly to Acedo-Matellán (2016) and Folli & Harley (2020), it also predicts that the cross-linguistic variation associated with Talmy's typology should not be present in the domain of creation/consumption predicates, assuming that these predicates do not involve the result head Res .

4.3.2.4 Mateu (2012)

The unavailability of complex creation/consumption predicates in verb-framed languages lies at the base of Mateu's (2012) account of the cross-linguistic variation

associated with Talmy's typology. Assuming, like [Acedo-Matellán \(2010, 2016\)](#) and [Folli & Harley \(2020\)](#), the Hale & Keyserian perspective whereby predicates of creation/consumption do not involve a result component in their argument structure, [Mateu \(2012\)](#) concluded that the basic parametric contrast behind Talmy's typology does not have to do with the expression of Path, but rather with the presence vs. absence, in a given language, of the operation of conflating a root with a phonologically null verbal head *v*. In an effort to assess the validity of [Snyder's \(2001\)](#) TCP in relation to Talmy's typology (see §4.2 for a discussion of [Snyder's 2012](#) revision of the proposal in [Snyder 1995, 2001](#)), [Mateu \(2012\)](#) further considered the potential accuracy of the syntactic parameter in (61).

(61) [Mateu \(2012: 273\)](#)

The grammar {disallows*, allows} conflation/compounding of a root with a null light verb during the syntactic derivation. [*unmarked value]

The languages taken into account by [Mateu \(2012\)](#) belong to the classes of satellite-framed languages, weak satellite-framed languages, and verb-framed languages. The parameter in (61) draws a fundamental distinction between the former two classes and the latter. Verb-framed languages have the parameter in (61) set to the unmarked value, while satellite-framed languages and weak satellite-framed languages have it set to the marked value, since both classes of languages display constructions involving the conflation of a root with a null verbal head according to [Mateu's \(2012\)](#) theory. Based on these conclusions, and modulo further potential unrelated restrictions in individual languages or language families, the prediction can be drawn that satellite-framed languages and weak satellite-framed languages allow complex creation/consumption predicates, while verb-framed languages do not. [Mateu \(2012\)](#) tackled the issue of complex creation/consumption predicates in standard satellite-framed languages and in verb-framed languages, arguing – in line with the account proposed in this chapter – that the former allow them and the latter do not. On the other hand, he did not provide an analysis of the behavior of weak satellite-framed languages in the domain of predicates of creation/consumption. I concern myself with an empirical investigation of this topic

in §4.4, after recapping the main predictions of the proposals revised so far.

4.3.2.5 *Interim summary*

I have discussed some previous neo-constructionist accounts of Talmy's typology, focusing especially on two major groups of accounts. According to one perspective, Talmy's typology is the consequence of how languages manage the morphosyntactic realization of a specific functional morpheme devoted to the expression of resultativity, to be associated with Talmy's Path component (Acedo-Matellán 2010, 2016; Acedo-Matellán & Mateu 2013; Acedo-Matellán & Kwapiszewski 2024; Folli & Harley 2020; Mateu & Rigau 2002; Real-Puigdollers 2013, among others). An alternative perspective suggests that the difference between satellite-framed languages and verb-framed languages rests on whether or not a co-event can be expressed in the main verb of the predicate, regardless of the presence or absence of a result component (Mateu 2012; McIntyre 2004; Zubizarreta & Oh 2007). Based on the behavior of a given language in the domain of resultative predicates, the two approaches make divergent predictions concerning the availability of different types of predicates across typological classes, particularly in the case of complex predicates of creation/consumption. The former approach predicts that complex creation/consumption predicates should be universally available, since no result component is involved in predicates of this type. The latter approach predicts that verb-framed languages lack complex creation/consumption predicates, since predicates of this kind, like satellite-framed resultative predicates, involve the expression of a Co-Event in the main verb. However, it also predicts that weak satellite-framed languages should behave on a par with standard satellite-framed languages in allowing complex creation/consumption predicates, since in both classes of languages the main verb can express a Co-Event in the domain of resultative predicates. In contrast to the former approach, it should also be noted that the parametric generalization provided by this approach (see, e.g., (61)) can only be taken as a descriptive one, as it cannot itself be considered explanatory without entailing a conception of syntax as a locus of parametric variation (a conclusion at odds with minimalist desiderata, as pointed out in Folli & Harley 2020).

The PF account of Talmy's typology defended in this chapter treats weak satel-

lite-framed languages as fundamentally verb-framed languages. These languages share with standard verb-framed languages the requirement that the eventuality-introducing head (in present terms, α) forms a complex head with the head of its complement. According to the present PF account of Talmy's typology, there is no principled restriction preventing verb-framed languages (including weak satellite-framed languages) from displaying resultative predicates and creation/consumption predicates in which the main verb expresses a Co-Event. These are possible as long as they do not interfere with the verb-framed nature of the language, allowing the correct expression, at Vocabulary Insertion, of the complex head formed by α and the head of its complement. Specifically, both weak satellite-framed languages and standard verb-framed languages are predicted to disallow complex creation/consumption predicates in which α does not form a complex head with the head of its complement. The present account thus solves the conundrum, affecting previous syntactic analyses, whereby verb-framed languages appear to consistently lack a structure building operation (viz. the adjunction of a root to the eventive head, giving rise to the expression of a Co-Event in the verb) that is instead available in satellite-framed languages. In present terms, the weak satellite-framed constructions observed in languages like Slavic languages and Latin are precisely constructions in which a root is adjoined to the eventuality-introducing head in the verb-framed system.

As I have discussed in §4.3.1.4, I assume that both Slavic languages and Latin, which are the weak satellite-framed languages I concern myself with in the remainder of this chapter, lack morphemes capable of linearizing as verbal prefixes in the argument structure of creation/consumption predicates. The prediction of the present PF account of the typology is thus that these weak satellite-framed languages do not allow complex creation/consumption predicates where no complex head is formed between α and the head of its complement, in parallel with standard verb-framed languages. In the next section, I present the results of an empirical investigation concerning the availability of complex creation/consumption predicates in several satellite-framed languages, weak satellite-framed Slavic languages, and standard verb-framed languages, and I show that the data gathered align with the predictions of the present PF account of the typology.

4.4 Creation/consumption predicates and Talmy's typology

This section is concerned with the licensing of creation/consumption predicates cross-linguistically, in light of Talmy's typology. I present the results of a study investigating the availability of different types of creation/consumption predicates of English in several satellite-framed languages, verb-framed languages, and weak satellite-framed Slavic languages.

The English data used as input for the study, the method, and the results gathered from the native speakers of the languages tested are discussed in §4.4.1. §4.4.2 explores the prediction, following from the present PF account of Talmy's typology, that a complex creation/consumption reading is available in Slavic languages for predicates that are perfectivized via so-called "internal" verbal prefixes (Svenonius 2004; Borik 2006; Gehrke 2008, among others), which have been argued to express an abstract result in a resultative construction (Gehrke 2008; Acedo-Matellán 2016; Kwapiszewski 2022, among others). Finally, in §4.4.3 I address some potential counterexamples from Latin, another weak satellite-framed language (Acedo-Matellán 2016), to the prediction that weak satellite-framed languages lack complex creation/consumption predicates of the type found in satellite-framed languages like English. I argue that Latin lacked such predicates in the same way as Slavic languages do, *pace* Acedo-Matellán (2016) and consistently with the predictions of the present account which sees weak satellite-framed languages as fundamentally verb-framed languages.

4.4.1 A cross-linguistic survey

In order to investigate the availability of complex creation/consumption predicates in verb-framed languages and in weak satellite-framed Slavic languages, I carried out a study to check, with the help of native speakers, whether it is possible to directly translate different creation/consumption predicates that are licensed in satellite-framed English into several Slavic languages and bona fide verb-framed languages. I further examined whether it is possible to directly translate the English examples into four additional bona fide satellite-framed languages. Effort was invested in gathering evidence from different language families, contributing

to the diversity of languages represented in the collected data. For the class of satellite-framed languages, data were collected from Dutch, German, Chinese, and Hungarian.²⁹ Regarding verb-framed languages, data were collected from Italian, Catalan, Spanish, Basque, and Greek. Finally, for the class of Slavic languages, data were collected from Russian and Ukrainian (East Slavic languages), Polish and Slovak (West Slavic languages), and Serbian and Croatian (South Slavic languages).³⁰

4.4.1.1 The English data

The English examples range from constructions involving verbs whose meaning can be taken to imply the creation/consumption of the direct object, therefore using a verb-framed strategy in which, in present terms, identification takes place between the verb's root and the direct object (see, e.g., the structure of the Spanish predicate *cavar un hoyo* 'dig a hole' in (30)), to constructions that can be taken to involve the expression of a Co-Event in the main verb, and which are expected to

²⁹I assume that Mandarin Chinese is a standard satellite-framed language of the English type. *Acedo-Matellán (2016)* argues that some varieties of Chinese are weak satellite-framed because the satellite-framed constructions they display present the Path and the Co-Event components as unverbated in a sort of V-V compound (see also *Fan 2014*). However, the idea that the Path and the Co-Event components in Chinese resultatives form a complex head is disputed. For instance, *Wang (2010)* presents evidence of phrasal elements that may intervene between the two members of the V-V compound in Chinese resultatives. We can see this in (i), where the complex negation *bu tai* ('not too') disrupts the adjacency between *da* ('hit') and *si* ('die').

- (i) *Chinese; Wang (2010: 38)*
 Wo da bu tai si na zhi zhanglang.
 I hit NEG too die that CLASS cockroach
 'I can hardly hit the cockroach to death.'

This phenomenon would not be possible if the two verbal elements formed a complex word of the type found in the prefixal resultatives of Slavic languages. See *Wang (2010)* for further examples of the type in (i) and for additional pieces of evidence supporting the idea that Chinese V-V compounds are not complex heads.

³⁰Serbian and Croatian are considered individually alongside the other languages examined, notwithstanding classifications that see them as distinct varieties of a single language (e.g., Serbo-Croatian, or BCMS).

be ungrammatical in verb-framed languages if no complex head is formed between the eventuality-introducing head, α , and the head of its complement.³¹ The list of the selected examples, starting with verb-framed constructions, is provided in (62) to (80).³²

(62) *Truswell (2007: 1361)*

John sang a song.

(63) *Gallego (2012: 98)*

They danced a Sligo jig.

³¹The selection of the data was primarily based on examples from relevant literature pertaining to hyponymous objects, effected objects, and Talmy's typology. Additionally, some examples were taken from corpora or made up and subsequently checked with native speakers. Following *Mateu (2002)*, I have included the examples in (74) and (75) as representatives of the class of complex consumption predicates, where the consumption of the direct object constitutes the main event denoted by the predicate while the verb denotes a Co-Event. See *Kuno (1973)* and *Condamines (2013)* for possible examples of this type in verb-framed Japanese and French, respectively (I thank an anonymous reviewer of *Bigolin to appear* for bringing my attention to the data analysed in these works).

³²The examples have been arranged in the present order based on my own intuitions, as a native speaker of one of the verb-framed languages tested, about the degree of "manner", understood as a possible Co-Event, provided by the verb in each of them. Determining the degree of manner provided by the verb in each of the sentences in (62) to (80) is a complex process that takes place at the conceptual level. This involves considering the conceptual representation of the creation/consumption event arising from the semantic construal, the conceptual content of the root as listed in the encyclopedia, and the world knowledge-based representation of the entity denoted by the direct object. The predicates in these examples are assumed to have an unergative argument structure that gives rise to a reading of the direct object as being either created or consumed during the event (see §3.2.2.1). To ascertain whether the event denoted by the verb's root is interpreted as the primary creation/consumption event or as a manner/cause Co-Event, all three factors listed above must be taken into account. To the best of my knowledge, there is currently no objective method to quantitatively measure the degree of manner provided by the verb in a specific construction, leaving the intuition-based approach as the only viable option. In this respect, it is telling that the results obtained show a clear consistency, cross-linguistically, with the conclusions reached on the basis of my own intuitions.

- (64) *Ramchand (2008: 52)*
Ariel ate the mango.
- (65) COCA
He dug a hole in the ground.
- (66) *Adapted from Folli & Harley (2020: 452)*
She wove the tablecloth.
- (67) *Folli & Harley (2020: 438)*
Marco painted a sky.
- (68) *Folli & Harley (2020: 439)*
Maria carved a doll.
- (69) *Made up*
She burned a hole in her coat.
- (70) COCA
He scratched a hole in the ground.
- (71) *Made up*
She punctured a wound in her finger.
- (72) *Made up*
She cut a wound in her foot.
- (73) COCA
She bit a hole in the bag.
- (74) *Mateu (2002: 297), adapted from Tenny (1994)*
The adventurer walked the trail.

- (75) *Mateu (2002: 297), adapted from Tenny (1994)*
The adventurer swam the channel.
- (76) COCA
Deanne kicked a hole in the wall.
- (77) COCA
She magicked a cursor [so she could point].
- (78) *Mateu & Rigau (2002: 213), adapted from Levin & Rapoport (1988: 279)*
She brushed a hole in her coat.
- (79) *Mateu (2012: 255), adapted from Levin & Rapoport (1988: 279)*
John smiled his thanks.
- (80) *Acedo-Matellán & Kwapiszewski (2021: 35)*
Elna frowned her discomfort.

All the examples in (62) to (80) are taken to lack a resultative component in their argument structure. While this is proposed by much work adopting both the lexicalist approach and the neo-constructionist approach (see Rappaport Hovav 2008; Rappaport Hovav & Levin 1998, 2010 for works adopting a lexicalist approach; see Acedo-Matellán 2016; Folli & Harley 2005, 2007, 2008, 2020; Hale & Keyser 1993, 2002; Harley 2005; Mateu 2002; Ramchand 2008, among others, for works adopting a neo-constructionist approach), such work is mostly concerned with the argument structure of verb-framed predicates in which the meaning of the verb can be taken to imply the creation/consumption of the object. Following Acedo-Matellán (2016); Mateu (2012); Folli & Harley (2020), among others, I extend this analysis to complex predicates of creation/consumption, in which the verb is taken to express a Co-Event. At first sight, predicates of this type might be argued to involve the argument structure of resultative predicates, since most of them typically require a locative PP which is instead omissible in predicates of creation/consumption in which the object can be seen as a hyponym of the verb (in the sense of Hale &

Keyser 1997b, 2002). See, in this respect, the contrast between (81a), assumed to involve identification between the verb's root and the object, and (81b), in which the verb is understood to express a Co-Event.³³

- (81) a. He dug a hole (in his garden).
 b. She brushed a hole *(in her coat).

Based on the contrast in (81), the current assumption that complex creation/consumption predicates do not involve a Path component in their argument structure might be questioned. Specifically, an anonymous reviewer of *Bigolin (to appear)* suggests that the PP could be expressing a null Path in English predicates of the type in (81b) in the same way as it seems to do in satellite-framed predicates denoting events of change such as *walk in the room*, considered by the reviewer to be ambiguous between a locative and a change-of-location reading (but see, e.g., *Folli & Ramchand 2005: 83* and *Gehrke 2008: 90* for a different opinion concerning this predicate). The remainder of this subsection is devoted to showing that complex predicates of creation/consumption should not be taken to involve a null Path element in their argument structure. I argue that several reasons support this conclusion, even though the contrast in (81), at first sight, might seem to suggest otherwise. First, the claim that the PP in *walk in the room* involves a phonologically null Path (result) head is disputable since the Path component, in such a predicate, has been argued in previous works to be expressed by the verb *walk* (*Alexiadou 2015*; further see *Beavers, Levin & Tham 2010*; *Nikitina 2008*; *Ramchand 2008*). This verb, given the right context, may be coerced by some speakers into an interpretation as involving directionality and hence a goal of motion.³⁴ This explains

³³The judgement in (81b) is by an anonymous reviewer of *Bigolin (to appear)*.

³⁴In this respect, *Ramchand (2008: 112, fn. 1)* notes that the possibility of a change-of-location reading of *walk* seems to depend on the availability of a "threshold crossing" interpretation of the event, whereby, for instance, an example like *walk in the room* is more likely to be interpreted as a resultative than an example like *walk in the park*. See *Nikitina (2008)*; *Beavers et al. (2010)* for the claim that a change-of-location reading of a predicate like *walk in the room* depends on pragmatic factors linked to the context of utterance.

the existence of contrasts like the one depicted in (82). Unlike *walk*, *dance* denotes an activity that typically does not imply directionality. As a result, this verb is less likely to express Path, which must therefore be expressed independently in order for the verb to appear in the change-of-location frame.

(82) *Alexiadou (2015: 1093)*

- a. John walked in the room. (in a change-of-location reading)
- b. #John danced in the room. (in a change-of-location reading)

Additionally, if the complex predicates of creation/consumption discussed in this section involved a phonologically null Path head in their argument structure, the question would arise as to why Path *must* be null in these predicates. Even by assuming that (82a) is compatible with a change-of-location reading, Path can optionally be overtly realized independently of the verb in resultative predicates of this type, as (83) shows.

(83) John walks in(to) the room. (in a change-of-location reading)

More strikingly, Path is mandatorily expressed independent of the verb in transitive resultatives featuring direct objects that are not s-selected by the verb (meaning that they are not a traditional object of the verb based on what the lexicalist approach consider to be the verb's lexical argument structure, and would not be suitable objects of such a verb outside the resultative construction). See the contrast between the example in (84a) and the examples in (84b) and (84c), all three examples displaying direct objects that are not s-selected by their respective verb (*a hole*, *themselves*, and *herself*, respectively). In (84b) and (84c), which involve bona fide resultative predicates, an overt expression of the Path component (*to*) is mandatory. This is not the case in (84a), in contrast to what one would expect if the predicate in (84a) was resultative.³⁵

³⁵Arguably, a literal interpretation of the predicate in (84a) could be considered grammatical with the presence of *to*, but pragmatically aberrant, as the predicate would be interpreted as roughly

- (84) a. She brushed a hole in(#to) her coat.
 b. *Iwata (2020: 281)*
 The children run themselves *in/(in)to exhaustion.
 c. *Ono (2010), in Iwata 2020: 281*
 She talked herself *in/(in)to sleep.

A further piece of evidence against considering the locative PP in complex creation/consumption predicates as involving the expression of a null Path comes from the observation that such a PP can also be headed by the preposition *at*, as the examples in (85) show. Unlike *in*, the preposition *at* is only compatible with a non-directional reading and is in complementary distribution with *to*. This strongly suggests that there is no null Path in the locative PPs found in the examples considered in this study.

- (85) a. *Example from a web search*
 They removed the coriaceous bracteoles wrapped outside of the corolla, bit a hole at the base of the corolla where the nectarines are located, and lapped up all the nectar in each flower.
 b. *COCA*
 To really make it resemble a tea bag, Murphy punched a hole at the top, then added a length of twine and a “tag”.

This said, the fact that the locative PP can be omitted in (81a) but not in (81b) is not necessarily due to grammatical reasons. Other factors, e.g., conceptual/pragmatic ones, might be involved in the observed contrast. In this respect, it is relevant to note that (81a) involves a direct object which, in lexicalist terms, is *s*-selected by the verb. In contrast, the object in (81b) is not *s*-selected by the verb. *Brush* is a verb of surface contact, and it typically appears with direct objects denoting the

meaning ‘She moved a hole to the inside of her coat using a brush-like object / in a brush-like manner’ (Jaume Mateu, p.c.).

surface that is brushed. This is not the case in (81b), where the direct object is understood as being created during the event denoted by the verb. Given that *brush* is not typically used as a verb of creation, it can then be expected that the predicate in (81b) requires additional contextual information in order to be interpreted under a creation reading. In the absence of the spatial PP *in the coat*, the default inferable reading would be the pragmatically aberrant (not ungrammatical, in my view) one in which *a hole* is a *s*-selected object of *brush* (namely, it is an existing entity that undergoes a surface/contact event of *brushing*). Such a reading disappears when the locative PP is adjoined to the predicate, because the PP introduces the *s*-selected argument of the verb (i.e. the surface which is brushed, e.g., *her coat*), favoring the interpretation of the direct object *a hole* as an effected object thanks to the additional context. Further notice, in this respect, that locative PPs do not always appear in predicates of this type. For instance, no locative PP appears in the complex creation predicates in (77), (79), and (80), nor in the complex consumption predicates in (74) and (75). I suggest that, in these predicates, the intended creation/consumption reading arises based on world knowledge/pragmatic considerations regarding the scene denoted by the event which are clear enough without the necessity of additional contextual information. This is in contrast to resultative predicates like (84b) and (84c), where the licensing of a direct object that is not semantically selected by the verb invariably requires the presence of the result PP. Such a contrast reflects the different status of the locative PPs appearing in complex creation/consumption predicates and the result PPs appearing in resultative predicates with unselected objects, the former being adjuncts while the latter are arguments of the predicate.

4.4.1.2 *Method*

The English examples in (62) to (80) were presented to the speakers in a randomized order. Glossed literal renditions and grammaticality judgements were collected by consulting the speakers, who consisted of one linguist native speaker per

language.³⁶ For each of the examples tested, it was ensured that the intended (creation/consumption) meaning of the predicate was clear to the speaker before soliciting a grammaticality judgment. Two caveats were further considered in gathering judgments from the native speakers of the Slavic languages selected. First, considering that, as I will discuss in §4.4.2, perfective aspect in many Slavic languages is achieved through prefixes which have been argued to play a role in the event domain and interfere with the data being analyzed (Gehrke 2008; Kwapiszewski 2022; Ramchand & Svenonius 2002, among others), the English examples were presented in the imperfective aspect when soliciting corresponding translations from the native speakers of the Slavic languages tested. For instance, the availability of the English example in (62) was checked in Slavic languages using the imperfective construction *John was singing a song*. Additionally, the speakers were asked to provide translations involving unprefixing verbs only.

As a second caveat, when possible, the availability of a transitive non-creation use of those verbs which gave rise to ungrammatical translations in the languages tested was checked for each language, to exclude possible cases of ungrammaticality due to unrelated lexical restrictions on the transitivity of the verbs involved.³⁷

4.4.1.3 Results

The grammaticality judgments obtained are graphically summarized in Table 5, Table 6, and Table 7 for satellite-framed languages, verb-framed languages, and Slavic languages, respectively.³⁸ The data collected for each of the languages tested are provided in the Appendix.

³⁶One exception is the native speaker of Ukrainian, who is not a linguist but who is a proficient speaker of English.

³⁷Such a non-creation use pertains to predicates where the object is understood as a pre-existing entity which undergoes the action named by the verb, and is not created or consumed during the event. Compare, e.g., (68) with *Maria carved the wood* (Folli & Harley 2020: 439), where the direct object pre-exists the carving event and undergoes the change of state specified by the verb.

³⁸In the tables, empty slots correspond to cases where a direct translation of the English verb is not available in the target language. The languages examined are identified in the tables using the ISO 639-2/B standardized nomenclature (US Library of Congress).

Table 5: Creation/consumption predicates in satellite-framed languages

Example	Dut	Ger	Chi	Hun
(62) John sang a song	✓	✓	✓	✓
(63) They danced a Sligo jig	✓	✓	✓	✓
(64) Ariel ate the mango	✓	✓	✓	✓
(65) He dug a hole in the ground	✓	✓	✓	✓
(66) She wove the tablecloth	✓	✓	✓	✓
(67) Marco painted a sky	✓	✓	✓	✓
(68) Maria carved a doll	✓	✓	✓	✓
(69) She burned a hole in her coat	✓	✓	✓	✓
(70) He scratched a hole in the ground	✓	✓	✓	✓
(71) She punctured a wound in her finger	✓	✓	✓	★
(72) She cut a wound in her foot	✓	✓	✓	✓
(73) She bit a hole in the bag	✓	✓	✓	✓
(74) The adventurer walked the trail	✓	✓	✓	??
(75) The adventurer swam the channel	★	★	★	★
(76) Deanne kicked a hole in the wall	✓	✓	✓	✓
(77) She magicked a cursor	??		✓	✓
(78) She brushed a hole in her coat	✓	✓	✓	✓
(79) John smiled his thanks	★	★	★	★
(80) Elna frowned her discomfort	★			★

Overall, the native speakers of the satellite-framed languages tested accepted a literal translation for the vast majority of the complex creation/consumption predicates provided from English (Table 5), consistently with Talmy's typology.

The results obtained from the native speakers of the verb-framed languages tested, instead, are considerably different when it comes to predicates that can be claimed to involve the expression of a Co-Event in the verb, as shown in Table 6. A literal translation of the English examples gets progressively more difficult to obtain in the verb-framed languages as the predicates shift from a verb-framed strategy (the verb implying the creation/consumption of the object) to a satellite-framed strategy (the verb being understood as specifying a Co-Event of the main

Table 6: Creation/consumption predicates in verb-framed languages

Example	Ita	Cat	Spa	Baq	Gre
(62) John sang a song	✓	✓	✓	✓	✓
(63) They danced a Sligo jig	✓	✓	✓	✓	✓
(64) Ariel ate the mango	✓	✓	✓	✓	✓
(65) He dug a hole in the ground	✓	✓	✓	✓	✓
(66) She wove the tablecloth	✓	✓	✓	✓	✓
(67) Marco painted a sky	✓	✓	✓	✓	✓
(68) Maria carved a doll	✓	✓	✓	✓	✓
(69) She burned a hole in her coat	★	★	★	✓	★
(70) He scratched a hole in the ground	★	★	★	✓	✓
(71) She punctured a wound in her finger	??	★	★	??	★
(72) She cut a wound in her foot	★	★	★	??	★
(73) She bit a hole in the bag	★	★	★	?	★
(74) The adventurer walked the trail	★	★	?	✓	✓
(75) The adventurer swam the channel	★	★	?		✓
(76) Deanne kicked a hole in the wall	★		★	★	★
(77) She magicked a cursor					★
(78) She brushed a hole in her coat	★	★	★	★	★
(79) John smiled his thanks	★	★	?		?
(80) Elna frowned her discomfort	★	★	★		★

event of creation/consumption), in accordance with Talmy's typology.

As Table 7 makes clear, Slavic languages behave on a par with verb-framed languages in disallowing the creation/consumption predicates where the meaning of the verb cannot be taken to imply the creation/consumption of the entity denoted by the object. In such cases, a verb-framed construction displaying a verb whose meaning implies the creation/consumption of the direct object has to be used instead, the manner Co-Event being optionally expressed as an adjunct. This is illustrated in (86) with a natural translation of the English example in (78) in Russian, Ukrainian, and Polish.

Table 7: Creation/consumption predicates in Slavic languages (imperfective, unprefixated predicates)

Example	Rus	Ukr	Pol	Slo	Ser	Hrv
(62) John sang a song	✓	✓	✓	✓	✓	✓
(63) They danced a Sligo jig	✓	✓	✓	✓	✓	✓
(64) Ariel ate the mango	✓	✓	✓	✓	✓	✓
(65) He dug a hole in the ground	✓	✓	✓	✓	✓	✓
(66) She wove the tablecloth	✓	✓	✓	✓	✓	✓
(67) Marco painted a sky	✓	✓	✓	✓	✓	✓
(68) Maria carved a doll	★	★	✓	?	✓	✓
(69) She burned a hole in her coat	★	✓	?	??	★	✓
(70) He scratched a hole in the ground	✓	✓	★	✓	??	★
(71) She punctured a wound in her finger	★	✓	★	★	??	★
(72) She cut a wound in her foot	★	★	★	★	★	★
(73) She bit a hole in the bag	★	★	★	★	?	★
(74) The adventurer walked the trail	★	★	★	★	??	★
(75) The adventurer swam the channel	★	★	★	★	??	★
(76) Deanne kicked a hole in the wall	★	★	★	★	★	★
(77) She magicked a cursor	★	★	★	★	★	✓
(78) She brushed a hole in her coat	★	★	★	✓	★	★
(79) John smiled his thanks						
(80) Elna frowned her discomfort						

(86) a. *Russian*

Ona del-a-l-a dyrku v pal'to ščetkoj.
 she.NOM make.IPFV-TH-PST-AGR hole.ACC in coat.LOC brush.INS
 'She was making a hole in her coat with a brush.'

b. *Ukrainian*

Vona rob-y-l-a dyrku na kurtci ščitkoju.
 she.NOM make.IPFV-TH-PST-AGR hole.ACC in coat.LOC brush.INS
 'She was making a hole in her coat with a brush.'

c. *Polish*

Ona rob-i-ł-a dziurę w płaszczu szczotką.
 she.NOM make.IPFV-TH-PST-AGR hole.ACC in coat.LOC brush.INS
 'She was making a hole in her coat with a brush.'

Compare (86) with (87), showing the ungrammatical literal rendition of the English example in (78).

(87) a. *Russian*

*Ona čes-a-l-a dyrku v pal'to.
 she.NOM brush.IPFV-TH-PST-AGR hole.ACC in coat.LOC
 'She was brushing a hole in her coat.'

b. *Ukrainian*

*Vona ter-l-a dyrku na kurtci.
 she.NOM brush.IPFV-PST-AGR hole.ACC in coat.LOC
 'She was brushing a hole in her coat.'

c. *Polish*

*Ona czes-a-ł-a dziurę w płaszczu.
 she.NOM brush.IPFV-TH-PST-AGR hole.ACC in coat.LOC
 'She was brushing a hole in her coat.'

4.4.1.4 Discussion

Considering Talmy's bipartite typology, the data gathered show that the cross-linguistic availability of complex creation/consumption predicates aligns with the patterns observed by Talmy (2000b) in the domain of resultative predicates. Namely, verb-framed languages disallow complex creation/consumption predicates in the same way as they disallow satellite-framed resultative predicates. This matches the prediction of the account of Talmy's typology proposed in Chapter 3 and of accounts such as Mateu (2012), which dissociate the linguistic variation dealt with by Talmy from the expression of resultativity specifically and rather focus on whether or not a language can express a Co-Event in the main verb of the predicate. The clear contrast between satellite-framed languages and verb-framed

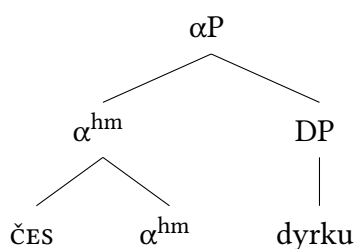
languages emerging from Table 5 and Table 6, instead, constitutes a problem for accounts like Acedo-Matellán (2016), Folli & Harley (2020), and Acedo-Matellán & Kwapiszewski (2024), which explain the typology by means of differing licensing conditions for the expression of resultativity cross-linguistically. Assuming that creation/consumption predicates have an argument structure different from that of resultative predicates, these analyses are not capable of accounting for the general absence of complex creation/consumption predicates from verb-framed languages. Recall from §4.3.2.2 that Folli & Harley (2020), aware of this, argued that complex creation/consumption predicates indeed do not give rise to cross-linguistic variation related to Talmy's typology and are generally available in verb-framed languages, this fact further constituting the empirical proof that the expression of a Co-Event in the main verb is a universally available linguistic process. Specifically, Folli & Harley (2020) noted that creation/consumption predicates such as (66), (67), and (68) are licensed both in satellite-framed English and in verb-framed Italian, and they assumed that these predicates involve the expression of a (manner) Co-Event in the verb, similar to what is observed in satellite-framed resultative predicates. However, as shown in Table 6, that these specific examples do not give rise to significant cross-linguistic variation cannot be taken to conclude that no typological variation exists in the domain of creation/consumption predicates. Namely, the examples in Folli & Harley (2020) can be taken to involve verbs whose conceptual meaning implies the creation of the direct object, which in turn is interpreted as a hyponym of the verb (in the sense of Hale & Keyser 1997b; 2002). As such, they can be argued to involve a verb-framed strategy in which the verb's root is e-merged in the complement of the eventive head with the internal argument and subsequently forms a complex head with the eventive head via I-Merge (see (30)), whereby they are allowed in verb-framed languages.

Slavic languages, representing the class of weak satellite-framed languages, display behavior consistent with standard verb-framed languages in the context of creation/consumption predicates, as they must resort to run-of-the-mill verb-framed strategies to express such predicates and they rule out constructions such as complex creation/consumption predicates (Table 7). These findings corroborate the proposal, put forth in §4.3.1.4, that weak satellite-framed languages are fun-

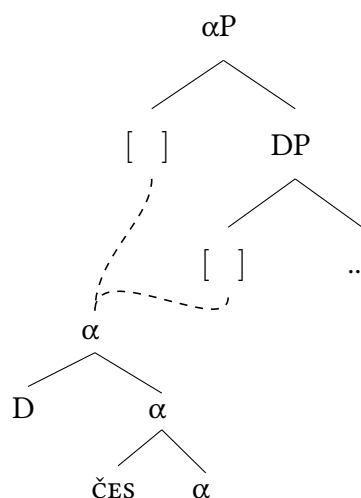
damentally verb-framed languages. Complex creation/consumption predicates of the type found in satellite-framed languages like English are not possible in these languages, since the argument structure of such predicates is not compatible with the licensing conditions of the morphemes involved, as specified in their corresponding Vocabulary Items at PF. The derivation of the ungrammatical Russian complex creation predicate in (87a), illustrated in (88), thus goes in a parallel with the derivation of the ungrammatical Spanish complex creation predicate in (40b), discussed in (42).³⁹

(88) *Proposed syntactic and PF derivation of (87a)*

a. *Input to PF*



³⁹The question of whether bare nouns in Slavic languages without articles come with a functional projection related to definiteness is subject to debate (cf., e.g., Bošković 2012 with Pereltsvaig 2007, and references therein). The issue is orthogonal to the argumentation developed in this section, because the category of the head of α 's complement is not a relevant factor in the PF account of Talmy's typology developed in this chapter. For expository purposes, in the following syntactic representations I label the direct object of creation/consumption predicates in Slavic languages as DP.

b. *Output of GenHM*c. *Linearization*D- \check{C} ES- α d. *Vocabulary Insertion*?-?- \emptyset

The results obtained from the survey further warn against making generalizations about the typological behavior of a language based on individual examples. For instance, the example in (68) seems to be generally available in the verb-framed languages examined, but it does not fare well in Slavic languages such as Russian, Ukrainian and Slovak. Instead, the example in (70) presents a high degree of variation both in the standard verb-framed languages and in the Slavic languages examined, as it is accepted in half of the Slavic languages and in two of the five verb-framed languages. Additionally, none of the native speakers of the satellite-framed languages checked seems to accept the example in (75), even though they accept the similar example in (74) and even though (75) is accepted by the native speaker of verb-framed Greek. It is also worth noticing that the examples in (79) and (80), despite being well-formed in English, do not fare well in any of the other satellite-framed languages tested according to the native speakers consulted. Arguably, some level of idiomaticity is present in these two constructions of English which is not shared by the speakers of the other satellite-framed languages tested. Further similar irregularities are detected, which nonetheless do not af-

fect the emergence of clear trends consistent with the predictions following from Talmy's typology.

4.4.2 The role of prefixal perfectivization in Slavic languages

In this section I study the role of prefixal perfectivizers of Slavic languages in licensing perfective predicates denoting events of creation or consumption in which the main verb is understood as referring to a Co-Event. In §4.4.2.1, I provide an overview of the phenomenon of prefixal perfectivization in Slavic languages. §4.4.2.2 presents the results of a cross-linguistic survey, based on the same English data presented in (62) to (80), aimed to examine the availability of a literal translation of the English data in Slavic languages when the predicate is perfectivized by prefixation. In §4.4.2.3 I discuss a possible alternative explanation of the data observed in §4.4.2.2, taking into account the role of incrementality in the licensing of such predicates.

4.4.2.1 *Internal vs. external prefixes*

In Slavic languages, the contrast between the imperfective and the perfective aspectual viewpoints is typically achieved by means of verbal affixation. In the standard case, basic verbal stems have an imperfective reading, which is turned perfective via the addition of a prefix. The Russian examples in (89) illustrate this.

(89) *Russian; Smith (1991: 301-302)*

- a. My pis-a-l-i pis'mo.
 we.NOM write.IPFV-TH-PST-AGR letter.ACC
 'We were writing a letter.'
- b. On na-pis-a-l pis'mo.
 he.NOM on-write-TH-PST letter.ACC
 'He wrote a letter.'

Normally, the perfective prefix comes from the same inventory of morphemes which can provide the Talmian Path component in resultative predicates. Indeed,

it has been argued that prefixes of this type denote the incorporation of a non-referential result into the verb, in a resultative structure (Acedo-Matellán 2016; Gehrke 2008; Kwapiszewski 2022; Ramchand & Svenonius 2002, among others). These prefixes are thus typically referred to as ‘internal’, due to the fact that they are argued to be e-merged inside the vP. This distinguishes them from external prefixes, which are instead argued to be merged higher in the functional spine of the clause.⁴⁰ The distinction is motivated by a series of factors. For instance, internal prefixes attach to verb stems, while external prefixes can attach to already prefixed verbs. Thus, when an internal prefix co-occurs with an external one, the external prefix mandatorily precedes the internal prefix. The contrast from Polish in (90) illustrates this.

- (90) *Polish; Kwapiszewski (2022): 108*
- a. *roz(INT)-po(EXT)-ład-ow-yw-a-ć
 apart-DIST-load-v-SI-TH-INF
 - b. po(EXT)-roz(INT)-ład-ow-yw-a-ć
 DIST-apart-load-v-SI-TH-INF
 ‘to unload one by one’

Additionally, while external prefixes can stack on top of each other ((91a)), there can be only one internal prefix per predicate ((91b)).

- (91) *Polish*
- a. Łazarczyk (2010: 201)
 Studenci po(EXT)-na(EXT)-za(INT)-prasz-a(j)-l-i się tego
 students.NOM DIST-SAT-behind-ask-TH-PST-AGR REFL this

⁴⁰The classification of Slavic prefixes has also been argued to be more nuanced than the traditional bi-partite division found in the literature. For instance, Tatevosov (2008) argued that in Russian there exists a class of prefixes (e.g., *do-* and *pere-*) that exhibit an intermediate behavior between internal and external prefixes. Since the examples from Russian collected in this study do not involve such prefixes, I do not pursue this issue further here. I am grateful to an anonymous reviewer of Bigolin (to appear) for pointing out Tatevosov’s work to me.

nauczyciela.

teacher.GEN

'The students each did a lot of inviting of this teacher.'

- b. *Łazorczyk (2010: 199)*

*Student wy(INT)-prze(INT)-pis-yw-a-ł notatki.

student.NOM out-through-write-SI-TH-PST notes.ACC

'The student was coping out the notes.'

Another difference between the two classes of prefixes concerns the possibility to alter the argument structure of the predicate. Internal prefixes can license arguments whose presence hinges on that of the prefix. For example, while the verb *write*, in Russian, in its unprefixated form allows the omission of the object ((92a)), the presence of the internal prefix makes the predicate mandatorily transitive ((92b)).

- (92) *Russian; Babko-Malaya (1999: 18)*

- a. Ivan pis-a-l (pis'mo).

Ivan write.IPFV-TH-PST letter.ACC

'Ivan was writing (a letter).'

- b. Ivan na(INT)-pis-a-l *(pis'mo).

Ivan on-write-TH-PST letter

'Ivan wrote a letter.'

In contrast, external prefixes have no effect on the argument structure of the verb.

- (93) *Russian; Gehrke 2008: 162*

- Po(EXT)-pis-a-t (pis'mo).

DELIM-write.IPFV-TH-INF letter.ACC

'to write (a letter)'

Assuming that the prefix in (92b) denotes a stative subpredicate in a resultative structure, the mandatory presence of the internal argument (*pis'mo* 'letter' in (92b))

is derived, as this argument functions as the subject of such a subpredicate. Semantically, it has further been argued that only internal prefixes can induce inner-aspectual telicity (Gehrke 2008). Finally, it is relevant to notice that only internal prefixes may trigger special meanings of the stem they attach to, as illustrated in (94) with examples from Russian (Arsenijević 2006). On the other hand, external prefixes tend to simply modify the eventuality denoted by the predicate. This squares nicely with Marantz's (1984, 1995) observation that idiomatic meanings of verbs are triggered by the internal arguments of the predicate. For further discussion of the distinction between internal and external verbal prefixes in Slavic languages, see Arsenijević (2006, 2007); Babko-Malaya (1999); Borik (2006); Gehrke (2008); Kwapiszewski (2022); Łazarczyk (2010); Milosavljević (2022); Romanova (2004); Svenonius (2004); Tatevosov (2011); Žaucer (2009), among others.

(94) *Russian; Svenonius (2004: 227)*

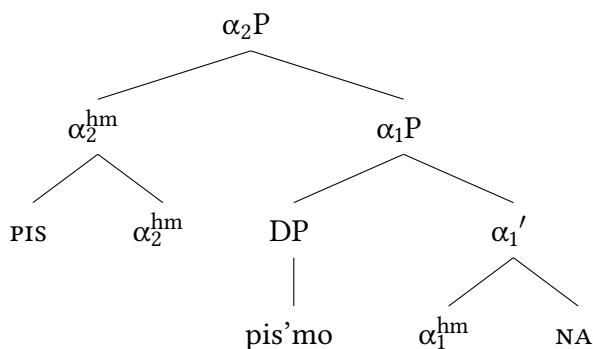
- a. vy-dumatj
out-think.INF
'to invent'
- b. raz-jestj
around.eat.INF
'to corrode'
- c. vo-plotitj
in-flesh.INF
'to realize'
- d. is-korenitj
out.of-root.INF
'to root out (e.g., evil)'
- e. pod-pisatj
under-write.INF
'to sign'

4.4.2.2 Internal prefixes and events of creation/consumption

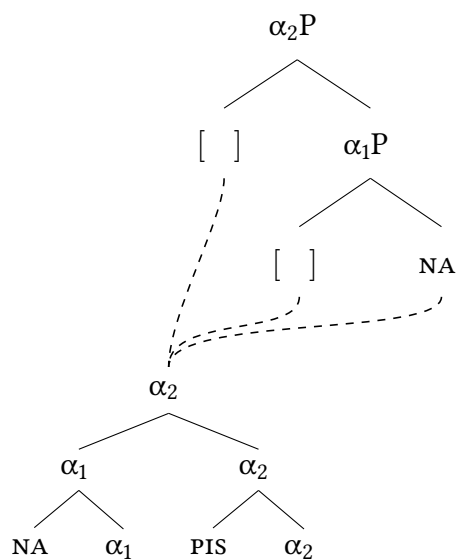
In the present framework, Slavic predicates perfectivized via internal prefixes, such as the Russian one in (89b), are attributed the syntactic and PF derivation in (95).

(95) Proposed syntactic and PF derivation of (89b)

a. Input to PF



b. Output of GenHM



c. Linearization

NA- α_1 -PIS- α_2

d. Vocabulary Insertion

na- \emptyset -pis- \emptyset

I thus assume that predicates depicting events of creation/consumption made per-

fective via internal prefixes consistently involve the argument structure of resultative predicates, and that the direct object in these predicates is coerced into an interpretation as a created or consumed entity due to pragmatic factors arising from the conceptual interpretation of the main event denoted by the predicate. Insofar as these predicates involve the formation of a complex head that includes both occurrences of α (namely, α_1 and α_2 , as shown in (95)), they are predicted to be possible in Slavic languages in the same way as predicates denoting change-of-state/location events where the verbs denotes a Co-Event. In this subsection, I assess the validity of this prediction.

In order to verify the prediction, I conducted the same survey run for bona fide creation/consumption predicates which I have described in §4.4, with the help of the same native speakers of the Slavic languages tested in the previous survey. This time, however, the English examples were left in their non-progressive form, to check whether the presence of a perfective prefix in their Slavic counterparts would affect the grammaticality of their literal translation in Slavic languages.

The results obtained, graphically summarized in Table 8, show that Slavic languages, when the perfective prefix is present, behave on a par with satellite-framed languages (cf. Table 5) in allowing predicates that refer to events of creation/consumption where the verb denotes a Co-Event, confirming the prediction.⁴¹ The grammatical renditions of the English example in (78) in Russian, Ukrainian, and Polish illustrate this ((96)).

(96) a. *Russian*

Ona pro-čes-a-l-a dyrku v pal'to.
she.NOM through-brush-TH-PST-AGR hole.ACC in coat.LOC
'She brushed a hole in her coat.'

⁴¹Wojciech Lewandowski (p.c.) notes that, according to him, the examples in (76) and (78) remain ungrammatical in Polish even when prefixed. The two native speakers of Serbian and Croatian also seem more conservative than the native speakers of the other Slavic languages tested in disallowing a creation/consumption reading for several of the predicates involved. At the present moment, I am agnostic as to why the pattern displayed by Serbian and Croatian differs in this way from that of the other Slavic languages.

Table 8: Perfective predicates with creation/consumption reading in Slavic languages (prefixed predicates)

Example	Rus	Ukr	Pol	Slo	Ser	Hrv
(62) John sang a song	✓	✓	✓	✓	✓	✓
(63) They danced a Sligo jig	✓	✓	✓	✓	✓	✓
(64) Ariel ate the mango	✓	✓	✓	✓	✓	✓
(65) He dug a hole in the ground	✓	✓	✓	✓	✓	✓
(66) She wove the tablecloth	✓	✓	✓	✓	✓	✓
(67) Marco painted a sky	✓	✓	✓	✓	✓	✓
(68) Maria carved a doll	✓	✓	✓	✓	✓	✓
(69) She burned a hole in her coat	✓	✓	✓	✓	??	✓
(70) He scratched a hole in the ground	✓	✓	✓	✓	??	★
(71) She punctured a wound in her finger	✓	✓	✓	✓	??	★
(72) She cut a wound in her foot	✓	?	✓	✓	★	★
(73) She bit a hole in the bag	✓	✓	✓	✓	✓	★
(74) The adventurer walked the trail	✓	✓	✓	✓	✓	✓
(75) The adventurer swam the channel	✓	✓	✓	✓	✓	✓
(76) Deanne kicked a hole in the wall	✓	✓	✓	✓	??	★
(77) She magicked a cursor	✓	✓	✓	✓	??	✓
(78) She brushed a hole in her coat	✓	✓	✓	✓	?	★
(79) John smiled his thanks						
(80) Elna frowned her discomfort						

b. *Ukrainian*

Vona pro-ter-l-a dyrku na kurtci.
 she.NOM through-brush-PST-AGR hole.ACC in coat.LOC
 'She brushed a hole in her coat.'

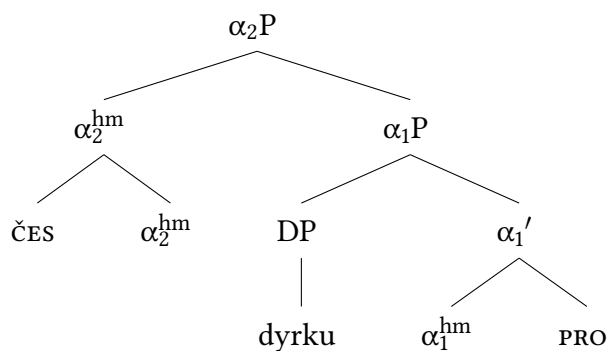
c. *Polish*

Ona wy-czes-a-ł-a dziurę w płaszczu.
 she.NOM out-brush-TH-PST-AGR hole.ACC in coat.LOC
 'She brushed a hole in her coat.'

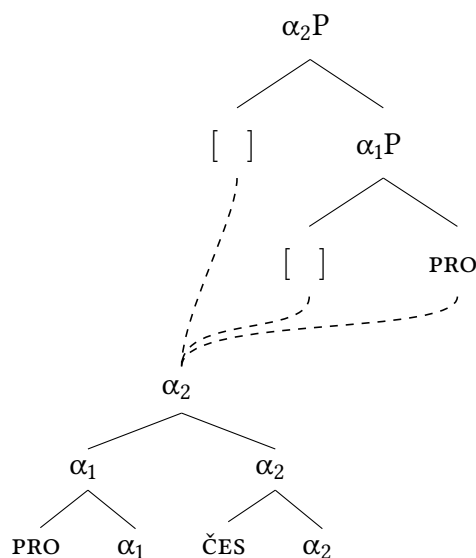
The structure for the Russian example in (96a), which holds also for the rest of the data, is provided in (97).

(97) *Proposed syntactic and PF derivation of (96a)*

a. *Input to PF*



b. *Output of GenHM*



c. *Linearization*

PRO- α_1 -čES- α_2

d. *Vocabulary Insertion*

pro- \emptyset -čes- \emptyset

The contrast in acceptability between predicates with unprefixed verbs and predicates with prefixed verbs in the expression of complex events of creation/

consumption in Slavic languages (cf. Table 7 with Table 8) cannot be argued to depend on the aspectual shift from the imperfective reading of the former type of predicates to the perfective reading of the latter type of predicates. This is proved by the availability, for the examples that are ungrammatical in the imperfective reading provided by unprefixed verbs, of imperfective predicates obtained via secondary imperfectivization. Secondary imperfectivization is a strategy found in Slavic languages whereby a prefixed, perfective verb is turned into an imperfective reading by means, typically (although not necessarily), of a further process of affixation (Babko-Malaya 1999; Kwapiszewski 2022; Romanova 2004; Svenonius 2004, among others). In the examples under consideration, secondary imperfectivization gives rise to grammatical predicates also in those cases where an imperfective reading involving unprefixed verbs gives rise to ungrammaticality. This is illustrated in (98) with the Ukrainian translations of (76), which is unavailable in the imperfective unprefixed version ((98a)) but is grammatical both in the perfective prefixed version ((98b)) and in the imperfective prefixed version obtained via secondary imperfectivization ((98c)).

(98) *Ukrainian*

- a. *Din byv dyru u stini.
 Din kick.IPFV.PST hole.ACC in wall.LOC
 'Din was kicking a hole in the wall.'
- b. Din pro-byv dyru u stini.
 Din through-kick.PST hole.ACC in wall.LOC
 'Din kicked a hole in the wall.'
- c. Din pro-byv-av dyru u stini.
 Din through-kick.PST-SI hole.ACC in wall.LOC
 'Din was kicking a hole in the wall.'

These facts suggest that what is relevant for the grammaticality of the predicate is not the perfective reading, but rather the presence of the prefix, which fulfills the verb-framed requirement of the language by forming a complex head with α .

4.4.2.3 Incrementality in complex predicates

The meaning contribution of internal prefixes in the licensing of complex predicates in Slavic languages warrants further investigation. For instance, [Gehrke \(2008\)](#) posited that complex predicates, in which the main verb denotes an activity, require an accomplishment event structure, which in satellite-framed resultative constructions is licensed by an incremental structure provided by a secondary predicate. She further argued that internal prefixes of Slavic languages derive accomplishment structures, and that in these languages (specifically, she refers to Czech and Russian) accomplishment structures are realized in the verb complex, either by the verb itself or by an internal prefix. [Gehrke's](#) findings may offer an alternative explanation for why complex predicates of creation/consumption are grammatical in Slavic languages only when prefixed. Unprefixed complex predicates of creation/consumption might be infelicitous in Slavic languages due to the absence of an accomplishment structure within the verbal complex.

This explanation rests on the assumption that complex predicates, cross-linguistically, require the presence of an accomplishment event structure. However, the idea that an accomplishment event structure is needed to license satellite-framed constructions is not undisputed. For instance, [Folli & Harley \(2006\)](#) discussed cases of satellite-framed predicates of English in which a PP denoting an unbounded path appears as the secondary predicate. Examples of this type are reproduced in (99).⁴²

(99) a. [Folli & Harley \(2006: 125\)](#)

John waltzed Matilda around and around the room for hours.

⁴²The temporal adverbials in the examples in (99) show that the PPs in these examples are not understood as referring to a bounded Path. I am not aware of studies concerned with the availability of such examples in Slavic languages. The unavailability of these examples in Polish ([Wojciech Lewandowski, p.c.](#)) and in Italian, however, points toward the idea that the satellite-framed/verb-framed division should not be (only) understood as a constraint on the expression of accomplishment structures in some languages and not in others.

- b. *Folli & Harley (2006: 125)*
John walked Mary along the river all afternoon.
- c. *Folli & Harley (2006: 137)*
John walked Mary towards her car for 3 hours.

Folli & Harley (2006) provided independent evidence showing that the locative PPs in (99) are not external adjuncts of the predicate, but rather behave as internal arguments denoting a secondary predicate in a small clause complement of the verbal head. Since the incremental structure associated with PPs of this kind does not have a culmination point, the overall predicate lacks an accomplishment event structure.

Another tentative piece of evidence against the hypothesis that unprefixed complex creation/consumption predicates are not possible in Slavic languages due to the lack of a culmination point in the verb comes from the behavior of perfective unprefixed verbs in complex events of creation/consumption. Verbs of this type could be expected to be able to appear in complex creation/consumption predicates, because they would themselves provide the predicate with the culmination point that by assumption is needed to license satellite-framed constructions. One case in point concerns the Polish verb *strzelić* ('shoot'). This verb gives rise to semelfactive events (which are argued to behave as achievements, and therefore to be associated with instantaneous transitions; *Gehrke 2008: 127*) regardless of whether a prefix is present or not, as shown in the resultative predicate in (100).

(100) *Polish; example from a Web search*

Strzel-i-ł sobie w nogę.
shoot.PFV-TH-PST REFL in leg
'He shot himself in the leg.'

One would thus predict, according to the hypothesis under concern, that this verb can give rise to a complex creation/consumption predicate like the one in (101) from English. However, a literal translation of (101) is not licensed in Polish with the unprefixed verb *strzelić* ((102)). A prefixed verb is needed.

(101) COCA

He shot a hole in the ceiling.

(102) *Polish; Wojciech Lewandowski, p.c.*

a. *On strzel-i-ł dziurę w suficie.

he.NOM shoot-TH-PST hole.ACC in ceiling.LOC

Intended: 'He shot a hole in the ceiling.'

b. On wy-strzel-i-ł dziurę w suficie.

he.NOM out-shoot-TH-PST hole.ACC in ceiling.LOC

Intended: 'He shot a hole in the ceiling.'

Another explanation worth considering is that unprefixated complex creation/consumption predicates are not licensed in Slavic languages due to the absence of incrementality in these constructions. I argue that this explanation is not satisfactory either. In these languages, given the right context, predicates of creation/consumption can be telic even if unprefixated (see, e.g., Gehrke 2008: 179, fn. 41; Mehlig 2012), the incremental structure being provided by the direct object (Rappaport Hovav 2008, 2014a). For instance, Mehlig (2012) argued that such a reading of the direct object in predicates denoting events of creation/consumption is possible in Russian if the extent of the entities denoted by the object has been determined in advance (e.g., from the conversational context) and these entities are referred to in the relevant imperfective predicate by means of a demonstrative (e.g., *ètot/tot* 'this/that'). This is illustrated by Mehlig (2012) with examples like (103), where the consumption predicate *on est èti dva banana* ('he is eating those two bananas') is successfully modified by the expression *Odin on uže s"el* ('He has already eaten one of them'), which presupposes that the object has an incremental structure associated with it, because the two conditions listed above are satisfied (see the text preceding the consumption predicate in (103), where the amount of bananas involved in the eating event is pre-determined, and the presence of the demonstrative *èti* 'these' in the consumption predicate).

(103) *Russian; Mehlig (2012: 216)*

Segodnja utrom ja dal^{PFV} Saše dva banana. V dannyj moment on est^{IPFV} èti dva banana. Odin on uže s"el^{PFV}.

'This morning I gave Sasha two bananas. At the moment he is eating those two bananas. He has already eaten one of them.'

According to the hypothesis under discussion, the complex creation/consumption predicates that gave rise to ungrammaticality in Russian (see Table 7) should become acceptable if the contextual conditions identified in Mehlig (2012) are met, as the predicates would then be given an incremental structure by the direct object. However, the prediction is not borne out. The same results as those listed in Table 7 are obtained in Russian if the contextual conditions discussed in Mehlig (2012) are met, as illustrated in (104) with an example based on the predicate in (68).

(104) *Russian; Dària Serés, p.c.*

Segodnja utrom Deanne zakazali s-delat' dve
today morning Deanne.DAT commission.PFV.PST.PL PFV-make.INF two
reznye kukly. V dannyj moment *ona režet èti dve
carved dolls.ACC in this moment she.NOM carve.IPFV these two
kukly. Skoree vsego ona uže vy-rez-a-l-a odnu iz
dolls.ACC probably she.NOM already out-carve-TH-PST-AGR one of
nix.
them

'This morning Deanne was commissioned to make two carved dolls. At the moment she is carving those two dolls. She has probably already carved one of them.'

Similar considerations apply in Slovak, which also seems to license a reading of the object as having an incremental structure associated with it under the conditions in Mehlig (2012), but it does not allow complex creation/consumption predicates in such contexts (Natália Kolenčíková, p.c.). In the case of Serbian, modifying expressions equivalent to the Russian *Odin on uže s"el* ('He has already eaten one

of them') in (103) are compatible with predicates denoting events of consumption regardless of the contextual conditions pointed out in Mehlig (2012), yet complex creation/consumption predicates with unprefixated verbs are not licensed (Predrag Kovačević, p.c.; see Table 7). Both the ungrammaticality of the predicate in (104) and the contrast in (102) are accounted for by the morphophonological account proposed in the present chapter. (102b), and not (102a), is grammatical in Polish because only (102b) involves a verbal prefix which fulfills the language's verb-framed requirement. The same reasoning as for the ungrammaticality of the Polish example in (102a) applies to the Russian example in (104).

In sum, the approach to Talmy's typology proposed in this chapter allows us to account for the kind of cross-linguistic variation related to the typology in the domain of predicates of creation/consumption regardless of whether an incremental structure is expressed in the predicate, be it by the verb's root, by a prefix of the verb, or by a phrasal complement of the verb. In the next section, I propose that the present account of Slavic languages as verb-framed languages should be extended to Latin, which was argued to be a weak satellite-framed language along with Slavic languages (Acedo-Matellán 2010, 2016).

4.4.3 Were there complex creation/consumption predicates in Latin?

As observed in Talmy (2000b), and extensively explored in Acedo-Matellán (2010, 2016), Latin behaves on a par with Slavic languages in regard to Talmy's typology, in that resultative predicates where the verb denotes a Co-Event are allowed in Latin as long as the Path component is expressed by a verbal prefix. As such, this language is predicted to generally allow complex creation/consumption predicates by previous neo-constructionist accounts of the typology, as discussed in §4.3.2. Some examples of alleged complex creation predicates of Latin are provided by Acedo-Matellán (2010, 2016) to prove this point. This goes against the prediction of the present morphophonological account of Talmy's typology, according to which neither Latin nor Slavic languages, *qua* weak satellite-framed languages, should be able to license bona fide creation/consumption predicates where a complex head is not formed between α and the head of its complement. Indeed, the data discussed in Acedo-Matellán (2010, 2016) are surprising in light of the pattern displayed by

Slavic languages in this respect, as shown in Table 7. In this section I argue that the motivation to attribute a complex creation/consumption reading to the Latin examples provided in *Acedo-Matellán (2010, 2016)* is not clear. Afterward, I present the results of a corpus search which point toward the conclusion that complex creation/consumption predicates are absent in Latin, in line with the prediction of the present approach.

The examples discussed in *Acedo-Matellán (2010, 2016)* are provided in (105) to (109).

(105) *Latin; Cic. Fin. 2, 5, 17*

Qui alteri misceat mulsum.
 who.NOM another.DAT mix.SBJV.AGR honeyed_wine.ACC
 'He who makes honeyed wine for someone else.'

(106) *Latin; Cic. Mil. 65*

Vulnus [...] quod acu punctum
 wound.NOM which.NOM needle.ABL puncture.PTCP.PFV.NOM.N.SG
 videretur.
 seem.IPFV.SBJV.AGR
 'A wound that seemed to have been punctured with a needle.'

(107) *Latin; Ov. Met. 3, 41*

[Serpens] volubilibus squamosos nexibus orbes
 snake.NOM looping.ABL.PL scaly.ACC.PL writhing.ABL.PL coil.ACC.PL
 torquet.
 twist.PRS.AGR
 'The snake twists his scaly coils in looping writhings.'

(108) *Latin; Liv. 38, 28, 3*

Viam silice sternendam [...] locauerunt.
 way.ACC flint_stone.ABL strew.PTCP.FUT.ACC.F.SG establish.PRF.AGR
 'They established that the way was to be paved with flint stone.'

- (109) *Latin; Stat., Teb. 6, 84*
 Aeriam truncis [...] cumulare pyram.
 high.ACC log.ABL.PL gather.INF pyre.ACC
 'To build a high pyre out of logs.'

I suggest that most of these examples can be argued to be compatible with a reading either as involving hyponymous objects or as denoting resultative events of change of state where the result component is specified by the verb's root, therefore adopting a verb-framed strategy. For instance, I propose that *pyram* ('pyre') in (109) can be interpreted as a hyponym of *cumulare* (lit. 'cumulate'), and indeed a creation reading of this verb is also found in verb-framed Italian, as (110) shows.⁴³

- (110) *Italian; CORIS*
 [...] il primo dovrà aver cumulato esperienza nella
 the first must.FUT.3SG have.INF gather.PTCP.PFV experience in.the
 grande distribuzione, il secondo sul prodotto e sul contatto
 big distribution the second on.the product and on.the contact

⁴³The relevance of the Italian example in (110) for the conclusion that the Latin example in (109) is not a complex creation predicate is based on the following reasoning. Both the Latin example in (109) and the Italian example in (110) refer to a creation event in which a 'cumulation' is formed. As Hale & Keyser (1997b) noted, the conceptual content of the verb in predicates of this kind (in the cases at hand, *cumulare*, meaning 'cumulate', or 'gather') points non-referentially to the nature of the entity effected during the event (e.g., in (109) and (110), a 'cumulation' of some sort). The object, in turn, directly refers to such an effected entity. For instance, the predicate in (110) can be paraphrased as 'make a gathering that *consists of* experience'. Similarly, the predicate in (109) can be paraphrased as 'make a gathering that *consists of* a pyre'. For this reason, direct objects of this type have been referred to in the literature as 'hyponymous arguments' of the verb. In the present theory of argument structure, predicates of this kind have been argued to involve the formation of a complex head, via I-Merge, between α and a root which is e-merged in α 's complement together with the phrasal object (see §3.2.2.1 and §4.3.1.3). Thus, they are expected to be well-formed in verb-framed languages. Assuming that Italian is a verb-framed language, that the construction in (109) can also be found in Italian, as (110) shows, provides additional evidence to the claim that such a construction is a verb-framed construction, whereby it does not constitute a counterexample to the proposal that Latin should be regarded as a verb-framed language.

con i grandi clienti.

with the big clients

'The first one must have gathered experience in large-scale distribution, the second one on the product and in dealing with large clients.'

As for (106), the availability of a predicate like *puncture a wound* (cf. (71)) in verb-framed languages and in weak satellite-framed Slavic languages seems to be very limited (see Table 6 and Table 7, respectively), but the Ukrainian speaker fully accepts it and the Basque speaker considers it marginally acceptable, suggesting that the felicity of this construction is not totally excluded in these languages. Finally, I suggest that examples such as (107) and (108) can be compatible with a change-of-state reading of the direct object along a scale specified by the verb's root, which would imply the adoption of a verb-framed resultative structure. For instance, a snake can twist its coils also if the coils have been previously formed, e.g., by the position of the body prior to the twisting. Similarly, an existing road can be ordered to be covered with flint stone, supposing, e.g., that it was unpaved before.

In order to further substantiate the prediction that complex creation/consumption predicates of the type found in standard satellite-framed languages could not be licensed in weak satellite-framed Latin, I carried out a corpus-based investigation checking the co-occurrence, in a creation reading, of verbs that can be associated with a Co-Event interpretation with two direct objects that seem to be particularly productive in English complex creation/consumption predicates, namely *hole* (Lat. 'foramen') and *wound* (Lat. 'vulnus'). The corpus used for Latin, comprising texts from the Early and Classical periods (up to A.D. 200), is the *Classical Latin Texts* by The Packard Humanities Institute.⁴⁴ The verbs selected, listed in (111), were taken from *Acedo-Matellán* (2016).

- (111) *amburo* 'burn', *caedo* 'cut, knock', *cremo* 'burn', *frico* 'rub', *rado* 'scrape', *tundo* 'beat', *uro* 'burn', *verro* 'sweep'.

⁴⁴The corpus is available online at <https://latin.packhum.org>.

Importantly, all the English verbs corresponding to the Latin ones in (111) can give rise to creation predicates with *hole* or *wound* as effected object, as shown in (112).

- (112) a. *Ausensi & Bigolin (2023: 155)*
 A discharge of those energies burned a hole in his forehead and killed him.
- b. *Google Books*
 [...] his words burned a wound inside her.
- c. *COCA*
 Dad cut a hole in his chest and made me pull his heart out.
- d. *Google Books*
 The Devil-Is-I pulled the knife he had used to cut a wound on his thumb and lunged forward at the leader of the twelve.
- e. *COCA*
 Weena knocked a hole in the wall.
- f. *COCA*
 But I scraped a hole in it so I could see.
- g. *Google Books*
 [...] he scraped a wound on his nose that never cleared up.
- h. *COCA*
 I erased again and again until I had rubbed a hole in the paper.
- i. *Google Books*
 [...] the mooring line has rubbed a wound in the willow bark.
- j. *COCA*
 My 'beloved' boyfriend beat a hole in my roof and now it's awefully cold in there.
- k. *Google Books*
 A sudden shift in the wind swept a hole in the blowing snow.

The verbs in (111) were searched by stem, while the objects were searched in the

nominative/accusative singular and plural forms.⁴⁵ None of the verb-complement combinations investigated provided relevant results. Interestingly, a verb-framed construction with *vulnus* ('wound') was found instead, as shown in (113).

- (113) *Latin; Col., De Re Rustica 6,7,4*
 Sed uulnera facta igne dum sanescunt,
 But wound.NOM.PL make.PTCP.PFV.NOM.N.PL fire.ABL while heal.PRS.AGR
 defricare bubula urina convenit [...].
 off_rub.INF bovine.ABL urine.ABL fit.AGR
 'But while the wounds made with fire are healing, it is suitable to cleanse
 them with bovine urine.'

I take this lack of evidence to tentatively suggest that Latin lacked complex creation/consumption predicates of the type found in satellite-framed languages, and needed to resort to verb-framed strategies in the domain of creation/consumption predicates in the same way as Slavic languages do. The results obtained are in line with the prediction, following from the present account of Talmy's typology, that complex creation/consumption predicates of the type found in standard satellite-framed languages are unavailable in weak satellite-framed languages.

Picking up the discussion in §4.4.2.3, about the possibility that unprefixed complex predicates of creation/consumption may be disallowed in Slavic languages due to their lack of an incremental structure, it is relevant to notice that direct objects could be associated with an incremental structure giving rise to telicity in the predicate in Latin. The compatibility of the consumption predicate in (114) with the time span adverbial *intra duas horas* ('within two hours') illustrates this.

- (114) *Latin; Plin., Nat. 24, 3, 4*
 [...] nitrosae aut amarae aquae polenta
 nitrous.NOM.PL or bitter.NOM.PL water.NOM.PL cornmeal.ABL.SG

⁴⁵Being neuters, both *foramen* ('hole') and *vulnus* ('wound') appear as morphologically identical in their respective nominative and accusative forms.

addita mitigantur, ut intra duas
 add.PTCP.PFV.ABL.F.SG mitigate.IPFV.SBJV.PASS.AGR that within two.ACC
 horas bibi possint.
 hour.ACC.PL drink.INF.PASS can.IPFV.SBJV.AGR
 'Nitrous and bitter waters are softened with added cornmeal, so that they
 can be drunk within two hours.'

Assuming, based on the results presented in this section, that complex creation/consumption predicates were not possible in Latin, such an absence cannot be attributed to the predicate's lack of incrementality. The morphophonological account of Talmy's typology proposed in this chapter provides an alternative explanation of the phenomenon that is compatible with the observation that creation/consumption predicates could be telic in Latin without the presence of the prefix, as shown in (114).

4.5 Conclusions

In this chapter I have put forth a morphophonological account of the cross-linguistic variation related to Talmy's typology, adopting the neo-constructionist theory of argument structure developed in Chapter 3. I have proposed that verb-framed languages differ from satellite-framed languages in terms of a morphophonological realization condition imposed at PF on the head α which is involved in syntactic argument structures. This head is required to form a complex head with the head of its complement in verb-framed languages. I have further proposed that Slavic languages, and weak satellite-framed languages in general, should be regarded as fundamentally verb-framed languages, and that the mandatory prefixation of the Path component in resultative predicates observed in these languages is the manifestation of the PF requirement proposed for verb-framed languages.

In the second part of the chapter, I have presented the results of an investigation concerning the possibility of licensing complex creation/consumption predicates in different typological classes of languages. I have shown that standard verb-framed languages and weak satellite-framed Slavic languages behave on a

par in disallowing complex creation/consumption predicates where the head α does not form a complex head with the head of its complement. In contrast, standard satellite-framed languages generally allow this kind of predicates, consistently with the idea that the cross-linguistic variation associated with Talmy's typology can be observed beyond the domain of resultative predicates.

Afterward, I have explored the prediction that a creation/consumption reading of predicates with manner denoting verbs is available in Slavic languages when the predicate is perfectivized via internal prefixes, which have been argued to involve a resultative structure that receives a reading as involving an event of creation/consumption on the basis of conceptual/pragmatic considerations. The data gathered from the native speakers of the Slavic languages tested confirmed the prediction.

Finally, I have argued that Latin, as a weak satellite-framed language (Acedo-Matellán 2010, 2016), lacked complex creation/consumption predicates of the type found in bona fide satellite-framed languages in the same way as Slavic languages do. I have proposed that this is the case based on an examination of some alleged Latin complex creation/consumption predicates discussed in Acedo-Matellán (2016), which I have argued to admit a reading either as involving a hyponymous object or as involving a resultative predicate of change of state. Subsequently, I have presented the results of a corpus search which support the prediction that complex creation/consumption predicates were not licensed in Latin. These results strengthen the general hypothesis that Latin and Slavic languages behave alike with respect to Talmy's typology (Acedo-Matellán 2016), meanwhile underpinning the proposal that weak satellite-framed languages should be considered as fundamentally verb-framed languages.

With the present morphophonological account of Talmy's typology, I have additionally provided a solution to the conundrum whereby verb-framed languages seem to consistently lack constructions in which the main verb expresses a Co-Event. Assuming that such constructions are the result of a syntactic operation in which a root is compounded, via E-Merge, to an eventuality-introducing head α (see §3.3), parametrizing this operation would come at the cost of giving up on the basic minimalist assumption that variation is not located in narrow syntax, as

noted by Folli & Harley (2020). The results presented in §4.4 show that correlating Talmy's typology with the presence vs. absence of the syntactic operation compounding a root with α leads to a wrong prediction when it comes to the possibility of licensing complex creation/consumption predicates in weak satellite-framed languages like Slavic Languages. I have further argued that, as long as the PF requirement on the head α is satisfied (namely, as long as the PF conditions are met for α to form a complex head with the head of its complement), the expression of a Co-Event in the main verb can indeed successfully take place in the verb-framed system, and I have proposed that the prefixed satellite-framed resultative predicates found in Slavic languages and in Latin are precisely constructions in which a Co-Event is expressed by the main verb within the verb-framed system.

This chapter concludes the investigation concerning the proposition in 1. from §1.1, repeated below.

1. semantic predicates of the type considered to be at the base of event templates by the lexico-semantic approach are not primitives of the human faculty of language and do not receive a syntactic representation by means of specialised functional heads; rather, they exclusively consist in the semantic interpretation of specific structural configurations that are produced by syntax based on a single, semantically vacuous functional head.

In Chapter 3 I have argued that primitive semantic predicates, which are considered relevant for event structure templates according to the lexico-semantic approach, do not necessarily need to be introduced in the syntactic computation by dedicated functional heads when adopting a neo-constructionist perspective. Instead, I have proposed that different event structures can be derived exclusively from the interpretation of syntactic configurations, without the need for any lexically stored semantic values to be introduced in the syntactic derivation by functional heads. In Chapter 4, I have shown that the configurational approach to argument structure advocated in this thesis naturally leads to a new account of the cross-linguistic variation associated with Talmy's typology, yielding novel predictions regarding the types of constructions allowed in each typological class.

Chapter 5

Manner and result out of the lexicon

This chapter investigates the proposition in 2. from §1.1, repeated below for convenience.¹

2. roots, understood as abstract morphemes that integrate semantic predicates with syntactically atomic conceptual content related to world knowledge, are coerced into a particular interpretation by the position they occupy in the syntactic argument structure and are not pre-syntactically specified for associating with a given semantic predicate.

The debate about whether or not roots, *qua* lexical items, contain instructions for the realization of the argument structure of the predicates they appear in constitutes one of the main points of contention between the lexicalist approach and the neo-constructionist approach. The discussion primarily focuses on the notions of manner and result, and the related hypothesis of so-called manner/result complementarity (Rappaport Hovav & Levin 2010). According to the lexicalist view, verb roots are lexically specified as encoding manner or result, and this specification dictates the range of predicates they can appear in. Neo-constructionist theories instead assume that the content of roots is opaque to the syntactic computation,

¹The title of the present chapter was inspired by the title of Marantz (2005b).

and roots acquire a specification for manner or result based exclusively on the position they occupy within the syntactic argument structure of the predicate. In this chapter, I provide evidence in favor of the neo-constructionist view.

The chapter is structured as follows. In §5.1, I summarize the main differences between the lexicalist take and the neo-constructionist take on manner/result complementarity, as well as the main predictions stemming from the two approaches. §5.2 and §5.3 are devoted to providing empirical support, from Italian and English, respectively, to the neo-constructionist perspective on manner/result complementarity.² I draw general conclusions in §5.4.

5.1 A recap: two perspectives on manner/result complementarity

As discussed in §2.1, lexicalist theories contend that the meaning and structure of predicates depend on instructions that are contained in the lexical entries of the verbs upon which predicates are constructed.³ In particular, verb roots are argued to include a level of representation, the lexical semantic representation, which contains information that determines the syntactic properties of the predicates they appear in. The lexical semantic representation of a verb root corresponds to one structural template of event types, out of a closed set (Rappaport Hovav & Levin 1998). Event structural templates, in turn, consist of predetermined, hierarchic relations established among a closed set of primitive semantic predicates that are made available by UG. I illustrate the set of possible event structural templates proposed by Rappaport Hovav & Levin (1998) in (1), repeated from §2.1.1.

²The argumentation in §5.3 is also in Ausensi & Bigolin (2023).

³Further see Ausensi (2021, 2024); Beavers & Koontz-Garboden (2020) for a view of roots as containing grammatically relevant information in terms of their truth-conditional entailments. In contrast to theories like Rappaport Hovav & Levin (1998, 2010), these authors argued that manner and result entailments can coexist in a single root (see, e.g., Beavers & Koontz-Garboden 2012). Based on semantic tests such as the types of readings available for predicates when modified by *again* (von Stechow 1996, among others), they further proposed that roots entailments can determine the types of event structures roots are compatible with (Beavers & Koontz-Garboden 2020), including the projection of intentional external arguments (Ausensi 2024).

- (1) *Event structural templates; Rappaport Hovav & Levin (1998: 108)*
- a. *Activity*
[x ACT_{<MANNER>}]
 - b. *State*
[x <STATE>]
 - c. *Achievement*
[BECOME [x <STATE>]]
 - d. *Accomplishment*
[[x ACT_{<MANNER>}] CAUSE [BECOME [y <STATE>]]]
 - e. *Accomplishment*
[x CAUSE [BECOME [y <STATE>]]]

In addition to being related to a specific event structural template, roots are further provided with information regarding their realization within such a template. An important distinction concerns whether a given root is instructed to function as the modifier of the ACT primitive semantic predicate, or as the argument of the BECOME primitive semantic predicate. The two options correspond to an interpretation of the root as either specifying a manner component or a result component in the predicate. According to the lexicalist approach, verb roots are lexically specified for the expression of either and only one of these two components, a fact referred to as manner/result complementarity (Rappaport Hovav & Levin 2010). The bipartite classification of verbs based on manner/result complementarity is thus argued to be grammatically relevant, as the types of argument structural and event structural realizations of verbs depend on whether they encode manner or result. For example, Rappaport Hovav & Levin (2010) noted that manner verbs, in non-modal and non-habitual sentences, can appear in intransitive predicates with unspecified objects and with objects that are not s-selected by them, as shown in (2a) and (2b), respectively (repeated from §2.1.2). These constructions are instead not possible with result verbs, as shown in (3) (repeated from §2.1.2).

(2) *Rappaport Hovav & Levin (2010: 21)*

- a. Kim scrubbed all morning.
- b. Kim scrubbed her fingers raw.

(3) *Rappaport Hovav & Levin (2010: 22)*

- a. *The toddler broke.
- b. *The toddler broke his hands bloody.

These contrasts have been argued to follow from *Levin & Rappaport Hovav's (1999)* and *Rappaport Hovav & Levin's (2001)* Argument-Per-Subevent Condition (*Beavers & Koontz-Garboden 2012*), which states that “There must be at least one argument XP in the syntax per subevent in the event structure” (*Rappaport Hovav & Levin 2001: 779*). Result verbs always appear with a s-selected object because such an object is the subject of the BECOME semantic predicate, of which the verb's root is, in turn, the complement. Since manner roots are not associated with a BECOME semantic predicate, they can appear without an (s-selected) object.

In §2.3.1 I have discussed that, in contrast to the lexicalist approach, neo-constructionist theories propose that manner and result are meaning components that emerge from the interpretation of the syntactic structure of the predicates roots appears in, depending on the position roots occupy in the structure (*Mateu & Acedo-Matellán 2012; Acedo-Matellán & Mateu 2014*). These theories draw a fundamental distinction between a structural and a conceptual notion of manner and result. Structurally, the meaning component of manner is associated with the position of modifier of the event-introducing functional head, while the meaning component of result is associated with the complement position of resultative small clauses found in the complement of the eventive head. In the neo-constructionist theory of argument structure proposed in Chapter 3, a manner (more broadly, Co-Event) structural reading is assigned to the adjunct of a head α projecting a monadic α P, and the result structural reading is assigned to the complement of a head α projecting a dyadic α P when the dyadic α P is immediately dominated by a monadic α P. According to the neo-constructionist approach, roots do not come with in-

structions concerning their syntactic realization from the lexicon. Consequently, nothing in the grammar prohibits the merging of a root that is classified as a result root in the lexicalist approach into the structural position associated with a manner reading. Similarly, what in the lexicalist approach would be considered as a manner root can, in principle, be merged in the structural position that is associated with a result interpretation. The fact that occurrences of this type are rare (hence, the apparent plausibility of the lexicalist take on manner/result complementarity) is explained by appealing to the conceptual notion of manner and result. Roots whose conceptual content is unlikely to be associated with a result are intuitively difficult to license in the result-denoting structural position, since the event denoted by the predicate would be hard to align with real-world events based on our world knowledge. For the same reason, roots whose conceptual content is inherently resultative are way more commonly found occupying the result structural position in syntactic argument structures, rather than the manner (Co-Event) structural position (see also [Acedo-Matellán & Mateu 2014](#)).

In the remainder of the present chapter, I discuss evidence that supports the neo-constructionist perspective on manner/result complementarity. In §5.2, I analyze a particular type of Italian verb-particle construction involving roots that would be presumably classified as manner roots according to the lexicalist approach, and that I argue to be merged in the structural position associated with the result component in the argument structure of the predicate. In §5.3, I provide evidence from English regarding predicates in which roots that are treated as result roots in a lexicalist perspective are expressing a Co-Event in the context of the predicate, whereby the verb is not required to appear with a s-selected object.

5.2 Result use of ‘manner’ roots: Italian verb-particle constructions

Verb-particle constructions can be used to express resultative events of change of location in many Romance languages ([Cini 2008](#); [Iacobini 2009](#), among others). Consistent with the verb-framed nature of these languages, the result component of goal of motion, in these constructions, is provided by the verb ([Iacobini 2009](#);

Mateu & Rigau 2010), while the particle provides a further specification of the final location reached by the undergoer of the event. This is illustrated in (4) with examples from Spanish, Catalan, and Italian, respectively.

- (4) a. *Spanish; CORPES XXI*
Subió arriba.
go_up.PST.3SG up
'He went upstairs.'
- b. *Catalan; example from a web search*
[...] anava fora a fumar.
go.IPFV.PST.1SG out to smoke.INF
'I was going out to smoke.'
- c. *Italian; CORIS*
[...] è uscito fuori barcollando.
be.3SG go_out.PTCP.PST.M.SG out stagger.GER
'He went outside staggering.'

Italian, however, along with other Italo-Romance languages (Cini 2008; Cordin 2011; Iacobini 2009; Vicario 1997, among others; see Quaglia 2016 for an in-depth analysis of Italian verb-particle constructions within the lexicalist framework of Lexical-Functional Grammar), has been argued to constitute an exception to this pattern, because it also displays verb-particle constructions where the verb involved is not a motion verb, as in (5).

- (5) *Italian*
- a. *Masini (2005: 149)*
Luca ha lavato via la macchia.
Luca have.3SG wash.PTCP.PST away the stain
'Luca washed the stain away.'

- b. *Iacobini & Masini (2006: 178)*
 Marco raschia via la vernice.
 Marco scrape.3SG away the paint
 ‘Marco scrapes the paint off/away.’

This led some authors (e.g., *Iacobini & Masini 2006; Masini 2005, 2006*), assuming a Construction Grammar approach (*Goldberg 1995*), to question the typological status of Italian with respect to Talmy’s typology. Indeed, the Italian examples in (5) can be regarded *prima facie* as typologically exceptional, in that they seem to display a satellite-framed strategy where the Path is realized in a satellite (*via* ‘away’), while the verb specifies a Co-Event. *Mateu & Rigau (2010)* and *Mateu (2012)*, however, concluded that the Italian verb-particle constructions in (5) are verb-framed constructions, despite appearances, because the particle *via* (‘away’) in these constructions can be understood as merely specifying a result component of ‘removal’ which is already provided by the verb.⁴ This explains the optionality of the particle in predicates of this type, as shown in (6), and the contrast with English regarding predicates of the type in (7), where the particle is understood as introducing a result which is independent of the verb.

- (6) *Italian; Mateu & Rigau (2010: 262)*
 Gianni ha lavato (via) la macchia.
 Gianni have.3SG wash.PTCP.PST away the stain
 ‘Gianni washed the stain away.’

- (7) a. *Italian; Mateu & Rigau (2010: 243)*
 *Gianni è danzato via.
 Gianni be.3SG dance.PTCP.PST.M.SG away
 ‘Gianni danced away.’

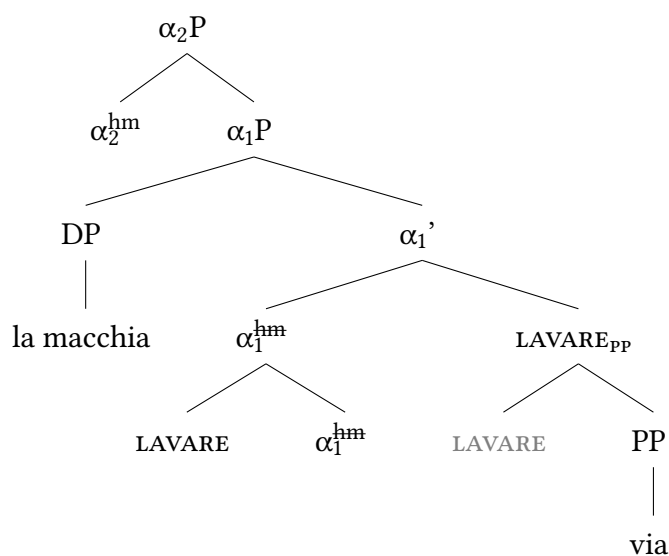
⁴As acknowledged in *Mateu & Rigau (2010: 243-244)*, the removal reading of the verb in constructions such as *lavare via* (‘wash away’) was already noted in *Masini (2005)*, who however did not relate it to the verb-framed nature of the construction.

- b. *Mateu & Rigau* (2002: 257)

John danced away.

Assuming *Mateu & Rigau*'s (2010) proposal, the syntactic derivation of predicates like those in (5) in the present framework is as illustrated in (8).⁵

- (8) *Syntactic derivation of (5a), based on Mateu & Rigau's (2010) analysis*



Mateu & Rigau's (2010) proposal explains the presence of predicates of the type in (5) in the verb-framed system of Italian, leading to the conclusion that predicates of this type should not be regarded as typologically exceptional with respect

⁵The unmarked linear order of the construction sees the particle appear between the verb and the direct object and cannot be immediately derived based on the derivation in (8). At first sight, the verb and the particle might be regarded as forming a complex head, contra (8). However, this cannot be the case since adverbs can intervene between the verb and the particle, as shown in (i).

- (i) *Italian; Masini* (2005: 149)

Luca ha lavato subito via la macchia.

Luca have.3SG wash.PTCP.PST immediately away the stain

'Luca immediately washed away the stain.'

Quaglia & Trotzke (2017) proposed that the particle tends to appear to the left of the direct object because it is i-merged outside the event domain, in the specifier position of a functional projection where aspectual values are encoded.

to Talmy’s typology. In present terms, the structure in (8) gives rise to a well-formed verb-framed predicate because a complex head is formed involving the root LAVARE, the lower α_1 head, and the higher α_2 head, thus satisfying the [hm] feature on the two heads α . Additionally, the ‘removal’ component provided by the verb’s root can be regarded as a part of the conceptual content of the root that is brought to the fore of attention in the context of the predicate as a result of having the root e-merged with the particle, a fact which triggers identification between the two elements at the level of the conceptual/intentional system. More relevantly for the purpose of the present chapter, this analysis entails that roots regarded as manner roots in the lexicalist view, such as LAVARE (the Italian correlative of English WASH) and RASCHIARE (the Italian correlative of English SCRAPE), can be freely merged in the structural position related to the expression of result. If manner roots were constrained to the position – in lexicalist terms – of modifier of the ACT semantic predicate (in present terms, the position corresponding to either the adjunct or the direct complement of a monadic α head), as proposed by the lexicalist approach, the Italian predicates in (5) would either be predicted to be impossible, assuming that Italian is a verb-framed language, or entail that Italian is a satellite-framed language, the latter conclusion leading in turn to problems when accounting for contrasts of the type in (7) and for the evidence presented in Chapter 4 regarding the lack of complex creation/consumption predicates in Italian. The event structure attributed to the predicate in (5) in the lexicalist approach is provided in (9).

- (9) *Event structure of (5a)*
 [[x ACT_{<LAVARE>}] CAUSE [BECOME [y <VIA>]]]

The event structure in (9) is the result of expanding the basic event structure associated with the root LAVARE, which consists of an ACT semantic predicate (see (1a)), by subordinating it into a complex event structure associated with an accomplishment reading concerning a caused change of state. The availability of this operation, however, is what was argued to distinguish satellite-framed languages from verb-framed languages (Levin & Rapoport 1988; see §4.2), whereby

attributing the structure in (9) to the predicates in (5) entails assuming that these predicates are satellite-framed. An alternative explanation for the presence of constructions of the type in (5) in a verb-framed language like Italian is proposed by Beavers et al. (2010). These authors, discussing similar constructions of French in which a verb based on a manner root appears with a spatial PP that acquires a goal-of-motion reading in the context of the predicate (e.g., *courir dans le jardin* ‘run into the garden’), argued that these constructions are verb-framed and that the goal of motion reading is licensed based on contextual pragmatic considerations. Consequently, they concluded that “directional interpretations of locative adpositions should be available with the appropriate pragmatic support even in the absence of morphosyntactic devices for directly expressing direction in a PP” (Beavers et al. 2010: 362). While I agree that pragmatics plays a role in determining the acceptability of predicates, pragmatics alone cannot be deemed sufficient to explain the availability of seemingly satellite-framed verb-particle constructions in verb-framed languages. Indeed, as illustrated in (10), it has been observed that the verb in Romance intransitive verb-particle (and verb + PP) constructions of the type under concern consistently displays unaccusative behavior, showing that syntax plays a role in the arising of a goal of motion interpretation of the predicate (Mateu 2012; Rigau 1997; Rosen 1984).

(10) *Italian; Mateu (2012: 266)*

- a. Gianni è corso *(via).
Gianni be.3SG run.PTCP.PST.M.SG away
‘Gianni ran away.’
- b. Gianni ha corso (*via).
Gianni have.3SG run.PTCP.PST away
Intended: ‘Gianni ran away.’

In (10), the verb *correre* (‘run’) selects the auxiliary of unergatives, *avere* (‘have’), when it appears in a predicate that denotes an activity ((10b)), while it selects the auxiliary of unaccusatives, *essere* (‘be’), when it appears in a predicate that denotes a change of location ((10a)). What (10) tells us is that the goal-of-motion

reading requires the syntactic argument structure of resultative predicates, which in turn corresponds to the event structure involving a BECOME primitive semantic predicate (e.g., the event structure in (9)) according to the lexicalist approach. The lexicalist take on manner/result complementarity, thus, cannot account for the presence of verb-particle constructions of the type in (5) in verb-framed languages without regarding Talmy's typology as the result of a pragmatic constraint on verb-framed languages, an account which overlooks the significance of contrasts of the type in (10). Alternatively, one is forced to conclude either that resultative predicates of the type in (5) are necessarily satellite-framed constructions, or that manner roots can indeed appear in the structural position associated with the result reading, which, in the lexicalist perspective, corresponds to the event structural position assigned to the argument of a BECOME semantic predicate.

In what follows I discuss yet another kind of verb-particle constructions found in Italian, where the particle triggers a change-of-location interpretation of the predicate while the verb's root does not appear to involve motion as part of its conceptual content. This is illustrated with the examples in (11).

(11) *Italian; examples from web searches*

- a. Un tondino da armatura battuto dentro con la
a rod for reinforcement knock.PTCP.PST.M.SG in with the
mazzetta.
mallet
'A reinforcing rod knocked in with the mallet.'
- b. Io l' ho battuto fuori con martello e
I ACC.M.SG have.1SG knock.PTCP.PST.M.SG out with hammer and
scalpello.
chisel
'I knocked it out with hammer and chisel.'
- c. Quando vengono serviti viene martellato
when be.3PL serve.PTCP.PST.M.PL be.3SG hammer.PTCP.PST.M.SG

dentro il rubinetto.

in the tap

‘When they are served the tap is hammered in.’ (of beer barrels)

- d. Un tubo vuoto che ho martellato fuori con una
a tube empty that have.1SG hammer.PTCP.PST out with a
mazzetta.

mallet

‘An empty tube that I hammered out with a mallet.’

- e. [...] quello che è gocciolato fuori è sufficiente a
that which be.3SG drip.PTCP.PST.M.SG out be.3SG enough to
fare sì che il perno sia non dico a secco, ma non
do.INF so that the pin be.SBJV.3SG NEG say.1SG at dryness but NEG
totalmente lubrificato [...]

totally lubricate.PTCP.PST.M.SG

‘What dripped out is enough to ensure that the pin is, let’s say, not
bone dry, but not fully lubricated either.’

- f. Potrebbe essere olio che soffia su il motore dallo sfiato.
can.COND.3SG be.INF oil that blow.3SG up the engine from.the vent
‘It could be oil that the engine blows up from the vent.’

- g. [...] il getto d’aria aspirata viene riscaldato
the stream of air aspire.PTCP.PST.F.SG be.3SG heat.PTCP.PST.M.SG

e poi soffiato fuori.

and then blow.PTCP.PST.M.SG out

‘The suction airflow is heated and then blown out.’

- h. [...] raschiò fuori solo polvere.

scrape.PST.3SG out only dust

‘He scraped out only dust.’

- i. Mi ricordo da bambino come rombava su da
REFL.1SG remember.1SG by child how rumble.IPFV.PST.3SG up from

via Ugo Bassi.
street Ugo Bassi
'I remember, as a child, how it used to rumble up from Ugo Bassi street.'
(of an old bus)

- j. Ero la slavina che rombava giù
be.IPFV.PST.1SG the avalanche which rumble.IPFV.PST.3SG down
dalle cime.
from.the peaks
'I was the avalanche rumbling down from the peaks.'

In these examples, the particle triggers an interpretation of the predicate as involving a resultative event of change of location, while the verb involved does not license a goal of motion interpretation of the predicate if taken out of the construction. For example, in (11d) it is understood that a tube is extracted from a non-specified reference object by means of hammering on the tube with a mallet. Differently from (5), then, the particle in (11d) cannot be omitted if one wants to preserve the resultative (change-of-location) reading of the predicate. For instance, in the absence of further information, the predicate in (12), contrary to the one in (11d), can only refer to an atelic event of hammering on a tube, without any spatial displacement of the direct object.

(12) *Italian*

Un tubo vuoto che ho martellato con una mazzetta.
a tube empty that have.1SG hammer.PTCP.PST with a mallet
'An empty tube that I hammered with a mallet.'

The contrast concerns all the verb-particle combinations illustrated in (11).

- (13) *Obligatory nature of the particle for a change-of-location reading of the verb-particle constructions in (11)*

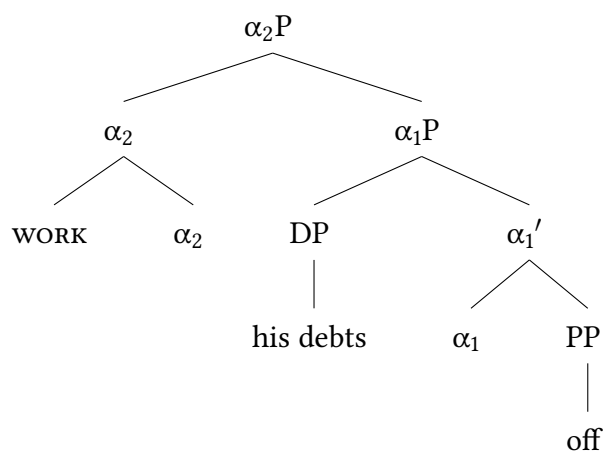
martellare / battere / gocciolare / soffiare / raschiare / rombare #(dentro /
hammer knock drip blow scrape rumble in
fuori / su / giù)
out up down

To the extent that the verb's root cannot license a change-of-location reading of its direct object if taken out of the construction, the Path component in the predicate seems to be expressed by the particle only, the predicate therefore being satellite-framed. Constructions of the type in (11) are thus puzzling in light of Talmy's typology. If the predicates in (11) are satellite-framed, contrasts between English and Italian like the one in (7) are left unaccounted for. Namely, if satellite-framed constructions were allowed in Italian, nothing would prevent the licensing of examples like (7b) in this language, contrary to fact. Additionally, as pointed out in Mateu & Rigau (2010), the availability in Italian of verb-particle constructions where the object is not an argument s-selected by the verb, as in (14), would be wrongly predicted.

- (14) *Mateu & Rigau (2010: 243)*
- a. John worked his debts off.
 - b. John danced the night away.

Unselected objects like *his debts* and *the night* in (14) are understood to be in a small clause predicative relation with the particle, which is therefore required for the well-formedness of the construction (Mateu & Rigau 2010). For this reason, unselected object constructions are considered a hallmark of satellite-framed languages. The syntactic derivation of (14a), assuming the present theory of argument structure, is illustrated in (15).

(15) Syntactic derivation of (14a)



If the Italian examples in (11) involved satellite-framed constructions, the general lack of unselected object constructions in this language would then come as a surprise.

(16) Italian

- a. *Gianni ha lavorato via i suoi debiti.
Gianni have.3SG work.PTCP.PST away the POSS debts
'Gianni worked his debts off.'
- b. *Gianni ha danzato via la notte.
Gianni have.3SG dance.PTCP.PST away the night
'Gianni danced the night away.'

Particularly striking, in this respect, is the following contrast with English, where the same verb-particle construction *battere fuori* ('knock out') found in (11b) is displayed, this time with an unselected object.

(17) a. Example from a web search

The police knocked a confession out of the poor man.

b. Italian

*La polizia ha battuto fuori una confessione al
The police have.3SG knock.PTCP.PST out a confession to.the

pover' uomo.

poor man

'The police knocked a confession out of the poor man.'

In (17), what is *knocked* is not the direct object *a confession*, but rather *the poor man*, while the confession is understood to be in a predicative relation with the particle *out* (in the sense that it is extorted to the poor man). The ungrammaticality of the Italian literal rendition in (17b) is expected if Italian is a verb-framed language, whereby the constructions in (11) are a kind of verb-framed constructions. In contrast, it would be a mystery under an account of (11) as involving a satellite-framed strategy.⁶

Arguing that the predicates in (11) are verb-framed, however, is not without problems either. First, treating these predicates as verb-framed would leave the general absence of this construction from other Romance languages unaccounted for. Compare (11d) with (18), where an ungrammatical literal translation of (11d) in Spanish and Catalan is provided.

⁶Verb-particle constructions in Italian are also less flexible than those in English regarding the possibility of exhibiting phenomena of locative alternation, as observed in Quaglia (2016). Locative alternation refers to the ability of certain verbs to form two distinct kinds of resultative predicates: one indicating a change of location and the other indicating a change of state (see Anderson 1971; Rappaport Hovav & Levin 1988; Pinker 1989; Mateu 2002 and, more recently, Acedo-Matellán & Mateu 2013; Lewandowski 2014; Mateu 2017, among others). The change-of-state alternant displays as the direct object the element that functions as the Ground in the change-of-location alternant (e.g., *the wagon* in (i)).

(i) Lewandowski (2014: 864)

- a. John loaded the hay onto the wagon.
- b. John loaded the wagon with hay.

Mateu (2017) provided evidence for two types of locative alternation: one that involves the expression of a Co-Event in the main verb in one of the alternants, and another where the main verb is interpreted in both variants as denoting a result that applies to the direct object. The former type of alternation is not found in verb-framed languages. Consequently, it is predicted that such languages exhibit lower productivity of locative alternation compared to satellite-framed languages.

- (18) a. *Spanish*
 *Un tubo vacío que martillé afuera con un mazo.
 a tube empty that hammer.PST.1SG out with a mallet
 Intended: ‘An empty tube that I hammered out with a mallet.’
- b. *Catalan*
 *Un tub buit que vaig martellejar fora amb un mall.
 a tube empty that PST.1SG hammer.INF out with a mallet
 Intended: ‘An empty tube that I hammered out with a mallet.’

This would come as unexpected in light of the fact that verb-particle constructions with spatial particles are generally available in these languages, as shown in (4). Second, one would need to explain why the particle is necessary in (11) in order to maintain an interpretation of the event denoted by the predicate as involving a change of location, as pointed out in (13). Namely, if the constructions in (11) were verb-framed constructions, they would be expected to be able to drop the particle without losing a resultative reading of the predicate, as observed in Mateu & Rigau (2010) for constructions like those in (5).

In what follows, based on Zeller’s (2001) analysis of German verb-particle constructions, I propose that verb-particle constructions of the type in (11) constitute a peculiar type of verb-framed constructions licensed thanks to the fact that the particles involved come with a minimal (or absent) functional projection of their own, a consequence of which being the low (or non-)referentiality of the Ground entity. I further argue that such a reading is not available for the locative particles of the other Romance languages considered, Spanish and Catalan, accounting for the absence of this construction in these languages. Relevantly for the main purpose of this chapter, if the predicates in (11) are verb-framed, they provide additional evidence in favor of the neo-constructionist claim that roots do not carry instructions from the lexicon dictating their realization in the argument structure of the predicate.

I discuss the non-referentiality of Italian particles in §5.2.1. In §5.2.2, I propose an account of why the absence of a functional extended projection of the particle favors the licensing of constructions of the type in (11) in verb-framed Italian.

5.2.1 Non-referentiality of Italian particles

Aiming to show that German particles do not project a functional extended projection of their own, Zeller (2001) provides several pieces of evidence regarding their non-referentiality.⁷ In this subsection, I argue that some of the phenomena pointed out by Zeller with respect to German particles are also found when analysing Italian particles. The first piece of evidence discussed in Zeller (2001) for German comes from minimal contrasts like the one in (19), where the only difference between the two predicates is the absence (in (19a)) vs. presence (in (19b)) of the deictic prefix *her-*. This prefix is assumed by Zeller (2001) to be the pronunciation of a functional node in the extended projection of German particles (*aus* ‘out’ in (19)). Following McIntyre (2001), Zeller (2001) notes that the particle, without the functional morpheme *her-*, is non-referential in that it does not require a specific Ground to be recoverable, either linguistically or from the context, in order for the predicate to be felicitous. In contrast, if the prefix *her-* is present, the predicate is well-formed only as long as the hearer can identify a contextually salient object that serves as the Ground referred to by the complex particle *heraus*.

(19) *German; Zeller (2001: 139)*

- a. Peter will einen Kreis aus-schneiden.
Peter want.3SG a circle out-cut.INF
‘Peter wants to cut out a circle.’
- b. Peter will einen Kreis her-aus-schneiden.
Peter want.3SG a circle HER-out-cut.INF
‘Peter wants to cut a circle (out of some unspecified entity).’

⁷For the relation between referentiality and the presence of functional structure in the nominal domain, see Ihsane (2008); Longobardi (1994); Stowell (1989, 1991), among others. Zeller (2001) generalizes this conclusion to particles and PPs. See Real-Puigdollers (2021) for the relatable idea that the extended projection of spatial PPs actually consists of the functional sequence of their nominal complement, which is reinterpreted as a location when embedded under a prepositional head.

A comparison between the spatial particle *giù* (‘down’) and the locative preposition *sotto* (‘under’/‘below’), in Italian, gives rise to a parallelism with the German data in (19). In the minimal contrast in (20), referring to an event of change of location, I propose that only the particle *giù* (‘down’), and not the locative preposition *sotto* (‘under’/‘below’), is felicitous because snow, which is the undergoer of the change of location, is commonly perceived as descending from the sky to the ground without being directed specifically under or below any particular reference object, and therefore it conceptually requires a non-referential Ground of its change of location in order for the predicate to be pragmatically well-formed. While *giù* (‘down’) satisfies such a requirement, *sotto* (‘below’) gives rise to a pragmatically odd predicate, because this locative preposition presupposes something about the axial structure (Svenonius 2006, 2010) of its Ground reference object and therefore requires the identification of a referential Ground.⁸

(20) *Italian*

a. *CORIS*

La neve veniva giù turbinando.
 the snow come.IPFV.PST.3SG down whirl.GER
 ‘The snow was coming down whirling.’

b. *Made up*

#La neve veniva sotto turbinando.
 the snow come.IPFV.PST.3SG below whirl.GER
 ‘The snow was coming below (some unspecified entity) whirling.’

A similar contrast can be observed between the spatial particle *su* (‘up’) and the locative preposition *sopra* (‘over’/‘above’). Compare, for instance, the two predicates in (21).

⁸Notice, incidentally, the verb-framed nature of (20a), where the Co-Event is expressed as a gerund clause (*turbinando* ‘whirling’) adjoined to the main predicate headed by the directional verb *venire* (‘come’).

(21) *Italian*a. *Google Books*

[...] il palloncino va su, e tu non puoi fare altro che
 the balloon go.3SG up and you NEG can.2SG do else than
 vederlo andar via.

watch.INF=ACC.M.SG go.INF away

‘The balloon goes up, and all you can do is watch it go away.’

b. *Made up*

#Il palloncino va sopra.

the balloon go.3SG above

‘The balloon goes above (some unspecified entity).’

The predicate featuring the spatial particle *su* (‘up’), in (21a), is well-formed because balloons are commonly understood as floating upward regardless of any specific reference object. In contrast, (21b) is ill-formed in the absence of further contextual information from which a specific Ground referent can be recovered.

A difference here emerges between the Italian particles *giù* (‘down’) and *su* (‘up’), in (20a) and (21a) respectively, and their counterparts in other Romance languages like Spanish and Catalan. For instance, by comparing the predicate in (20a) with its literal rendition in Spanish and Catalan, it appears clear that the Spanish and Catalan particles corresponding to Italian *giù* (‘down’), namely *abajo* and *avall* respectively, exhibit a behavior more akin to Italian *sotto* (‘under’/‘below’) rather than to *giù*, in that they require a referential Ground for the change of location denoted by the predicate. This, in turn, results in an ill-formed predicate when snow is the subject of motion, similarly to what has been observed for the Italian example in (20b).

(22) a. *Spanish; made up*

#La nieve venía abajo.

the snow come.IPFV.PST.3SG below

Intended: ‘The snow was coming down.’

b. *Catalan; made up*

#La neu venia avall.

the snow come.IPFV.PST.3SG below

Intended: 'The snow was coming down.'

The same occurs when comparing the Spanish and Catalan renditions of the Italian example in (21a). In contrast to the Italian particle *su* ('up'), and similarly to the locative preposition *sopra* ('over'/'above'), the Spanish particle *arriba* and the Catalan particle *amunt* give rise to pragmatically ill-formed predicates in the context of the predicate in (23). These particles, in order for the predicate to be well-formed, seem to require that a specific reference object acting as the Ground of the change of location be contextually recoverable, whereby the examples in (23), given the unrecoverability of such an object, are ill-formed.⁹

⁹Some Spanish and Catalan speakers report that the predicates in (23) improve considerably if the particle appears as the complement of Sp. *hacia*, Cat. *cap* (meaning 'toward'), which can induce a purely directional reading of the particle. PPs of this type, however, do not contribute a result component to the predicate, and they are rather to be analysed as higher modifiers of the event referred to by the predicate, as discussed in §4.1. Notice, for instance, that while *hacia arriba* ('upward'), in contrast to *arriba*, can appear with the verb *martillar* ('hammer') in Spanish, no resultative change of location is entailed by the predicate, which can be modified as in (i) without giving rise to contradiction.

(i) *Spanish*

Martilló el clavo hacia arriba, pero no se movió ni un
hammer.PST.3SG the nail toward up but NEG REFL MOVE.PST.3SG not_even one
milimetro.

millimeter

'He/she hammered the nail upward, but it didn't move a millimeter.'

Some Catalan informants find (23b) acceptable. Nevertheless, all the informants consulted prefer the predicate with *cap*.

- (23) a. *Spanish; made up*
#El globo va arriba.
the balloon go.3SG up
Intended: 'The balloon goes up.'
- b. *Catalan; made up*
#El globus va amunt.
the balloon go.3SG up
Intended: 'The balloon goes up.'

The examples in (23) can be further compared with the ones in (24) ((24a) being repeated from (4a)), showing that such particles can appear in verb-particle constructions in these languages if a specific Ground is recoverable from the context.

- (24) a. *Spanish; CORPES XXI*
Subió arriba.
go_up.PST.3SG up
'He went upstairs.'
- b. *Catalan; example from a web search*
[...] hem anat pel fons de la vall (de fet la
have.1PL go.PTCP.PST through.the bottom of the valley of fact the
carrerada anava amunt) [...].
droveway go.IPFV.PST.3SG up
'We went through the bottom of the valley (in fact, the path was going up).'

Italian contrasts with Catalan and Spanish also in the case of predicates like (25), featuring the particle *dentro* ('in').

(25) *Italian; example from a web search*

Nel giro di pochi minuti il Villanova mette dentro un goal dopo
in.the round of few minutes the Villanova put.3SG in one goal after
l' altro.

the other

'In a matter of minutes, Villanova scores goal after goal.'

The Ground of the spatial particle *dentro* ('in'), in (25), is non-referential, since the Figure element (*un goal dopo l'altro* 'one goal after another') is not the undergoer of a change of location, but rather of a change of state (namely, that of being scored). A literal rendition of the predicate in (25) is ill-formed in Spanish and Catalan, while the predicate improves in both languages if the spatial particle is removed. In contrast to the particle, the verb's root (here *METER* and *FICAR*, respectively) is always non-referential, whereby it can be more easily coerced into a change-of-state interpretation despite the fact that its conceptual content pertains to the spatial domain.

(26) a. *Spanish; made up*

Meter (#adentro) un gol.
put.INF in a goal
'Score a goal.'

b. *Catalan; made up*

Ficar (#dins) un gol.
put.INF in a goal
'Score a goal.'

The contrast between (25) and (26) thus shows that the Italian particle *dentro* admits a non-referential reading of its Ground, while its Spanish and Catalan counterparts resist it.

Another piece of evidence provided by Zeller (2001) for the non-referentiality of German particles regards their ability to acquire idiomatic meanings when appearing with specific verbs. Idiomaticity has been independently related to non-

referentiality (Espinal 2009; Espinal & Mateu 2019; Simatos 1997, among others), and indeed Italian spatial particles give rise to a variety of idiomatic constructions, some of which illustrated in (27) (see also Quaglia 2016; Quaglia & Trotzke 2017).¹⁰

(27) *Italian; idiomatic verb-particle constructions*

- a. essere fuori
be.INF out
'be mad'
- b. andare fuori
go.INF out
'become mad', 'get mad'
- c. fare fuori
make.INF out
'eliminate', 'kill'
- d. tagliare fuori
cut.INF out
'isolate', 'exclude'
- e. chiamarsi fuori
call.INF.REFL out
'exclude oneself'
- f. venire/saltare fuori
come/jump.INF out
'turn out'¹¹, 'appear'

¹⁰From the association of non-referentiality with idiomaticity one cannot conclude that Romance languages without non-referential particles completely prohibit idiomatic constructions with locative particles (see, for instance, Catalan *fer fora* 'fire (someone)', literally 'make out'). The present discussion is based on the assumption that the arising of idiomatic meanings for a construction is more likely to occur when the elements involved in the construction independently allow for a non-referential reading.

¹¹Idiomatic meaning limited to the 3rd person singular.

- g. dare fuori
give.INF out
'divulge'
- h. tirare fuori
pull.INF out
'expose'
- i. mettere fuori
put.INF out
'display'
- j. mettere dentro
put.INF in
'imprison'
- k. essere dentro
be.INF in
'be involved'
- l. darci dentro
give.INF.LOC in
'work hard'
- m. starci dentro
stay.INF.LOC in
'make ends meet'
- n. tirare su
pull.INF up
'pick up', 'cheer up', 'grow (something) / raise (someone)', 'build'
- o. saltare su
jump.INF up
'blurt out'
- p. stare su
stay.INF up
'stay strong'

- q. mettere su
put.INF up
'build up', 'set up'
- r. buttare giù
throw.INF down
'write down', 'upset', 'swallow'
- s. mandare giù
send.INF down
'swallow'
- t. mettere giù
put.INF down
'hang up (the phone)'
- u. mettersi giù
put.INF.REFL down
'work hard'¹²
- v. darci giù
give.INF.LOC down
'hit hard'

Zeller (2001) further observes that non-referential spatial particles in German can acquire aspectual meanings in combination with specific verbs.¹³ This usage is generally not found in Italian.¹⁴ However, many northern Italo-Romance lan-

¹²The same idiomatic meaning is obtained with the referential PP *sotto* ('under'/'below'); see the discussion in fn. 10.

¹³In Zeller's (2001) framework, the aspectual meaning is related to the structural adjacency between the verb and the particle established in syntax by virtue of the particle being a bare lexical projection e-merged as the complement of the verbal head. However, the aspectual usage may also be argued to develop as a consequence of the particle's non-referentiality, whereby it can be expected to be found independently of the particle's structural position with respect to the verb.

¹⁴But see (i) for some exceptions, presumably due to the influence of northern Italo-Romance languages.

guages do display aspectual usages of locative particles, as shown in (28) and (29) with examples from Trentino and Venetan.

(28) *Trentino; Cordin (2011: 203)*

- a. spazàr su
sweep.INF up
‘sweep up’
- b. sugàr giu/su
dry.INF down/up
‘dry up’
- c. desfàr giu
undo.INF down
‘wind up’
- d. destrigàr fora
tidy.INF out
‘tidy up’

(29) *Venetan; Benincà & Poletto (2006: 14-16)*

- a. serar su
close.INF up
‘close up’

(i) *Italian; examples from a web search*

- a. Ti conviene al limite passare alla tariffa D1 per PDC... raschi fuori magari
DAT.2SG suit.3SG at limit pass.INF to.the tariff D1 for PDC scrape.2SG out maybe
altri 50-100 euro anno di risparmio.
other 50-100 euros year of saving
‘It would be worth considering switching to the D1 tariff for heat pumps... you might
scrape out another 50-100 euros of savings per year.’
- b. Esilarante questo meme [...] ma dove li trovi fuori?
hilarious this meme but where ACC.M.3PL find.2SG out?
‘This meme is hilarious... where do you find them?’

- b. taser su
 hush.INF up
 ‘hush up’
- c. verzar fora
 open.INF up
 ‘open up’ and ‘clear up (of the sky)’
- d. magnar fora
 eat.INF out
 ‘eat up’¹⁵

The correlation between the arising of aspectual usages of the particles in northern Italo-Romance varieties and the possibility of licensing verb-particle constructions of the type in (11) in Italian is based on the fact that the kind of constructions exemplified in (11) are typical of northern regional varieties of Italian, the southern varieties behaving, in this respect, more like the other Romance languages considered (Cini 2008; Iacobini 2009).¹⁶

I conclude that Italian particles can be non-referential and that they differ in this from their counterparts in other Romance languages like Spanish and Catalan, where spatial particles tends to be more strongly referential. In the next subsection, I link the ability of Italian spatial particles to appear without a referential Ground to their compatibility with predicates like those in (11). This contrasts with the behavior of spatial particles in the other Romance languages considered.¹⁷

¹⁵This construction can additionally acquire the idiomatic meaning of ‘squander’, where an aspectual telicizing function of the particle can also be detected (Benincà & Poletto 2006).

¹⁶See Benincà & Poletto (2006) for a study of how verb-particle constructions found in northern Italo-Romance varieties are perceived by monolingual Italian speakers, and how they spread in regional Italian varieties.

¹⁷The spatial particles of Italian analysed in this subsection can also be referential. In the next subsection, I propose that a non-referential reading is required to license a change-of-location interpretation of the predicate when the verb itself does not strongly imply motion, as in the examples in (11). However, spatial particles of this type can be referential in change-of-location predicates headed by motion verbs, as in (i).

5.2.2 Italian particles in change-of-location constructions

In this section, building on some remarks by Hale & Keyser (1997a) regarding the interpretation of non-referential elements in hyponymous argument constructions, I establish a correlation between the non-referentiality of Italian particles and their capability to appear in predicates of the type in (11).

(30) illustrates a location predicate displaying a hyponymous argument construction according to Hale & Keyser (1997a).

(30) *Hale & Keyser (1997a: 41)*

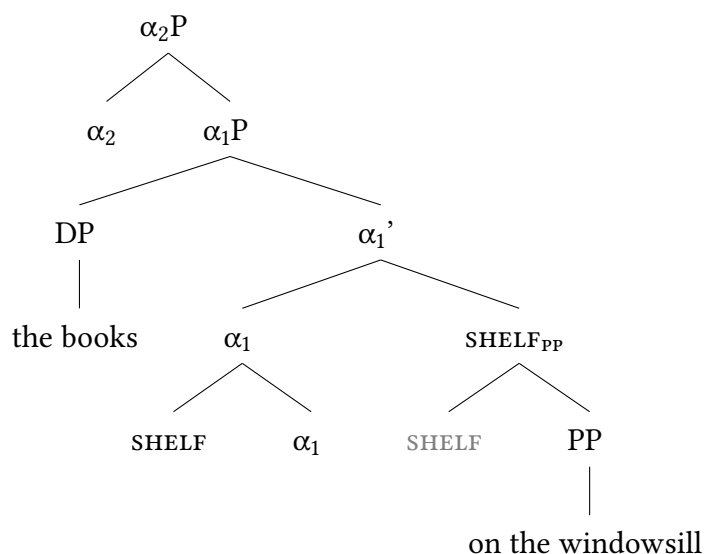
She shelved her books on the windowsill.

The PP *on the windowsill* in (30) is understood by Hale & Keyser as a hyponym of the verb *shelve*, since it concurs with the verb in identifying the location of the direct object *her books* at the end of the change-of-location event denoted by the predicate. In the present framework, the syntactic configuration of (30) is as in (31). This is the same configuration attributed to the verb-framed verb-particle constructions of Romance languages (cf. (8)).

(i) *Italian; example from a reviewer*

Dopo l' arrivo dei turisti nel salone_i principale, la comitiva è subito
 after the arrival of.the tourists in.the hall main the comitive be.3SG immediately
 uscita fuori_i.
 go_out.PTCP.PST.F.SG out

‘After the arrival of the tourists in the main hall, the group immediately went outside.’

(31) *Syntactic derivation of (30)*

A non trivial fact pointed out by Hale & Keyser is that the verb *shelve*, in (30), does not contribute a reference object that acts as the Ground of the motion event. Rather, by virtue of its non-referentiality, the meaning contribution of *shelve* to the hyponymous construction in (30) consists in restricting the conceptual interpretation of the hyponymous PP, which in turn denotes the actual Ground. Namely, Hale & Keyser note that the use of the verb's root in (30) is such to require an interpretation of the hyponymous PP as defining a place that “be “classifiable” as a shelf” (Hale & Keyser 1997a: 42), i.e. “a place which is shelf-like” (Hale & Keyser 1997a: 44). Accordingly, the meaning of the verb *shelve* in (30) is paraphrased by Hale & Keyser as “to put something (on a shelf or shelf-like place) in a ‘shelving’ manner” (Hale & Keyser 1997a: 42), where the *shelving manner* refers to the way in which the “shelf or shelf-like place” is used.

I propose that the kind of verb-particle constructions of Italian exemplified in (11) are the result of the same classificatory function noticed by Hale & Keyser (1997a) in relation to predicates like (30). However, in the case of Italian verb-particle constructions, the classificatory effect is observed with reversed roles, that is to say, it is exerted by the hyponymous non-referential particle on the verb's root, and this is favored by the particle's non-referentiality. Namely, the conceptual content provided by the verb's root in constructions such as those in (11) is

constrained into a meaning as involving a notion of directed motion by the non-referential spatial particle, which is e-merged together with the verb's root in the result-denoting complement position of the argument structure of the predicate. This permits the licensing of roots which would otherwise refer to events denoting activities in the syntactic position corresponding to the expression of a result. The association of the verb's root with a conceptual notion of directed motion, in the case of verbs like those in (11), would be too faint to be established if the verb's root occurred in resultative predicates without a non-referential spatial particle driving its conceptual interpretation. The necessary presence of the particle for the arising of a change-of-location reading of the predicate, as shown in (12) and (13), is thus explained. Consider, for example, the predicate in (11d), repeated in (32). In this predicate, the spatial particle *fuori* ('out') – by virtue of being non-referential and e-merged with the root MARTELLARE – exerts a classificatory function on the conceptual content of the verb's root, such that the verb is intended as giving rise to an event of *hammering* that involves a component of *outward* directionality. Building on Hale & Keyser's (1997a) paraphrase of (30), the predicate in (32) can thus be paraphrased as 'to hammer (something out) in an 'outward' manner'.

(32) *Italian; repeated from (11d)*

Un tubo vuoto che ho martellato fuori con una mazzetta.
 a tube empty that have.1SG hammer.PTCP.PST out with a mallet
 'An empty tube that I hammered out with a mallet.'

The feasibility of the operation of identification between the verb's root and the particle is contingent on whether the encyclopedic content of the verb's root is conceptually compatible, by world knowledge or pragmatic inference based on context, with the notion of directionality triggered by the particle. I contend that this is the case for the verb-particle constructions illustrated in (11). The verb roots of the predicates in (11) can give rise to events, such as *hammer*, *knock*, *drip*, *blow*, *scrape*, or *rumble*, that can be conceptualized as potentially involving a spatial dislocation of the undergoer of the event along a specific direction which is specified by the particle, even though such a dislocation never comes as an entailment or

even as a strong implicature of the event named by the verb in the absence of the particle. However, the operation is not successful when roots whose conceptual content is not related to motion are selected. For example, verbs like *marry*, *grow*, or *nurse*, which can appear in resultative constructions of figurative change of location with satellite results in English, are not compatible with such constructions in Italian, as illustrated with the contrasts in (33) to (35).

- (33) a. *Example from a web search*
 On the one hand, it's easy to understand the poem as an elegy for a loved person who has been married out of existence.
- b. *Italian; made up ungrammatical rendition of (33a)*
 *Una persona amata che è stata
 a person love.PTCP.PST.F.SG who be.3SG be.PTCP.PST.F.SG
 sposata fuori dall' esistenza.
 marry.PTCP.PST.F.SG out from.the existence
 Intended: 'A loved person who has been married out of existence.'
- (34) a. *iWeb (The iWeb Corpus, Davies 2018)*
 [...] but I've grown out of religious fear now.
- b. *Italian; made up ungrammatical rendition of (34a)*
 *Ma ora sono cresciuto fuori dalla paura della
 but now be.1SG grow.PTCP.PST.M.SG out from.the fear of.the
 religione.
 religion
 Intended: 'But I've grown out of religious fear now.'
- (35) a. *Example from a web search*
 My animals [...] literally nursed me out of depression.
- b. *Italian; made up ungrammatical rendition of (35a)*
 *I miei animali [...] mi hanno letteralmente accudito
 the my animals ACC.1SG have.3PL literally nurse.PTCP.PST

fuori dalla depressione.

out from.the depression

Intended: 'My animals literally nursed me out of depression.'

The same considerations also generally hold in Italian for verbs such as *dance*, *float*, *walk*, which, although they are compatible with a component of motion, very rarely, if ever, give rise to a conceptual scene where a telic directed dislocation along a specific direction is involved, as they are rather conceived of as giving rise to atelic activities (Folli & Ramchand 2005).¹⁸

In a similar vein, not all the roots which give rise to verb-particle constructions with non-motion verbs in Italian are compatible with all the non-referential spatial particles available in the language. For instance, a verb like *lavare* 'wash', which can appear in association with the particle *via* ('away'), as shown in (5a) (Iacobini & Masini 2006; Masini 2005, 2006, among others), appears to be incom-

¹⁸A few exceptions with the verbs *fluttuare* and *galleggiare* ('float') could however be found in a web search, as illustrated in (i).

(i) *Italian; examples from a web search*

- a. Un macao dalla coda rossa fluttua giù dalle cime degli alberi.
a macaw from.the tail red float.3SG down from.the tops of.the trees
'A red-tailed macaw floats down from the treetops.'
- b. E qui entra in scena Mary Poppins che fluttua giù dal cielo con
and here enter.3SG in scene Mary Poppins who float.3SG down from.the sky with
la sua borsa.
the POSS bag
'And here comes Mary Poppins, floating down from the sky with her bag.'
- c. Ha preso una bella botta, ma magari è galleggiato fuori.
have.3SG take.PTCP.PST a good hit but maybe be.3SG float.PTCP.PST.M.SG out
'He took quite a hit, but maybe he floated out.'

All the examples in (i) sound well-formed to me. Arguably, (ia) and (ib) are licensed since they refer to events involving gravity-induced motion, which is compatible by world knowledge with downward directionality.

patible in Italian with directional particles.¹⁹ This is in contrast to what is observed in satellite-framed languages like English, where the construction is not required to involve a relation of identification between the verb's root and the particle in order to be licensed. As a consequence, spatial particles can felicitously combine with verbs like *wash* to denote resultative events of change of location in English. The contrast in (36) illustrates this.

- (36) a. *COCA*
Down came the rain and washed the spider out.
- b. *Italian*
*La pioggia ha lavato fuori il ragno.
the rain have.3SG wash.PTCP.PST out the spider
'The rain washed the spider out.'

In present terms, this is predicted by the fact that, as emphasized in [Mateu & Rigau \(2010\)](#), the result component that can be expressed by *lavare* ('wash') in Italian is one of 'removal', which is compatible with the conceptual content of a particle like *via* ('away'), but not with the conceptual content of more specifically directional particles, such as *fuori* ('out'), *dentro* ('in') etc. In this regard, the concepts of 'removal' and 'directionality' can be argued to be hierarchically ordered with respect to their mutual entailing. Namely, while directionality entails removal from

¹⁹ *Giù* ('down') seems exceptional in this respect in that it can enter verb-particle constructions with *lavare* ('wash'), as shown in (i). However, the content of the root *LAVARE* in this construction is rather bleached in that it does not denote a washing event, but it is understood as referring to an event of swallowing, which in turn is compatible with a notion of downward directionality and therefore with the particle *giù* ('down').

- (i) *Google Books*
Dopo aver=ne consumato un pezzo, lavato giù con un sorso
after have.INF=PART CONSUM.PTCP.PST a piece wash.PTCP.PST.M.SG down with a gulp
di vodka, si sentì meglio.
of vodka REFL feel.PST.3SG better
'After having consumed a piece, swallowed with a gulp of vodka, he felt better.'

a place, removal does not entail directionality. The observation is trivial: if an object X moves from a location A to a location B, X is necessarily ‘removed’ from A, in the sense that it is no longer located in A. However, if an object X located at a point in space A is conceived of as being merely removed from A, no spatial dislocation in terms of directed motion is necessarily involved: as far as the conceptual scene is concerned, the simple disappearance of X from A qualifies as ‘removal’, with nothing being said about the directionality adopted by X in the course of the removal event (e.g., X could simply fade away, or vanish abruptly from A – as is most likely to occur in a washing event – and the event would still be considered as involving removal). A consequence of this fact is that, while verbs like *lavare* (‘wash’) are generally only compatible with particles, like *via* (‘away’), which involve a notion of removal but are neutral with respect to directionality, verbs of the type in (11) are predicted to be compatible both with spatial particles like *fuori* (‘out’), *dentro* (‘in’), *su* (‘up’), or *giù* (‘down’) and with particles like *via* (‘away’). The phenomenon is captured schematically in Table 9, where the symbol \models means “entails” and the relevant conceptual components of removal and directionality are represented enclosed in braces.

Table 9: Patterns of compatibility between verb roots and particles based on their conceptual content

Relevant conceptual content of ROOT:	Particle:
{removal}	✓ [via] _{removal} ✗ [fuori, dentro, su, giù] _{directionality}
{directionality} \models {removal}	✓ [via] _{removal} ✓ [fuori, dentro, su, giù] _{directionality}

As shown in (37), the prediction is satisfied.

(37) *Italian; examples from a web search*

- a. L' ha battuto via con violenza.
ACC.M.SG have.3SG knock.PTCP.PST.M.SG away with violence
‘He beat it off violently.’

- b. Si batté via con le mani la polvere di dosso.
REFL knock.PST.3SG away with the hands the dust of back
'He beat the dust off of himself with his hands.'
- c. Ho martellato via il fondo, battuto fuori i
have.1SG hammer.PTCP.PST away the bottom, knock.PTCP.PST out the
chiodi e levigato il tutto.
nails and smooth.PTCP.PST the all
'I hammered the bottom off, knocked out the nails and smoothed it all
off.'
- d. Busti di imperatori romani cui, dopo la conquista araba,
busts of emperors Roman which.DAT after the conquest Arab
venne martellato via il naso, in segno di
be.PST.3SG hammer.PTCP.PST.M.SG away the nose, in sign of
disprezzo.
contempt
'Busts of Roman emperors whose nose was hammered off after the
Arab conquest, as a sign of contempt.'
- e. Ovviamente sono i residui, il resto è gocciolato
obviously be.3PL the residues the rest be.3SG drip.PTCP.PST.M.SG
via...
away
'Obviously it's the residues, the rest has dripped away...'
- f. [...] mi hanno strizzata come una spugna e il
ACC.1SG have.3PL squeeze.PTCP.PST.F.SG like a sponge and the
futuro è gocciolato via.
future be.3SG drip.PTCP.PST.M.SG away
'They squeezed me like a sponge and the future has dripped away.'
- g. L'alone fosco che si percepiva mettendo il naso
the halo dark which PASS perceive.IPFV.PST.3SG put.GER the nose

all’ insù è stato soffiato via dai
 at.the up be.3SG be.PTCP.PST.M.SG blow.PTCP.PST.M.SG away by.the
 venti [...]
 winds
 ‘The dark halo that was perceived by looking up was blown away by
 the winds.’

h. Questo materiale è stato soffiato via
 this material be.3SG be.PTCP.PST.M.SG blow.PTCP.PST.M.SG away
 da forti venti stellari [...]
 by strong winds stellar
 ‘This material has been blown away by strong stellar winds.’

i. Girato l’ angolo era già
 turn.PTCP.PST.M.SG the corner be.IPFV.PST.3SG already
 rombato via.
 rumble.PTCP.PST.M.SG away
 ‘Turned the corner, he had already rumbled away.’

j. Ammiccava e rombava via su una Harley
 wink.IPFV.PST.3SG and rumble.IPFV.PST.3SG away on a Harley
 Davidson.
 Davidson
 ‘She used to wink and rumble away on a Harley Davidson.’

A non-trivial conclusion can be drawn from Table 9. The result component expressed by the verb which is relevant to determine the feasibility of a resultative predicate in the verb-framed system cannot be intended as a monolithic concept pre-syntactically associated with some roots and not with others. Were it so, a verb like *lavare* (‘wash’), which can acquire a resultative interpretation also in the absence of the particle *via* (‘away’), would be expected to be compatible with all the spatial particles available in Italian, contrary to fact. Verbs like those in (11), instead, insofar as they do not show entailments of resultativity in isolation, would be expected to be incompatible with the kind of resultative verb-particle construc-

tions discussed here. The picture emerging from the data analyzed argues in favor of a notion of result as a complex and multi-faceted component of meaning, which can be associated (or not) with different roots depending on the interaction between the general, idiosyncratic conceptual content of the roots and the way this can be constrained by the syntactic configurations they are merged in and by the lexical items interacting with them in these.

In the next subsection, I show that PPs with non-referential bare noun complements behave like non-referential particles in favoring the licensing of predicates of the type in (11) in Italian.

5.2.3 Beyond particles: PPs with bare noun complements

A prediction of the present account of the Italian verb-particle constructions illustrated in (11) is that not only particles, but any kind of non-referential PP merged in a hyponymous construction can exert a classificatory function on the verb's root and constrain its conceptual content into licensing a change-of-location reading in the context of the predicate. In what follows, I argue that this is the case for spatial PPs that select a bare noun as complement.

PPs with a bare noun complement can be argued to be non-referential in the same way as particles. According to Zeller (2001), the object of a preposition which involves a functional extended projection of its own is always a DP, because it must fulfill the preposition's requirement to refer to a token (that is to say, to a referential entity; Jackendoff 1983). A consequence of this conclusion is that, if the complement of a preposition is a bare noun, that preposition must not involve a functional extended projection. Therefore, the whole PP is non-referential, and it is thus predicted to behave in the same way as non-referential particles in constructions like the ones in (11). Italian admits quite a variety of the kind of non-referential PPs with bare-noun complements which is concerned for the present discussion. (38) shows that non-referential PPs behave like particles in favoring a change-of-location reading of the predicate, confirming the prediction. The predicate in (38a), which displays a referential PP with a DP complement (*nella camera* 'in the bedroom'), favors a locative interpretation of the predicate, whereby the event of *Gianni running* is more easily understood as taking place inside the bed-

room rather than involving a change of location of the subject. The predicate in (38b), instead, which displays a non-referential PP with a bare noun complement (*in camera* ‘in bedroom’), strongly favors a goal of motion reading.²⁰ The same effect is obtained if a non-referential particle is used, as shown in (38c) with the particle *dentro* (‘in’).

(38) *Italian*

- a. Gianni corre nella camera.
Gianni run.3SG in.the bedroom
Prominent reading: ‘Gianni runs in the bedroom.’ (atelic activity)
- b. Gianni corre in camera.
Gianni run.3SG in bedroom
Prominent reading: ‘Gianni runs into the bedroom.’
- c. Gianni corre dentro.
Gianni run.3SG in
Prominent reading: ‘Gianni runs in.’

The contrast may be even more clearly appreciated in (39). While the referential PP *nel campo* (‘in the field’), in (39a), favors a locative interpretation of the predicate, whereby *Gianni* is understood as running inside the (referential) field referred to

²⁰Even though it requires further contextual information in order to be licensed, a goal of motion reading is also available in (38a). This is due to the fact that the root CORRERE is conceptually compatible with a notion of directionality in Italian also in the absence of a non-referential spatial particle or PP (Mateu & Rigau 2010). The relevant observation with respect to (38) is not that a non-referential PP or particle are required in order to license a change of location reading of the verb *correre*, but rather that they strongly favor such a reading over a locative reading in which the verb denotes an atelic activity. In contrast, PPs with a referential DP complement favor a locative interpretation of predicates with *correre*. The examples are presented with synthetic verb forms to avoid judgement interferences from the type of auxiliary selected, since the BE-auxiliary is associated with the unaccusative structure of change-of-location predicates and the HAVE auxiliary is associated with the unergative structure of atelic activities (see also fn. i of Chapter 3.) The PP *nella camera* (‘in the bedroom’), in the locative reading of (38a), is taken to be adjoined to an unergative structure.

by the locative PP, such an interpretation is absent in (39b), where the PP (*in campo* ‘in field’) selects a non-referential bare noun complement. In this case, only a goal of motion interpretation of the predicate is possible.²¹

(39) *Italian*

- a. Gianni corre nel campo.
Gianni run.3SG in.the field
Prominent reading: ‘Gianni runs in the field.’ (atelic activity)
- b. Gianni corre in campo.
Gianni run.3SG in field
Only reading: ‘Gianni runs into the field.’

Let us now see how non-referential spatial PPs with a bare noun complement behave in resultative predicates when they appear with verbs, such as those in (11), which do not license a change-of-location component on their own, but can be constrained into a directional interpretation when they appear with a non-referential spatial particle. As predicted by the proposal put forth in the previous subsections, non-referential PPs, like non-referential particles, can exert a classificatory effect on the conceptual content of the verb’s root e-merged with the PP in the innermost complement position of the predicate, licensing predicates denoting resultative changes of location with verbs of the type in (11). The predicates in (40) illustrate this.²²

²¹That *campo* (‘field’) in (39b) denotes a non-referential Ground is confirmed by the fact that such a location can only be interpreted idiomatically, as consisting in a field intended for the carrying out of some specific sport activities (e.g., a field on which football, or hockey, or rugby etc. is played). Additionally, the specific entity corresponding to such a field is not required to be recovered from the context in order for (39b) to be felicitous. I am grateful to Chiara Gianollo (p.c.) for useful discussion of this point.

²²The predicates in (i), taken from the literature, display PPs with DP complements that receive a weak definite reading, whereby they behave like non-referential bare nouns in licensing a change-of-location reading of the predicate even though the verb involved does not refer to an event of motion if taken out of the construction.

(40) *Italian; examples from a web search*

- a. [...] ho martellato in sede i vetrini laterali.
 have.1SG hammer.PTCP.PST in place the glazings.DIM lateral
 'I hammered the small glass panels into place.'
- b. [...] dato che non avevo un paraolio nuovo
 give.PTCP.PST.M.SG that NEG have.IPFV.PST.1SG a oil_seal new
 a portata, l' ho battuto in sede meglio [...]
 at reach ACC.M.SG have.1SG knock.PTCP.PST.M.SG in place better
 'Since I had no new oil seal at hand, I hammered it into place better.'
- c. Il nettare [...] non è gocciolato in fondo al fiore.
 the nectar NEG be.3SG drip.PTCP.PST.M.SG in bottom at.the flower
 'The nectar did not drip into the bottom of the flower.'
- d. A te Adria non piace perchè sei rombato in
 to you Adria NEG like.3SG because be.2SG rumble.PTCP.PST.M.SG in
 terra...
 ground
 'You don't like Adria [a racing circuit: AB] because you rumbled to
 the ground...'

(i) a. *Italian; Folli (2008: 208)*

Gianni ha martellato il chiodo nel muro.
 Gianni have.3SG hammer.PTCP.PST the nail in.the wall
 'Gianni hammered the nail into the wall.'

b. *Spanish; Martínez Vázquez (2015: 197)*

Su cuerpo sin vida flotó a la superficie.
 POSS body without life float.PST.3SG to the surface
 'His/her lifeless body floated to the surface.'

The Spanish example in (ib), with the verb *flotar* ('float'), further resembles the Italian examples with *fluttuare* ('float') in (ia) and (ib) of fn. 18, in that it arguably admits a change-of-location interpretation thanks to the fact that it refers to an event of motion induced by buoyancy (which receives a natural association, by world knowledge, with directionality toward a surface).

For example, in (40a), the direct object *i vetrini* ('the small glass panels') is understood as undergoing a change of location despite the verb involved (*martellare* 'hammer') not licensing directed motion as part of its lexical meaning, thanks to the classificatory function exerted by the non-referential PP *in sede* ('in place') on the verb's root.

Examples can also be found where a change-of-state interpretation of the predicate is involved, in line with the localist hypothesis whereby change-of-state predicates and change-of-location predicates involve the same argument structure. For instance, the unaccusative predicate in (41) is understood as involving a change of state of its subject (*Il mio amore* 'my love'), which turns into hate as a consequence (or by means) of rotting.

(41) *Italian; Crudelia – I nervi (Marracash, Persona, Island Records, 2019)*

Il mio amore è marcito in odio.
 the my love be.3SG rot.PTCP.PST.M.SG in hate
 'My love has rotten into hate.'

Like for the examples in (40), the non-referential PP *in odio* ('in hate') in (41) can be claimed to exert a classificatory function on the encyclopedic meaning of the verb's root *MARCIRE*, such that the event of *rottening* comes to be conceptually associated with the concept of turning into *hate* in the context of the predicate.

In all these cases, the relevant interpretation of the predicate as involving a transition of the internal argument into the place or state denoted by the PP is obtained only if the PP is non-referential. Thus, both the examples in (40) and the one in (41) would receive a different interpretation if the PP displayed a referential DP object. Referential PPs, in these examples, would be understood as specifying the location in which the event denoted by the verb takes place, as in (42).

(42) *Italian*

a. Ho martellato nella sede i vetrini laterali.
 have.1SG hammer.PTCP.PST in.the place the glazings.DIM lateral
 'I hammered the small glass panels in the place.'

- b. Il mio amore è marcito nell’ odio.
 the my love be.3SG rot.PTCP.PST.M.SG in.the hate
 ‘My love has rotten in hate.’

The present account of constructions of the type in (11) and (40) in verb-framed Italian can also apply to a phenomenon, analysed in Schirakowski (2022), concerning the licensing of created result constructions in verb-framed French. Created result constructions consist of predicates of the type in (43), in which the PP introduces an entity which is understood as being created during the event named by the verb.

- (43) Folli & Harley (2020: 439)
 Maria carved the wood into a doll.

Schirakowski (2022) distinguished two classes of verbs in French, *flexible* and *inflexible* verbs, based on whether or not the verb can appear with effected objects or only with objects denoting undergoers of activities or changes of state. For instance, (44) shows that the French flexible verb *sculpter* (‘carve’) can be found in predicates denoting a change of the direct object, which is therefore regarded as an undergoer of the event denoted by the verb, as well as in predicates in which the direct object is created during the event denoted by the verb (see also Folli & Harley 2020 and fn. 37 in Chapter 4, for discussion of this verb in Italian and English).

- (44) French; Schirakowski (2022: 5)
 Marie a sculpté a. le bois. b. une poupée.
 Marie have.3SG carve.PTCP.PST the wood a doll
 ‘Marie carved the wood. / a doll.’

In contrast, verbs like *plier* (‘fold’) are inflexible, because they are canonically restricted to selecting pre-existing direct objects that undergo the event they refer to, and they are incompatible with effected objects. Thus, the predicate in (45) can be paraphrased as ‘Marie folded an already existing paper boat’, but it cannot be

taken to mean ‘Marie created a paper boat by folding’ (Schirakowski 2022).

(45) *French; Schirakowski (2022: 7)*

Marie a pli  un bateau en papier.
Marie have.3SG fold.PTCP.PST a boat in paper
Marie folded a paper boat.’

Schirakowski (2022) conducted an acceptability judgement task in order to study the compatibility of flexible and inflexible verbs with the created result construction, further distinguishing between PPs with a DP complement and PPs with a bare noun complement in the construction. For example, the behavior of the inflexible verb *plier* (‘fold’) in the created result construction was tested with stimuli like (46).

(46) *French; Schirakowski (2022: 20)*

Pour mieux supporter la chaleur,
Julie a pli  le papier a. en  ventail b. en un  ventail
Julie have.3SG fold.PTCP.PST the paper in fan in a fan
Intended: ‘To better withstand the heat, Julie folded the paper into a fan.’

Schirakowski noted that “resultative PPs received high acceptability scores with both verb classes when a bare noun is embedded in the PP. However, when the PP contains a full DP, the VPs with flexible verbs turn out to be considerably more acceptable than those with inflexible verbs, whose acceptability is significantly reduced” (Schirakowski 2022: 21). The created result construction has been argued to involve the same syntactic configuration found in standard resultative predicates (Folli & Harley 2020; in present terms, the structure consisting of a monadic α P that takes a dyadic α P as its complement), the creation interpretation of the PP arising as a result of coercion. A clear parallelism with the change-of-location predicates of Italian analysed above thus emerges. Both in Italian and French, non-referential PPs with a bare noun complement in resultative constructions appear to be able to exert a classificatory effect on the conceptual content of the verb’s root, such that some roots that would not be able to appear in the result comple-

ment position based on their conceptual content alone can do so in the presence of the non-referential PP. Like in Italian, the classificatory effect of the PP in the French predicates discussed above can thus be observed due the fact that French is a verb-framed language, where the complement of the head α must form a complex head with α : in predicates like (46), the verb’s root is required to merge as the complement of the lower head α , as this satisfies α ’s PF requirement without occurring in a crash of the derivation at Vocabulary Insertion. The non-referential PP is thus e-merged with the verb’s root in the complement of the lower head α , from where it exerts a classificatory function on the conceptual content of the verb’s root that, in turn, makes this compatible with the result position in the context of the predicate.²³

5.2.4 Summary

In this section I have analysed some resultative verb-particle constructions of Italian where the verb seems to specify a Co-Event, while the particle provides the actual result component of the predicate. Following a proposal in Mateu & Rigau (2010), I have argued that these constructions are verb-framed constructions, despite appearances, and that the verb’s root is e-merged with the particle in the innermost complement position of the predicate, where it provides structurally a result component despite being classified as denoting manner according to the

²³What is observed in French by Schirakowski (2022) may also be claimed to hold in Italian. For example, the non-referential PP *in bolle* (‘in bubbles’) is crucial for a created result interpretation of the predicate in (i). A PP with a DP complement (e.g., *nelle bolle* ‘in the bubbles’) would be analysed as a higher adjunct in (i), specifying the place in which the blowing occurs rather than an entity which is created by means of blowing.

- (i) *Italian; Google Books*
 [...] è fuso sotto forma di tubo o è soffiato in bolle
 be.3SG melt.PTCP.PST.M.SG under form of tube or be.3SG blow.PTCP.PST.M.SG in bubbles
 di differente grandezza.
 of various size
 ‘It’s melted into tube form or blown into bubbles of various sizes.’

lexicalist approach. I have further proposed that some of these verb-particle constructions, referring to resultative changes of location in which the verb conceptually specifies a manner or cause component, are licensed in Italian thanks to the availability of non-referential spatial particles, which are capable of exerting a classificatory effect on the conceptual content of the verb's root by virtue of their non-referentiality and thanks to the fact that they are e-merged with the verb's root, whereby the two elements undergo identification at the level of the conceptual/intentional system.

In the next section, I analyse some satellite-framed predicates of English where the verb's root can be argued to express a Co-Event component even though the roots involved are considered as result roots in the lexicalist perspective.

5.3 Manner use of 'result' roots in English

As summarized in §5.1, the lexicalist take on manner/result complementarity holds that roots are lexically specified to function in event structures either as modifiers of the ACT primitive semantic predicate or as arguments of the BECOME primitive semantic predicate, whence their specification of a manner component or a result component in the predicate, respectively. In the lexicalist approach, result roots are thus predicted to appear only in resultative predicates, which involve the BECOME primitive semantic predicate. Furthermore, they are predicted to be incompatible with unselected object constructions, even if they involve resultative predicates, because the verb's root in these constructions does not function as argument of the BECOME semantic predicate, but rather as modifier of the ACT semantic predicate (cf. [Levin & Rappaport Hovav's 1995](#) Direct Change Linking Rule; see (2b) of Chapter 2).

In this section I analyse a variety of English predicates where verbs that are based on result roots according to the lexicalist approach appear in resultative predicates with unselected objects (§5.3.1) and in predicates that refer to non-resultative events of creation (§5.3.2). Constructions of this kind are problematic for the lexicalist perspective on roots and constitute evidence in favor of the neo-constructionist view, which proposes that there are no lexical constraints on the

implementation of roots in the argument structure of predicates and incompatibilities are due to clashes between the conceptual content of the roots involved, their function in the predicate, and the general conceptual scene arising from the predicate. I discuss some potential counterexamples to the neo-constructionist perspective on roots in §5.3.3.

Unless a different source is indicated, the English examples in this section come from Ausensi & Bigolin (2023) and were originally extracted from web searches, Google Books, COCA, or GloWbE (*Corpus of Web-Based Global English*, Davies 2013).

5.3.1 Resultative unselected object constructions

Following Ausensi & Bigolin (2023), I note that verbs which, according to the lexicalist view, are based on 'result' roots can be found in unselected objects constructions involving both transitive and unaccusative resultative predicates that denote events of change of state or events of change of location. (47) illustrates this with unaccusative predicates of change of location. Some examples of transitive resultative predicates denoting events of change of state and events of change of location are provided in (48) and (49), respectively.

- (47) a. The bullets ripped into the tissue of his back and shoulder.
b. This time, he ripped in without hesitation and pulled a blue half-page out of the envelope.
c. The fuel melted through the reactor's pressure vessel.
- (48) a. Samson, who ripped him free of his bindings and pulled him to safety.
b. Six times we broke her loose from the rocks only to have her catch again.
c. With a few slices of her claws, she tore him free.
d. Another and deeply significant – and symbolic – lesson is that they were loosed from their bonds. The fire burned them loose. And this is sometimes how our Lord sets us free from the things that bind us.

- (49) a. We blasted the tops off mountains.
 b. Solar energy can be used [...] for splitting hydrogen out of water molecules to create a fuel for vehicles.
 c. I could rip your throat out if I wanted.

For instance, (48a) refers to a change of state of the direct object *him*, which becomes *free* at the end of a resultative event of *ripping* which is denoted by the main verb of the predicate and applies to an entity, namely *his bindings*, that is distinct from the direct object. Similarly, in (49b) the direct object *hydrogen* is understood to undergo a change of location that removes it from water molecules, as a consequence of a resultative event of *splitting* which does not apply to the hydrogen directly, but rather to the water molecules. Predicates of this type are unexpected under a lexicalist perspective on what is encoded in roots *qua* lexical elements, because they involve verbs that are built on ‘result’ roots (e.g., *rip*, *break*, *tear*, *burn*, *blast*, *split*), yet the notion of result provided by the verb’s root does not apply to the entity referred to by the direct object. Instead, the result provided by the verb in predicates of this type specifies a Co-Event of the main change of state/location event denoted by the predicate, whose result is expressed in the form of a satellite of the verb. These predicates thus must involve, in lexicalist terms, the event structure template in (50), which is the result of an operation of lexical subordination (e.g., Levin & Rapoport 1988) based on a process of template augmentation (Rappaport Hovav & Levin 1998) in which an activity event structure is merged with an accomplishment event structure.

- (50) [[x ACT_{<MANNER>}] CAUSE [BECOME [y <STATE>]]]

In particular, the verb’s root in this template functions as modifier of the ACT primitive semantic predicate, while an independent adjectival or prepositional element fills the argument position of the BECOME semantic predicate, as in (51).

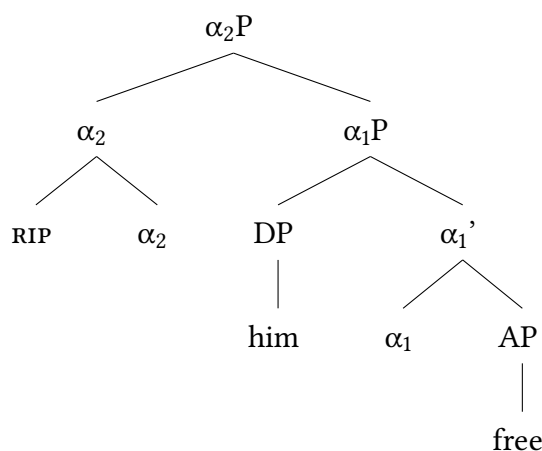
- (51) *Event structure of (48a)*
 [[x ACT_{<RIP>}] CAUSE [BECOME [y <FREE>]]]

This goes against what is defended by the lexicalist approach, according to which ‘result’ roots are lexically specified to function as arguments of the BECOME semantic predicate in event templates. However, these predicates are correctly predicted to be well-formed by neo-constructionist theories, which hold that roots are not lexically specified with instructions for their insertion in the argument structure of predicates. In the theory of argument structure defended in this thesis, the examples analysed in this subsection all involve the argument structure in (52), where the verb’s root is adjoined to the head α of a monadic αP that refers to a complex Davidsonian event, whose result is introduced in the predicative complement of a dyadic αP in the complement of the monadic αP .²⁴

²⁴Further examples include verbs whose root is regarded as expressing a *STATE* constant according to Rappaport Hovav & Levin (1998), yet they appear with an eventive interpretation, as referring to a Co-Event, in the context of transitive resultative predicates such as the ones in (i), with the root LOVE (pace Broccias 2003: 51).

- (i) a. COCA
Or maybe I could have loved her into wellness with time.
- b. COCA
Calling him “Senator”, she teased, rubbed, dared, cajoled, and finally loved him into the promise to drop his support of another stiff tax on tobacco products.
- c. Cruella (Dir. Craig Gillespie. Walt Disney Pictures, Marc Platt Productions, and Gunn Films, 2021)
Love me into shape, I suppose, was the plan.

These predicates can also be taken to involve the argument structure in (52), where the result component is realized by the PP element (e.g., *into wellness* in (ia)) and the verb’s root is e-merged with the eventive head (α_2 in (52)).

(52) *Argument structure of (48a)*

The analysis of the examples in (48) and (49) as involving verbs that specify a Co-Event in the context of the predicate correctly predicts that predicates of this type are not possible in verb-framed languages. (53) illustrates this with the literal ungrammatical renditions of the satellite-framed predicates in (49a) and (49b) in Italian.²⁵

²⁵Some examples of change-of-location verb-particle constructions with *strappare* ('rip/tear') can be found in Italian, as illustrated in (i). These predicates are presumably licensed thanks to the non-referentiality of the particles involved, which can coerce the conceptual content of the verb's root STRAPPARE to include a notion of directionality in the context of the predicate (as discussed in §5.2; notice, in this respect, that a *tearing/ripping* event can be conceived as taking place along a particular direction in space, given the appropriate context).

(i) *Italian*a. *Example from a web search*

Un cavo di acciaio legato attorno e la cassaforte viene
 a cable of steel tie.PTCP.PST.M.SG around and the safe be.3SG
 strappata fuori [...]
 tear.PTCP.PST.F.SG out
 'A steel cable tied around it and the safe is torn out.'

b. *Google Books*

[...] e si udirà Reparato il sotto diacono parlare in maniera facile
 and IMPRS hear.FUT.3SG Reparato the sub deacon speak.INF in way easy
 e perfettamente articolata, quantunque gli abbiamo
 and perfectly articulate.PTCP.PST.F.SG even_though DAT.M.3SG have.SBJV.3PL

(53) Italian

a. *Made up ungrammatical rendition of (49a)*

*Abbiamo esploso via le cime dalle montagne.
 have.1PL blast.PTCP.PST away the tops from.the mountains
 Intended: 'We blasted the tops off mountains.'

b. *Made up ungrammatical rendition of (49b)*

*L' energia solare può essere usata per dividere fuori
 the energy solar can.3SG be.INF use.PTCP.PST.F.SG to split.INF out

strappata fuori la lingua.
 tear.PTCP.PST.F.SG out the tongue

'And you will hear the sub-deacon Reparato speak in an easy and perfectly articulated manner, even though his tongue was torn out.'

c. *Example from a web search*

Scende il drappo rosso, strappato giù dagli iconografi [...]
 come_down.3SG the curtain red tear.PTCP.PST.M.SG down by.the iconographers
 'The red curtain falls, torn down by the iconographers.'

d. *Google Books*

[...] le avrei strappato giù dalla testa tutto il cespuglio [...]
 DAT.F.SG have.COND.1SG tear.PTCP.PST down from.the head all the bush
 'I would have torn down her entire bush of hair from her head.'

Similar considerations explain predicates like the following one, where the result, in terms of change of state, denoted by the verb *stappare* ('unclog') does not apply to the direct object, but rather to an entity which is not syntactically realized and can only be inferred from context. To the extent that this verb's root implies an idea of removal, it can co-appear with the particle *via* ('away') in predicates where a change of location of the direct object takes place (cf. Table 9), which is what is observed in (ii).

(ii) *Italian; example from a web search*

Cattureremo tutte quante le schifezze e le stapperemo via in pochissimi
 catch.FUT.1PL all much the rubbish and ACC.F.PL unclog.FUT.1PL away in few.SUPERL
 istanti.
 moments
 'We will catch all the filth and pull it away in no time at all.' (lit. unclog it away; of a clogged drain)

l' idrogeno dalle molecole d' acqua.

the hydrogen from.the molecules of water

Intended: 'Solar energy can be used for splitting hydrogen out of water molecules.'

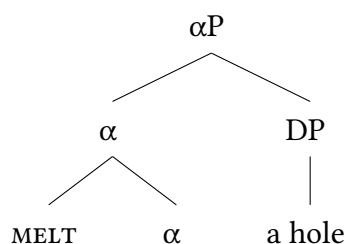
5.3.2 Predicates of creation

Evidence of the type in (54) and (55) shows that verbs based on 'result' roots according to the lexicalist approach can be found in English also in predicates that denote the creation of the entity referred to by the direct object.

- (54)
- a. Scientists just melted a hole through 3,500 feet of ice.
 - b. I stuck my GoPro under some ice and then shattered a hole right above it.
 - c. His boss just finished tearing him a new hole in his backside.
 - d. Asher glanced over at the door often, waiting for the queen to pop in and blast them a new hole.
 - e. At some point, he burned a scar on her arm.
 - f. The impact of the Boeing 767 ripped a path across floors 94 to 98.
 - g. Push from one end and pull from the other eventually tearing an entrance through the middle.
- (55)
- a. A discharge of those energies burned a hole in his forehead and killed him.
 - b. Hurricane Sandy tore a path through the Northeast yesterday.
 - c. *Google Books, repeated from (112b) of Chapter 4*
[...] his words burned a wound inside her.

For example, in (54a), a *hole* is created as a result of an event of *melting* which is referred to by the verb and applies to an entity distinct from the direct object. Similar considerations hold for the rest of the examples in (54) and (55). Cre-

ation/consumption predicates are argued to not involve a BECOME primitive semantic predicate in their event structure, according to the lexicalist approach. To be sure, the set of event structure templates argued for in Rappaport Hovav & Levin (1998) (see (1)) does not include a template for predicates denoting events of creation/consumption with incremental theme objects. However, Rappaport Hovav (2008) noted that predicates of this kind are consistently made telic based on a scale which is not provided by the verb's root, but rather by the direct object argument. While Rappaport Hovav (2008) refers to predicates involving verbs like *read*, *eat*, or *build*, whose roots are not lexically associated with a BECOME primitive semantic predicate according to the lexicalist approach, but rather refer to activities, the same considerations apply with respect to the examples discussed in this section, even though these examples involve verb roots that are expected to function as arguments of a BECOME semantic predicate (hence, express scalar change) according to the lexicalist perspective. What is surprising, from a lexicalist perspective, about the examples provided above, is thus that they refer to telic events of creation whose scale is provided by the direct object, yet they involve verbs whose roots should be lexically associated with a scalar structure which refers to a BECOME primitive semantic predicate and, hence, which should apply to the entity denoted by the direct object. According to the neo-constructionist theory of argument structure proposed in Chapter 3, predicates denoting events of creation/consumption are based on a syntactic argument structure that consists of a monadic αP , with the direct object merged in α 's complement. Specifically, in creation/consumption predicates where the verb expresses a Co-Event of the main event of creation/consumption, the verb's root has been taken to be adjoined to α , with the direct object merged as the direct complement of α (§3.3). The syntactic argument structure of a predicate like the one in (54a) is thus as in (56).

(56) *Argument structure of (54a)*

The structure in (56) accounts for the fact that the verb, in (54a), denotes a Co-Event of the main event of creation/consumption that arises from the interpretation of the syntactic configuration of the predicate, and allows for an interpretation of the direct object as not undergoing the (co-)event referred to by the verb. Like for the resultative examples discussed in §5.3.1, predicates like those in (54) and (55) are only possible if roots are not lexically classified in ‘manner’ and ‘result’ roots in a way that constrains their computation in the syntactic derivation of the predicates they appear in.

5.3.3 The conceptual nature of seeming lexical constraints on ‘result’ roots

In this section I discuss some potential counterexamples to the neo-constructionist take on roots as syntactically underspecified lexical items. Contrasts like the ones in (57), showing that ‘result’ roots, in contrast to ‘manner’ roots, cannot appear without their object, have been used by lexicalist theories to argue that roots are lexically equipped with instructions concerning their function in event structure templates, and that a class of roots, namely ‘result’ roots, always appear in event structures with a BECOME primitive semantic predicate and further they are interpreted as arguments of such a predicate.

(57) *Ausensi & Bigolin (2023: 152)*

- a. #All last night, John broke.
(cf. All last night, John swept)
- b. #All last night, John shattered.
(cf. All last night, John scrubbed)

While the evidence discussed in §5.3.1 and §5.3.2 shows that such a lexical restriction on alleged ‘result’ roots is too strong, the question remains as to what the reason behind (57) and similar contrasts is. Following Ausensi & Bigolin (2023), I take the ill-formedness of the examples in (57) to arise at a conceptual/pragmatic level. As argued in Ausensi & Bigolin (2023), verb roots whose conceptual content entails a result that applies to a theme (e.g., roots like BREAK, MELT, DIE, etc.) can be expected to be felicitous in a given predicate only insofar as such a theme entity can be recovered, either by association with one of the arguments and/or adjuncts of the predicate or by means of pragmatic inference based on context. This is a prediction of the neo-constructionist tenet that the conceptual content of roots is syntactically non-transparent (Mateu & Amadas 2001; Mateu 2002; Borer 2005b). Due to this, any notion of ‘manner’ or ‘result’ that can be claimed to be encoded in roots must be kept separate from the structural notion of result that arises from the interpretation of syntactic argument structures (Mateu & Acedo-Matellán 2012). Under this view, the ill-formedness of predicates like (57) is not due to the violation of some grammatical rule, but rather it depends on the fact that, in these predicates, it is not possible to recover a theme entity for the result conceptually specified by the verb root. The proposal further explains why the undergoer of the result provided by the verb’s root tends to be syntactically realized in predicates with ‘result’ verbs, even when they involve unselected object constructions where the direct object does not function as the theme of the result specified by the verb. Consider, for instance, the examples in (58), repeated from (48), (49), and (54).

- (58) a. Samson, who ripped him free of his bindings and pulled him to safety.
 b. We blasted the tops off mountains.
 c. Solar energy can be used [...] for splitting hydrogen out of water molecules to create a fuel for vehicles.
 d. Scientists just melted a hole through 3,500 feet of ice.

In (58), the undergoers of the *ripping* event ((58a)), the *blasting* event ((58b)), the *splitting* event ((58c)), and the *melting* event ((58d)) – namely, *his bindings*, *moun-*

tains, *water molecules*, and *3,500 feet of ice*, respectively – all surface as complements of PPs within the predicate where the result verb appears. However, such undergoers do not need to form part of the predicate where the result verb appears. They can also be introduced in the discourse by means, e.g., of a separate clause. For instance, the undergoer of the *ripping* event in (59a) (repeated from (47b)) and the undergoer of the *shattering* event in (59b) (repeated from (54b)) are both introduced as the complements of PPs – *out of the envelope* and *under some ice*, respectively – that are included in clauses that are coordinated to the clause featuring the result verb. Similarly, the undergoer of the *burning* event in (59c) (repeated from (48d)) is introduced in the sentence that precedes the predicate where the result verb *burn* appears, as the complement of the PP *from their bonds*.

- (59) a. This time, he ripped in without hesitation and pulled a blue half-page out of the envelope.
- b. I stuck my GoPro under some ice and then shattered a hole right above it.
- c. Another and deeply significant – and symbolic – lesson is that they were loosed from their bonds. The fire burned them loose. And this is sometimes how our Lord sets us free from the things that bind us.

Finally, as previously discussed, the undergoer of the result provided by the conceptual content of the verb's root can also be syntactically unrealized, as long as it can be recovered pragmatically, based on world knowledge. This can be argued to be the case, e.g., in (60a) and (60b) (repeated from (48c) and (49c), respectively).

- (60) a. With a few slices of her claws, she tore him free.
- b. I could rip your throat out if I wanted.

The variety of ways in which the undergoer of the result conceptually specified by the verb's root can be recovered confirms the hypothesis that the ill-formedness of predicates displaying verbs based on 'result' roots when an internal argument is not present, as in (57), should be sought at a conceptual/pragmatic level, rather

than at a (lexico-)syntactic one.

Further support to this view comes from considering examples like the one in (61), repeated from (47c).

(61) The fuel melted through the reactor's pressure vessel.

As noted in Ausensi & Bigolin (2023), (61) can in principle be considered ambiguous between at least two readings: one in which the fuel, due to its own melting, goes through the reactor's pressure vessel, and one in which the fuel goes through the vessel by melting it, e.g., due to the high temperature of the fuel. The ambiguity can be explained if the attribution of the result specified by the verb, in predicates – like (61) – where the verb's root is taken to function syntactically as a modifier which specifies a Co-Event, is not syntactically encoded, but rather it is carried out at a conceptual level. Accordingly, the prediction can be made that such an ambiguity does not occur in examples like those in (62).

(62) a. When exposed to heat the ice melts through the strainer.

b. *Example from a web search*

A red glowing wire melted right through the plastic insulation across the floor and it looked like a fiery filament, with little bonfires here and there.

In (62a), the result specified by the verb *melt* is unambiguously understood to apply to the subject of the predicate, *the ice*. Instead, in (62b), the result specified by *melt* can only be understood to apply to the complement of the PP *through the plastic insulation*. The examples in (62) make clear that the attribution of the result specified by the verb in predicates of this kind is based on general world knowledge. In particular, ice is a cold substance which cannot melt a strainer and, in turn, is expected to undergo a melting event if heated. In contrast, glowing wires are very likely to melt plastic if they get in touch with it. Contrasts of the type in (62) make clear that, from the syntactic structure of a predication like *X melts through Y*, it is not possible to establish whether it is *X* or *Y* that melts; in order to understand

which entity the result specified by the verb's root applies to, one must necessarily ground their decision on world knowledge or pragmatic considerations. Notice, in contrast, that the undergoer of the change-of-location event in *X melts through Y* is never ambiguous: whatever the undergoer of the *melting* event is, it is always *X* that undergoes the change-of-location event whose final location is specified by *Y*. As Ausensi & Bigolin (2023: 154) observe, "this information does not pertain to the realm of inferences, but rather to the realm of syntactically encoded linguistic predicates: the result of the change of location, being structurally realized, can only apply to the structural theme, [...] which is correctly predicted to surface as the subject of the predicate in the unaccusative configuration". To conclude, contrasts of this type support the neo-constructionist claim that the conceptual content of roots is opaque to syntax, whereby it is not reflected in the syntactic argument structure of the predicates roots appear in by means of canonical realization rules. In particular, what are considered as 'result' roots in the lexicalist approach can be used syntactically as modifiers that specify a Co-Event without giving rise to ungrammaticality, the only proviso being that the conceptual scene arising from the interpretation of the predicate be compatible with the conceptual content provided by the root.

5.4 Conclusions

Evidence from Italian and English shows that the lexical classification of roots in terms of 'manner' and 'result' should not be regarded as grammatically relevant, since the distinction between the two classes of roots does not correlate systematically with differences in the types of argument structure that the predicates roots appear in can have. In particular, I have argued that some resultative change-of-location constructions in Italian involve what are regarded as 'manner' roots by lexicalist theories merged in the syntactic position that is associated with the expression of result. In addition, predicates can be found in English where what are considered as 'result' roots in a lexicalist perspective appear as specifying a Co-Event of the main event arising from the interpretation of the predicate, whereby they are argued to function syntactically like 'manner' roots despite lexically en-

tailoring a result. I have further discussed how predicates with ‘result’ roots used as ‘manner’ modifiers are well-formed as long as the conceptual scene of the event they refer to allows for the identification of an entity that can be understood as the undergoer of the result lexically entailed by the verb’s root. In contrast to syntactically encoded results, which are systematically understood to apply to the element that occupies the position of internal argument in the syntactic argument structure of the predicate, conceptual results expressed by roots used syntactically as specifying a Co-Event are attributed based on world knowledge or pragmatic considerations regarding the event that arises from the interpretation of the predicate, whereby they can give rise to ambiguities and are not subject to structural constraints regarding the syntactic position occupied by the element that refers to the entity they apply to.

The constructions discussed in this chapter support the neo-constructionist view of roots, contra the lexicalist understanding of the lexicon as including rules for the realization of roots in argument structures.

Chapter 6

Conclusions and challenges

6.1 Summary of the main proposals and findings

In this thesis, I have investigated the mechanisms involved in the composition, interpretation, and externalization of verbal predicates, assuming a neo-constructionist perspective. Specifically, I have aimed to provide theoretical and empirical support to the following two claims:

1. semantic predicates of the type considered to be at the base of event templates by the lexico-semantic approach are not primitives of the human faculty of language and do not receive a syntactic representation by means of specialised functional heads; rather, they exclusively consist in the semantic interpretation of specific structural configurations that are produced by syntax based on a single, semantically vacuous functional head;
2. roots, understood as abstract morphemes that integrate semantic predicates with syntactically atomic conceptual content related to world knowledge, are coerced into a particular interpretation by the position they occupy in the syntactic argument structure and are not pre-syntactically specified for associating with a given semantic predicate.

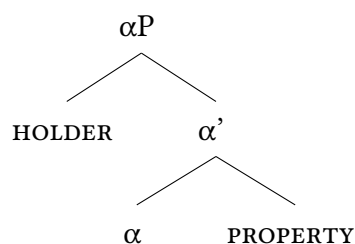
After introducing the main features of the generative paradigm for the study of human language, particularly within the Minimalist Program (Chomsky 1993,

1995), and laying out the theory of Distributed Morphology (Halle & Marantz 1993, 1994) as the theoretical framework adopted for the analysis of the data considered in this thesis (Chapter 1), I have contextualized theoretically the two propositions in 1. and 2. above, by introducing the characteristics of the lexicalist approach (Levin & Rappaport Hovav 1995; Rappaport Hovav & Levin 1998, 2010, among others) and the neo-constructionist approach (Borer 2005b; Mateu 2002; Mateu & Acedo-Matellán 2012, among others) to argument structure and event structure, as well as the main points of divergence between the two approaches (Chapter 2). I have argued that the proposition in 1. not only is incompatible with the lexicalist view of argument structure and the lexicon but also partially contrasts with the theoretical assumptions of many neo-constructionist theories. These theories often understand different semantic interpretations of predicates (e.g., the contrast between eventivity and stativity) in terms of different featural specifications of the functional heads involved in the make up of the syntactic argument structure of the predicate, rather than in purely configurational terms. Afterward, I have outlined the lexicalist take (Rappaport Hovav & Levin 2010) and the neo-constructionist take (Acedo-Matellán & Mateu 2014; Mateu & Acedo-Matellán 2012) on manner/result complementarity, showing that the proposition in 2. corresponds to the neo-constructionist perspective on roots and how they integrate in the argument structure of predicates. I have further introduced Hale & Keyser's (1993, 1997a, 1997b, 1998, 2002) theory of lexical syntax, as a fundamental precursor to many of the ideas on the relation between the syntax and the lexicon in the building of verbal predicates endorsed by the neo-constructionist approach and at the base of the theory of argument structure put forth in the following chapter.

Chapter 3 and Chapter 4 have been devoted to providing support to the proposition in 1. from a theoretical standpoint and an empirical standpoint, respectively. In Chapter 3, I have first presented Suzuki's (1997, 1999, 2005) configurational theory of the eventivity/stativity distinction, based on Hale & Keyser's theory of lexical syntax. Building on Déchaine (1996), Suzuki proposed that the dyadic configuration, where a head takes both a complement and a specifier, is associated with stativity, while the monadic configuration, where a head only takes a complement, is associated with eventivity. I have argued that Suzuki's proposal finds support in

Maienborn's (2007, 2019) work on the semantic distinction between Kimian states and Davidsonian states and events. Maienborn provided evidence against a strict neo-Davidsonian perspective on argument structure, which regards both states and events as types of Davidsonian events. As shown by Maienborn, the class of stative predicates can be divided into two types, one involving Davidsonian event arguments and fundamentally behaving like eventive predicates when tests for the presence of such an argument are applied, and the other displaying different ontological characteristics from predicates based on Davidsonian event arguments and failing semantic tests probing for the presence of this type of arguments. Maienborn referred to the kind of eventualities on which the latter type of stative predicates are based as Kimian states, which she defined as "abstract objects for the exemplification of a property P at a holder x and a time t" (Maienborn 2007: 113). I have proposed that Maienborn's semantic definition of Kimian states, as opposed to Davidsonian events, aligns with Suzuki's proposal that stative predicates are strictly based on a dyadic syntactic configuration, since such a configuration satisfies the semantic condition that the property of Kimian states be associated with a holder.

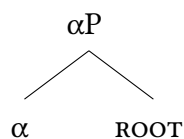
Afterward, I have elaborated on Suzuki's theory within a DM architecture. I have proposed that the head responsible for the syntactic composition of both stative and eventive predicates is a functional head, which I have referred to as α , that lacks abstract semantic features, and which is interpreted as introducing either a Davidsonian event argument or a Kimian state argument at LF, based solely on the syntactic configuration. Event structural notions corresponding to primitive semantic predicates like BE, DO/ACT, CAUSE, and BECOME, often attributed to lexical flavors of the eventive head v in neo-constructionist theories, are similarly derived exclusively from the configuration. In particular, predicates referring to Kimian states are based on a dyadic αP where the holder is introduced as α 's specifier, and the property is introduced as α 's complement.

(1) *Argument structure of predicates referring to Kimian states*

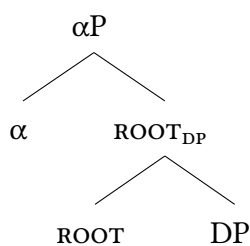
Predicates referring to Davidsonian events involve a monadic αP , which takes as complement either a root or DP (or a root and a DP e-merged together in a sister relation), or a dyadic αP denoting a Kimian state. The former possibility gives rise to what I have referred to as ‘atomic Davidsonian events’, which consist of activity events or, if a DP forms part of α ’s complement, of accomplishments whose scale is provided by the DP.

(2) *Argument structures of predicates referring to atomic Davidsonian events*

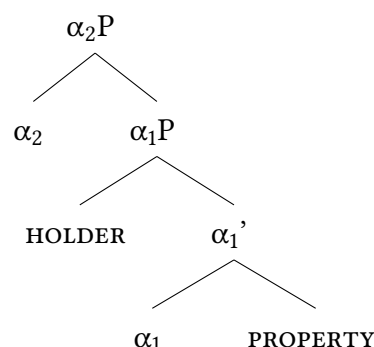
a.



b.



The latter possibility gives rise to ‘complex Davidsonian events’, so called because they comprise a Kimian state argument as part of their denotation. Complex Davidsonian events refer to changes of state or location, essentially being understood as events in which the property of the Kimian state argument comes to be associated with its holder.

(3) *Argument structure of predicates referring to complex Davidsonian events*

I have proposed that when two elements that are either provided with conceptual content or devoid of formal semantic features are merged together in a sister relation, as in (2b), they undergo an operation of identification, whereby the conceptual content of the two elements is combined within the context denoted by the predicate, in a way that depends on the conceptual interpretation of the predicate. I have argued that identification is involved in the licensing of the direct object in stative transitive predicates (such as *John loves Mary*) and in creation/consumption predicates (such as *Mary eats the soup*), as well as in the licensing of result-denoting phrases (e.g., locative PPs or particles) in resultative predicates where the verb already expresses the result component of the predicate (e.g., in seemingly satellite-framed predicates of the type found in verb-framed languages, as in Italian *correre fuori* ‘run out’; see also [Mateu & Rigau 2010](#)). In all of these cases, the relevant XP has been claimed to be e-merged in a sister relation with the verb’s root, triggering identification between the two elements and thus deriving the general fact that the XP contributes to further specifying the conceptual content of the verb’s root in the context of the predicate.

Overall, the proposal is in line with theories that see activities and events of creation/consumption as based syntactically on the unergative configuration ([Acedo-Matellán 2016](#); [Hale & Keyser 1993, 2002](#); [Harley 2005](#); [Folli & Harley 2020](#); [Mateu 2002](#); [Rigau 1997](#), among many others), and resultative events of change of state/location as involving a stative subpredication embedded under an eventive predicate (see [Jackendoff 1990, 1997](#); [Levin & Rappaport Hovav 1995](#); [Rappaport Hovav & Levin 1998, 2010](#), among others, for semantic approaches; [Acedo-](#)

Matellán 2016; Hale & Keyser 1993, 2002; Harley 2005; Hoekstra 1988; Folli & Harley 2020; Mateu 2002, among others, for syntactic approaches). In contrast to many other syntactic approaches, however, this proposal further predicts that the elements comprised in the complement of the eventive head (in present terms, a head α projecting a monadic α P) always contribute to the measuring out of the event denoted by the predicate. The effect is proposed to follow from the fact that an eventive α undergoes identification with its complement, whereby the conceptual content of α 's complement is copied into α . As a consequence, whatever mereological structure is contributed by the elements in α 's complement is mapped onto the event argument associated with α . The complement of α when α projects a dyadic α P does not undergo identification with α , because α in this case is understood semantically as a predicative relator that establishes a predication between its specifier and complement. As a result, the mereological structure of α 's complement is not mapped onto α , and the predicate is atelic irrespective of the boundedness of the entities merged in α 's complement.

In the final part of Chapter 3, I have discussed the observation by Folli & Harley (2007, 2008) that the external argument of predicates involving the unergative structure, referring to activities and events of creation/consumption, must possess inherent qualities or abilities to initiate and carry out the event described by the predicate, while predicates denoting resultative events (signalled in (5) by the presence of the particle) do not impose such a requirement on their external argument.

(4) *Folli & Harley (2005: 95)*

- a. *The sea ate the beach.
- b. The groom ate the wedding cake.

(5) *Folli & Harley (2008: 198)*

- a. John ate up the apple.
- b. The sea ate away the beach.

Drawing on the distinction between atomic and complex Davidsonian events dis-

cussed earlier in Chapter 3, I have proposed that the necessity for the external argument to have teleological capability applies to predicates denoting atomic Davidsonian events. These events involve a temporally uniform spatiotemporal manifestation of the conceptual content expressed by the verb's root, necessitating the participant understood as the initiator of the event to also act as the performer of the event. In contrast, predicates denoting complex Davidsonian events typically do not require their external argument to possess teleological capability because complex Davidsonian events do not have temporal uniformity, as they involve the generation of an association between a property and an entity perceived as the holder of that property. Consequently, the external argument can be viewed as solely initiating this association without actively participating in the process, whereby it is not required to be teleologically capable of carrying out the event described by the predicate.

Chapter 4 has been dedicated to illustrating the predictive strength of the theory of argument structure laid out in Chapter 3 in accounting for the cross-linguistic variation associated with Talmy's (1985, 1991, 2000b) typology. Talmy's typology is primarily concerned with the morphosyntactic expression of the result component in resultative predicates of change of state/location. The typology identifies two classes of languages: satellite-framed languages, like English, where the result component can (but need not) be expressed as a satellite of the main verb of the predicate ((6)), and verb-framed languages, like Spanish, where the result component is consistently expressed by the main verb of the predicate ((7)).

- (6) a. *Goldberg (1995: 136)*
 She shot him dead.
 b. He/she killed him with a shot.
- (7) *Spanish*
 a. *Bigolin & Ausensi (2021: 519)*
 *Juan lo disparó muerto.
 Juan ACC.M.SG shootPST.3SG dead
 Intended: 'Juan shot him dead.'

b. *CORPES XXI*

Lo mató de un disparo.

ACC.M.SG kill.PST.3SG of a shot

'He/she killed him with a shot.'

Neo-constructionist theories of argument structure that rely on distinct functional heads for the introduction of the result component and the eventive component in resultative predicates (e.g., Res and v, respectively) account for Talmy's typology in terms of morphosyntactic requirements on the result head. This head is argued to be forced to form a complex head with the eventive head in verb-framed languages, either for feature-checking reasons (Folli & Harley 2020) or for reasons related to the phonological licensing of the result head (Acedo-Matellán 2010, 2016) or the result constituent (Acedo-Matellán & Kwapiszewski 2024).

In the present theory of argument structure, whatever restriction is found on the result head is also found on the head introducing the event argument, because the two heads are not treated as lexically distinct heads but rather as one and the same (that is to say, α), its semantic interpretation depending on the position occupied in the syntactic structure of the predicate. The theory thus predicts that the requirement leading to the absence of satellite-framed constructions in verb-framed languages should extend beyond resultative predicates and include predicates where a result component is not involved, since α is not only found in resultative predicates. I have presented the result of a cross-linguistic survey where I compared several satellite-framed languages and verb-framed languages with respect to the possibility of licensing predicates denoting events of creation/consumption where the verb either implies the creation/consumption of the direct object (as in *eat the apple*) or specifies a Co-Event of the main event of creation/consumption (as in *kick a hole*, intended as 'make a hole with a kick / by kicking'). The results obtained reveal a cross-linguistic variation consistent with the patterns observed in Talmy's typology (confirming the evidence in Levin & Rapoport 1988; Mateu 2003, 2012), with predicates where the main verb implies the creation/consumption of the direct object being available in both satellite-framed languages and verb-framed languages ((8)), and predicates where the main verb denotes a

Co-Event being only licensed in satellite-framed languages ((9)).

- (8) a. COCA
He dug a hole in the ground.
- b. Spanish
Excavó un agujero en la tierra.
dig.PST.3SG a hole in the ground
'He dug a hole in the ground.'
- (9) a. *Mateu & Rigau (2002: 213), adapted from Levin & Rapoport (1988: 279)*
She brushed a hole in her coat.
- b. Spanish
*Cepilló un agujero en su abrigo.
brush.PST.3SG a hole in POSS coat
Intended: 'She brushed a hole in her coat.'

I have proposed that Talmy's typology follows from the PF requirement in (10), which affects the functional head α – involved in the building of argument structure – in verb-framed languages.

(10) *Verb-framed languages PF requirement*

A phonologically null α must form a complex head with the head of its complement.

This requirement has been formalized adopting a slightly modified version of *Arregi & Pietraszko's (2021)* theory of Generalized Head Movement, here regarded, following *Kwapiszewski 2022*, as a PF operation. Thus formulated, the theory holds that functional heads can be associated with a morphological feature, labeled [hm], which requires them to form a complex head with the closest head in their complement domain, at PF. I have proposed that the head α is specified with the [hm] feature in verb-framed languages, while it is not in satellite-framed languages. Verb-framed languages only allow creation/consumption predicates

where the verb implies the creation/consumption of the direct object, and resultative predicates where the verb expresses the result component, because in both of these two types of predicates the verb's root is argued to be e-merged in α 's complement, from where it forms a complex head with α and fulfills the requirement of α 's [hm] feature. In contrast, these languages do not license creation/consumption predicates and resultative predicates where the verb denotes a Co-Event because the complement of α , in predicates of this type, cannot be assigned a phonological exponent if it forms a complex head with α , leading the derivation to a crash at Vocabulary Insertion.

I have further reanalysed the typological class of weak satellite-framed languages, which are languages where the verb, in resultative predicates, can express a Co-Event (e.g., *pis-* 'write' in (11)) as long as the result component (*is-* 'out' in (11)) is prefixed onto the verb (Acedo-Matellán 2010, 2016).

(11) *Russian*; Spencer & Zaretskaya (1998: 17)

Ona is-pis-a-l-a svoju ručku.
she.NOM out-write-TH-PST-AGR POSS pen.ACC
'She wrote her pen out of ink.'

I have proposed that weak satellite-framed languages should be regarded as fundamentally verb-framed languages, capturing the prefixation of the result component in resultative predicates as a manifestation of the [hm] feature of α . I have proposed that weak satellite-framed constructions are licensed in verb-framed languages if the language has Vocabulary Items for the expression of result in the form of verbal prefixes, as these allow the e-merge of a root with the eventive head α without leading to a crash of the derivation at PF. The analysis predicts that complex creation/consumption predicates (i.e. creation/consumption predicates where the verb expresses a Co-Event) should be unavailable in weak satellite-framed languages, assuming that the incremental theme object (in the sense of Harley 2005) merged as α 's complement in these predicates cannot linearize as a verbal prefix. I carried out a cross-linguistic survey, presented in the second half of Chapter 4, that confirmed this prediction for several Slavic languages, which are regarded as

weak satellite-framed languages in the literature on Talmy's typology (see, e.g., [Acedo-Matellán 2016](#)). For example, a literal rendition of the English complex creation/consumption predicate in (9a) is ungrammatical in weak satellite-framed Russian, as shown in (12) (further see the [Appendix](#)).

(12) *Russian*

*Ona čes-a-l-a dyrku v pal'to.
 she.NOM brush.IPFV-TH-PST-AGR hole.ACC in coat.LOC
 'She was brushing a hole in her coat.'

Additionally, some Latin examples claimed by [Acedo-Matellán \(2016\)](#) to show creation/consumption predicates where the verb expresses a Co-Event in the weak satellite-framed system were found either to involve verbs implying the creation/consumption of the direct object or to be resultative predicates where the verb expresses the result component, thus following the verb-framed pattern. Finally, a corpus search aimed at looking for complex creation/consumption predicates in Latin has provided no results, further strengthening the hypothesis – following from the present account of Talmy's typology – that predicates of this type were not available in Latin *qua* weak satellite-framed language.

Other accounts of Talmy's typology where the absence of complex creation/consumption predicates in verb-framed languages is factored in propose that the typology can be captured, at least in descriptive terms, by the absence, in verb-framed languages, of the operation responsible for the expression of a Co-Event in the main verb (see, e.g., [Mateu 2012](#)), namely, the operation of adjoining a root to the eventive head. These accounts, in contrast to accounts that capture the typology as a requirement on the result head, correctly predict the absence of complex creation/consumption predicates in verb-framed languages. However, they also predict that these predicates should be freely available in weak satellite-framed languages, where the expression of a Co-Event in the main verb is attested in prefixed resultative predicates. These accounts further highlight the fact that verb-framed languages seem to lack a syntactic operation (i.e. the adjunction of a root to the eventive head) which is instead available in satellite-framed languages, a

fact which is incompatible with minimalist desiderata (Folli & Harley 2020). The account of Talmy's typology proposed in Chapter 4 views the typology as the result of a PF requirement on the eventive head, which is required to form a complex head with the head of its complement in verb-framed languages. The account captures the effects of the typology both in the domain of resultative predicates and in the domain of creation/consumption predicates, and it leads to a recategorization of weak satellite-framed languages, which are seen as fundamentally verb-framed languages. This account thus resolves the conundrum whereby verb-framed languages seem to lack a structure building operation which is instead available in satellite-framed languages. To wit, the prefixed resultative predicates where the verb expresses a Co-Event found in weak satellite-framed languages are regarded as constructions in which the adjunction of a root to the eventive head is felicitous in the verb-framed system.

To be sure, the present account of Talmy's typology is compatible with theories of argument structure which see the result head and the eventive head as distinct functional heads in the Narrow Lexicon. In particular, readers who are not convinced by the argumentation in Chapter 3, advocating for considering these two heads (e.g., Res and *v*) as distinct occurrences of the same head (here, α), can understand the account of Talmy's typology put forth in Chapter 4 as a PF requirement on *v*, which is endowed with the [hm] feature in verb-framed languages (including weak satellite-framed languages) but not in satellite-framed languages (see Bigolin to appear for a proposal along these lines). The strength of the model of argument structure proposed in Chapter 3 lies in its greater restrictiveness compared to models where the eventive head and the result head are regarded as distinct abstract morphemes; in the present model, an account of Talmy's typology based on requirements that affect exclusively the result head is not even given as an option.

Chapter 5 addresses the second general claim at the base of the present thesis, defined in the proposition in 2. above. Namely, it deals with the question whether roots *qua* lexical entries contain information regarding their realization in the argument structure and event structure of predicates. The matter constitutes one of the fundamental points of divergence between the lexicalist approach (Levin & Rappaport Hovav 1995; Rappaport Hovav & Levin 1998, 2010, among others) and

the neo-constructionist approach (Acedo-Matellán & Mateu 2014; Borer 2005a,b; Mateu 2002, among others). The lexicalist approach holds that roots are lexically specified for functioning in a given particular way within a closed set of event structure templates made available by UG. In particular, in this approach a division is drawn between ‘manner’ roots and ‘result’ roots, the former functioning as modifiers of the ACT primitive semantic predicate (considered to be at the base of predicates denoting activities and non-resultative events of surface/contact) and the latter functioning as arguments of the BECOME primitive semantic predicate (found in predicates entailing scalar change, as in the case of resultative events of change of state and location). In contrast, the neo-constructionist approach claims that roots are not specified with information concerning their integration in predicates. In this approach, incompatibilities between a root and a given position in the syntactic argument structure of the predicate are due to clashes between the conceptual content of the root and its function in the predicate based on the position it occupies, in light of the general conceptual scene arising from the interpretation of the predicate.

I have discussed empirical evidence from Italian suggesting that what are regarded as ‘manner’ roots by the lexicalist approach can be found, given the right context, in resultative predicates where they are understood as specifying the result component of the predicate (therefore, functioning as arguments of the BECOME primitive semantic predicate according to lexicalist theories adopting event structure templates). Examples include verb-particle constructions referring to resultative events of change of location where the verb’s root is not able to license a change-of-location reading in the absence of the spatial particle, as in (13).

(13) *Italian (change-of-location reading)*

Quando vengono serviti	viene martellato
when be.3PL serve.PTCP.PST.M.PL	be.3SG hammer.PTCP.PST.M.SG
#(dentro) il rubinetto.	
in the tap	
‘When they are served the tap is hammered in.’ (of beer barrels)	

I have shown that examples of this type cannot be regarded as satellite-framed constructions where the verb specifies a Co-Event (hence, functioning as modifier of the ACT primitive semantic predicate in a lexicalist perspective), whereby the verb's root must be understood as specifying the result component of goal of motion together with the particle. I have further proposed that constructions of this type, which are typically unfelicitous in other verb-framed Romance languages, can be licensed in Italian thanks to the availability of a non-referential reading of the spatial particles involved. This reading allows the particle to exert a classificatory function on the content of the verb's root (Hale & Keyser 1997a), which is enabled by the fact that the particle is merged in a sister relation with the verb's root in the innermost complement position of the argument structure of the predicate (whereby the two elements undergo identification at the level of the conceptual/intentional system).

Afterward, I have discussed evidence from English regarding predicates where what are classified as 'result' roots by lexicalist theories are found as specifying a Co-Event of the main event denoted by the predicate. In particular, verbs such as *break, melt, rip, tear, split, burn* etc. are found in unselected object constructions (understood here as constructions where the property expressed by the verb's root is not predicated of the direct internal argument of the predicate) involving both resultative predicates ((14)) and creation/consumption predicates ((15)).

(14) *Ausensi & Bigolin (2023: 146)*

Six times we broke her loose from the rocks only to have her catch again.

(15) *Ausensi & Bigolin (2023: 149)*

At some point, he burned a scar on her arm.

The verb's root in these predicates cannot be understood as the argument of a BECOME primitive semantic predicate. If that was the case, the result component specified by the conceptual content of the root would apply to the entity denoted by the direct internal argument. Furthermore, the root would not be able to appear in predicates denoting events of creation/consumption, where the BECOME prim-

itive semantic predicate is not involved at all. I have argued, following [Ausensi & Bigolin \(2023\)](#), that constructions where verbs based on ‘result’ roots are used to specify a Co-Event are felicitous as long as the undergoer of the result conceptually entailed by the root can be recovered based on general world knowledge or by pragmatic inference, irrespective of its syntactic function in the argument structure of the predicate. This follows from the neo-constructionist tenet that the conceptual content of roots is opaque to syntax, whereby roots that conceptually entail a result continue to do so even if they are understood structurally as specifying a Co-Event.

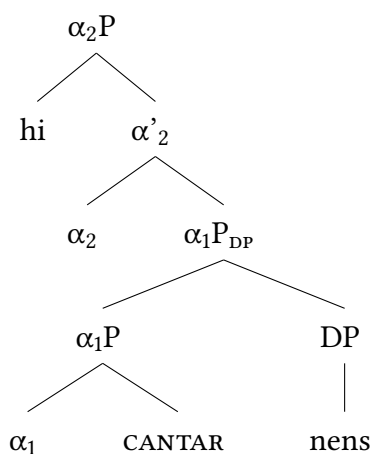
6.2 Avenues for future research

6.2.1 Co-Events and complex existential constructions

The argument structure of complex existential constructions of the type in (16), repeated from (43b) of Chapter 3, might require further investigation.

- (16) *Catalan; based on Rigau (1997: 415)*
 En aquesta coral, hi canten nens.
 in this choir LOC sing.3PL children
 ‘There are children singing in this choir.’

In §3.3, building in part on [Rigau \(1997\)](#); [Mateu & Rigau \(2002\)](#), I have proposed that constructions of this type involve a dyadic α P where an impersonalizing element, realized as a locative clitic (*hi*) in Catalan, is understood as the holder of a property denoted both by the nominal argument (e.g., *nens* ‘children’ in (16)) and by an atomic Davidsonian event projected by a monadic α P (α_1 P in (17)), which is e-merged with the nominal expression as the complement of the dyadic α P and undergoes identification with it at the level of the conceptual/intentional system.

(17) *Argument structure of (16)*

The syntactic argument structure in (17) accounts for the fact that these constructions can also appear with phrasal verbal expressions specifying the atomic Davidsonian event, as in (18). Namely, the monadic α_1 is expressed by means of *fer* ('do') in (18) and takes a nominal element (e.g., *feina* 'work') as its complement.

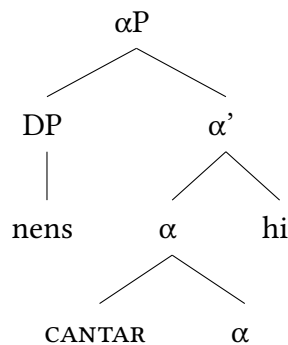
(18) *Catalan; example from a web search (Gemma Rigau, p.c.)*

Al restaurant de les Solivelles només hi fan feina dones.
 at.the restaurant of the Solivelles only LOC do.3PL work women
 'Only women work at the Solivelles restaurant.'

Furthermore, in §4.3.1.2 I have argued that the configuration in (17) correctly predicts that these constructions are available in verb-framed languages, according to the PF account of Talmy's typology put forward in Chapter 4. A problem with the structure in (17) is that there seems to be no clear evidence to claim that complex existential constructions involve a relation of identification between the eventuality denoted by the verb and the post-verbal nominal expression, such as *nens* ('children') in (16) and *dones* ('women') in (18). In particular, if elements as conceptually different as an event and a nominal expression denoting individuals can successfully undergo identification, one would expect that this operation could be observed with greater flexibility in other argument structures as well (for example, in those associated with resultative predicates and creation/consumption predicates), making the crosslinguistic variation related to Talmy's typology ap-

pear less distinct in various contexts. An alternative analysis of complex existential constructions might see the locative deictic element (e.g., Catalan *hi*) merged as the complement of the dyadic α P (akin to what is proposed in [Acedo-Matellán 2016](#)), where it is related to the post-verbal nominal element which, in turn, is merged as α 's specifier. The verb's root, instead, forms a complex head with α , as in (19).

(19) *Argument structure of (16)*



The presence of complex existential constructions in verb-framed Romance languages would be accounted for, because the deictic element merged as α P's complement can form a complex head with α and the root at PF, via GenHM. This analysis would imply abandoning the claim that roots cannot be adjoined to the head of a dyadic α P. In §3.3, I proposed that roots in such a configuration would remain uninterpreted at LF, given that the head of a dyadic α P does not undergo identification (as it performs a semantic function as a predicative relator). An alternative option, however, would be to assume that roots adjoined to α in dyadic α Ps are simply ignored at LF, while they are regularly associated with a phonological exponent at PF. As a consequence, they are not interpreted as referring to a Co-Event in the context of the predicate. The proposal aligns with an observation put forward in [Ljung \(1980: 135\)](#) (in [Levin & Rappaport Hovav 1995: 259](#)) in reference to the so-called locative inversion construction of English ([Levin & Rappaport Hovav 1995](#)), exemplified in (20).

(20) *Locative inversion construction; Levin & Rappaport Hovav (1995: 257)*

Inside swam fish from an iridescent spectrum of colors.

Levin & Rappaport Hovav (1995) claimed that the locative inversion construction shares similarities with the *there*-insertion construction, which, in turn, bears some resemblance to the complex existential constructions of Romance under concern (see also Mendikoetxea 2006b; Ojea 2019; further see Culicover & Levine 2001; Mendikoetxea 2006a for evidence, *pace* Levin & Rappaport Hovav 1995, that the locative inversion construction is unaccusative, like complex existential constructions). Ljung (1980) argued that the verb, in expressions of the type in (20), is “nonreferring”, an observation which might be argued to apply also in the case of the complex existential constructions of Romance languages under discussion. In particular, the non-referentiality of the verb in these constructions would follow from the fact that the verb’s root does not undergo identification with the head of a monadic α P, whereby it is not associated with a Davidsonian event argument, which is needed to provide spatiotemporal coordinates (Maienborn 2007, 2019) to the conceptual content of the root. A problem with this analysis is that it does not account for the fact that phrasal verbal expressions can appear in the construction, as exemplified in (18). However, this might be a more general problem with the proposal that Co-Events arise via a mechanism of root-adjunction (§3.3 and references therein), since complex Co-Event expressions are also found in other constructions crosslinguistically. Consider, for instance, the example in (21), where a creation/consumption event seems to function as the Co-Event of a change-of-location event, and the subject (*the ball*) is understood, conceptually, both as the agent of the creation/consumption event and the undergoer of the change-of-location event.¹

¹A Co-Event interpretation of the [verb-object] cluster also seems to arise in expressions like (i), where the Co-Event component does not refer to an event of creation (but see McIntyre 2004 for the claim that the PP in (i) is adjoined to the verbal predicate, whereby the verb is not interpreted as denoting a Co-Event).

- (i) *Talmy (2000b: 28)*
She wore a green dress to the party.

In (i), the direct object may be understood as contributing to the specification of an activity denoted by the verb, whereby it would be e-merged together with the verb’s root and understood,

(21) *Nakajima (2006: 674)*

Stanley watched as the ball bounced a funny little bounce right into the shortstop's glove.

There seem to be some similarities between constructions like (21) and complex existential constructions like (18), which deserve further investigation. For instance, both constructions seem to require an indefinite reading of the direct object (Jaume Mateu, p.c.), which might be taken to suggest that the expression of Co-Events can be phrasal but limited to monadic configurations (i.e. without specifiers in the syntactic structure associated with a Co-Event interpretation; see also considerations in Mateu 2002). Another problem with the structure in (19) (shared with Acedo-Matellán's 2016 and Mateu's 2002 analyses, as pointed out in Mateu 2015), however, is that, by positing the nominal argument in the specifier position, there is no way to capture the generalization whereby definite nominal expressions are not possible in complex existential constructions (whereby expressions like, e.g., *En aquesta coral, hi canten els nens* 'The children sing in this choir' can only be interpreted as involving an unergative structure). The argument structures of predicates of the type in (16), (18), and (21) give rise to questions to which future research ought to make a significant contribution.

6.2.2 More on incrementality in the licensing of Co-Events

Another issue that deserves further attention concerns the role of incrementality in the licensing of a Co-Event reading of the main verb in complex creation/consumption predicates. This issue is particularly relevant to the absence of complex creation/consumption predicates in weak satellite-framed languages like Slavic languages. In Chapter 4, I have argued that weak satellite-framed languages are

structurally, as a hyponym of the verb in the context of the predicate. A further problem for this analysis, assuming the model of argument structure proposed in Chapter 3, is that this structure is the same one that gives rise to creation/consumption predicates, yet the predicate in (i) does not show event-object homomorphism as observed for predicates of creation/consumption (Harley 2005; §3.2.2.1).

fundamentally verb-framed languages and that bona fide complex creation/consumption predicates are not licensed in Slavic languages because these predicates are not compatible with the PF requirement on the head α involved in the syntactic composition of argument structure. In verb-framed languages, this head is required to form a complex head with the head of its complement, and such a configuration leads to a crash at Vocabulary Insertion with creation/consumption predicates in the Slavic languages taken into account. In §4.4.2.3, I have further considered an explanation for the absence of bona fide creation/consumption predicates in Slavic languages based on the assumption that a Co-Event reading of the verb can obtain in a predicate only if an incremental chain (Rothstein 2004) is present in the predicate, either provided by the verb's root or by an internal argument (see, e.g., considerations in Gehrke 2008). Creation/consumption predicates are usually provided with an incremental structure by the entity denoted by the direct object, while the verb denotes an activity if no direct object is present. However, the direct object of bona fide creation/consumption predicates is typically not understood as an incremental theme in Slavic languages. This leaves the predicate without an incremental structure, deriving the impossibility of a Co-Event reading of the verb. Some preliminary support to this analysis comes from considering the licensing of creation/consumption predicates in Chinese. According to a native speaker (Ziwen Wang, p.c.), creation/consumption predicates where the verb implies the creation/consumption of the direct object can appear either with or without overt functional structure (e.g., number and class features) on the object in this language. In contrast, complex creation/consumption predicates require the presence of such structure. In other words, contrasts like the one in (22) can be observed.

(22) *Chinese; Ziwen Wang, p.c.*

- a. Ta wa-le (yi-ge) dong zai di shang.
he dig-PFV NUM-CLASS hole in ground above
'He dug a hole in the ground.'
- b. Ta shua-le *(yi-ge) dong zai waitao shang.
she brush-PFV NUM-CLASS hole in coat above

‘She brushed a hole in her coat.’

The contrast in (22) might be explained if the Co-Event reading of the verb in (22b), where an interpretation of the direct object as a hyponym of the verb (in the sense of Hale & Keyser 1997b) is unavailable based on world knowledge considerations, is contingent on an incremental structure of the predicate, which would be provided by the extended projection of the direct object (namely, *yi-ge*).

Contextual conditions might trigger an incremental theme reading of the direct object in creation/consumption predicates in Slavic languages (see, e.g., Mehlig 2012 for Russian). However, in §4.4.2.3 I have provided tentative evidence suggesting that, even under these conditions, the expression of a Co-Event in the main verb of the predicate remains unavailable in complex creation/consumption predicates in Slavic languages. Nevertheless, further research is warranted to investigate the semantic explanation based on incrementality in more depth. Specifically, future studies should focus on the extent to which tests based on the conditions specified in Mehlig (2012) can identify incremental theme objects, both across different Slavic languages and across different creation/consumption predicates within the same language. Additionally, weak satellite-framed languages where creation/consumption predicates with a bounded interpretation of the direct object can be licensed notwithstanding pragmatic considerations based on contextual conditions should be examined with respect to the availability of complex creation/consumption predicates. If such languages license bona fide complex creation/consumption predicates of the type found in satellite-framed languages like English, a revision of the present account of Talmy’s typology with respect to weak satellite-framed languages would be required. This is because predicates of this type would demonstrate that weak satellite-framed languages can license predicates with a Co-Event reading of the verb irrespective of whether the eventive head forms a complex head with the head of its complement, which is what is observed, instead, in verb-framed languages.

6.2.3 Complex creation/consumption predicates in verb-framed languages

Finally, a prediction of the account of Talmy's typology put forth in Chapter 4 which could not be tested empirically in this thesis concerns the availability, in verb-framed languages, of complex creation/consumption predicates where α 's PF requirement to form a complex head with the head of its complement is satisfied by a functional morpheme e-merged in the extended projection of the internal argument that is introduced in α 's complement. The structure involved is the same one that I have proposed in (42) of Chapter 4, repeated in (24) below, for the derivation of (ungrammatical) complex creation/consumption predicates like (23) in verb-framed Spanish. In §4.3.1.4, I have proposed that the derivation in (23) fails because the highest head in α 's complement (and, presumably, the root e-merged with α) cannot be associated with a suitable phonological exponent at PF given the context of insertion created by GenHM, which sees the formation of a complex head linearized as in (24c).

(23) *Spanish*

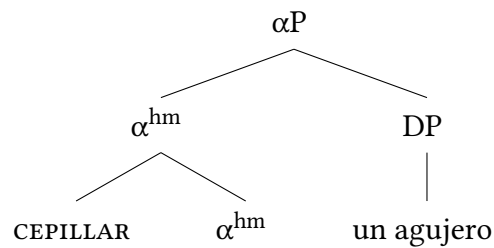
*Cepilló un agujero en su abrigo.

brush.PST.3SG a hole in POSS coat

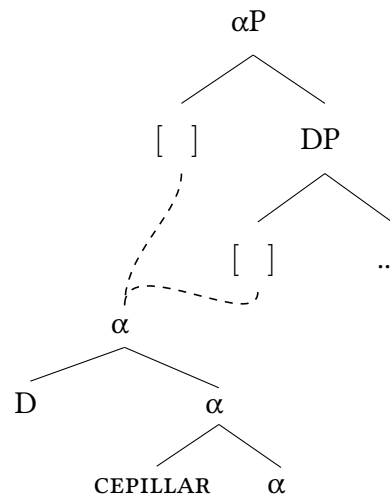
Intended: 'She brushed a hole in her coat.'

(24) *Proposed syntactic and PF derivation of (23)*

a. *Input to PF*



b. *Output of GenHM*



c. *Linearization*

D-CEPILLAR- α

d. *Vocabulary Insertion*

?-?- \emptyset

The analysis predicts that the derivation would be felicitous if the morphemes linearized in (24c) could be successfully assigned a phonological exponent at Vocabulary Insertion. While I have proposed that this is not the case for the verb-framed

languages and the weak satellite-framed languages considered in this thesis, finding verb-framed languages where instances of predicates involving the derivation in (24) are attested would strengthen the PF account of Talmy's typology presented in Chapter 4, providing the counterpart of what is observed in the domain of resultative predicates with weak satellite-framed constructions.

Appendix to Chapter 4

In this appendix, I present the data gathered from the native speakers of the languages tested in the cross-linguistic survey presented in §4.4.¹ The survey aims to study the availability of creation/consumption predicates depending on whether the verb implies the creation/consumption of the direct object or is interpreted as specifying a Co-Event, across typologically different languages with respect to Talmy's typology. I also provide the results gathered from the native speakers of the Slavic languages tested involving predicates in which the verb is made perfective by internal prefixes. For each language, the examples are arranged in the same order as the English examples in (62) to (80) of Chapter 4. See Table 5, 6, 7, and 8 for a schematic representation of the grammaticality judgments associated with the examples in this appendix.

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¹The data in this appendix serve as a resource for both this thesis and Bigolin (to appear) and are also accessible at https://osf.io/5a8nw?view_only=ab1508753f9f4c25ba30358819e831b2.

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A.1 Creation/consumption predicates in satellite-framed languages

A.1.1 Dutch

- (1) Jan zong een liedje.
Jan sang a song
'Jan sang a song.'

- (2) Zij dansten een Sligo jig.
they danced a Sligo jig
'They danced a Sligo jig.'
- (3) Ariel at de mango.
Ariel ate the mango
'Ariel ate the mango.'
- (4) Hij groef een gat in de grond.
he dug a hole in the ground
'He dug a hole in the ground.'
- (5) Ze weefde het tafelkleed.
she wove the tablecloth
'She wove the tablecloth.'
- (6) Marco schilderde een lucht.
Marco painted a sky
'Marco painted a sky.'
- (7) Maria sneed een pop.
Maria cut a doll.
'Maria carved a doll.'
- (8) Ze brandde een gat in haar jas.
she burned a hole in her coat
'She burned a hole in her coat.'
- (9) Hij krabde een gat in de grond.
he scratched a hole in the ground
'He scratched a hole in the ground.'

- (10) Ze prikte een wond in haar vinger.
she punctured a wound in her finger
'She punctured a wound in her finger.'
- (11) Ze sneed een wond in haar voet.
she cut a wound in her foot
'She cut a wound in her foot.'
- (12) Ze beet een gat in de tas.
she bit a hole in the bag
'She bit a hole in the bag.'
- (13) De avonturier liep de wandelroute.
the adventurer walked the trail
'The adventurer walked the trail.'
- (14) *De avonturier zwom het kanaal.
the adventurer swam the channel
'The adventurer swam the channel.'
- (15) Deanne schopte een gat in de muur.
Deanne kicked a hole in the wall
'Deanne kicked a hole in the wall.'
- (16) Ze toverde een cursor ??(tevoorschijn).
she magicked a cursor out
'She magicked a cursor.'
- (17) Ze borstelde een gat in haar jas.
she brushed a hole in her coat
'She brushed a hole in her coat.'

- (18) *Jan glimlachte zijn dank.
Jan smiled his thanks
'Jan smiled his thanks.'
- (19) *Elna fronste haar ongemak.
Elna frowned her discomfort
'Elna frowned her discomfort.'

A.1.2 German

- (20) Hans sang ein Lied.
Hans sang a song
'Hans sang a song.'
- (21) Sie tanzten einen Sligo Jig.
they danced a Sligo jig
'They danced a Sligo jig.'
- (22) Ariel aß die Mango.
Ariel ate the mango
'Ariel ate the mango.'
- (23) Er grub ein Loch in den Boden.
he dug a hole in the ground
'He dug a hole in the ground.'
- (24) Sie webte die Tischtuch.
she wove the tablecloth
'She wove the tablecloth.'
- (25) Marko malte einen Himmel.
Marko painted a sky
'Marko painted a sky.'

- (26) Maria schnitzte eine Puppe.
Maria carved a doll
'Maria carved a doll.'
- (27) Sie brannte ein Loch in ihren Mantel.
she burned a hole in her coat
'She burned a hole in her coat.'
- (28) Er kratzte ein Loch in den Boden.
he scratched a hole in the ground
'He scratched a hole in the ground.'
- (29) Sie stach eine Wunde in ihren Finger.
she punctured a wound in her finger
'She punctured a wound in her finger.'
- (30) Sie schnitt eine Wunde in ihren Fuß.
she cut a wound in her foot
'She cut a wound in her foot.'
- (31) Sie biss ein Loch in die Tasche.
she bit a hole in the bag
'She bit a hole in the bag.'
- (32) Der Abenteurer ging den Wanderweg.
the adventurer walked the trail
'The adventurer walked the trail.'
- (33) *Der Abenteurer schwamm den Kanal.
the adventurer swam the channel
'The adventurer swam the channel.'

- (34) Diana trat ein Loch in die Wand.
Diana kicked a hole in the wall
'Diana kicked a hole in the wall.'
- (35) no verb 'magick'
- (36) Sie bürstete ein Loch in ihren Mantel.
she brushed a hole in her coat
'She brushed a hole in her coat.'
- (37) ##Hans lächelte seinen Dank.
Hans smiled his thanks
'Hans smiled his thanks.'
- (38) no verb 'frown'
- A.1.3 Chinese**
- (39) John chang-le ge.
John sing-PFV song
'John sang a song.'
- (40) Tamen tiao-le Sligo jig.
they dance-PFV Sligo jig
'They danced a Sligo jig.'
- (41) Ariel chi-le mangguo.
Ariel eat-PFV mango
'Ariel ate the mango.'
- (42) Ta wa-le yi-ge dong zai di shang.
he dig-PFV NUM-CLASS hole in ground above
'He dug a hole in the ground.'

- (43) Ta zhi-le yi-zhang zhuobu.
she weave-PFV NUM-CLASS tablecloth
'She wove the tablecloth.'
- (44) Marco hua-le tiankong.
Marco paint-PFV sky
'Marco painted a sky.'
- (45) Maria ke-le yi-ge wawa.
Maria carve-PFV NUM-CLASS doll
'Maria carved a doll.'
- (46) Ta shao-le yi-ge dong zai waitao shang.
she burn-PFV NUM-CLASS hole in coat above
'She burned a hole in her coat.'
- (47) Ta nao-le yi-ge dong zai di shang.
he scratch-PFV NUM-CLASS hole in ground above
'He scratched a hole in the ground.'
- (48) Ta ci-le yi-ge dong zai shouzhi shang.
she puncture-PFV NUM-CLASS hole in finger above
'She punctured a wound in her finger.'
- (49) Ta qie-le yi-ge kouzi zai jiao shang.
she cut-PFV NUM-CLASS wound in foot above
'She cut a wound in her foot.'
- (50) Ta yao-le yi-ge dong zai daizi shang.
she bite-PFV NUM-CLASS hole in bag above
'She bit a hole in the bag.'

- (51) Maoxianjia zou-le xiaolu.
adventurer walk-PFV trail.
'The adventurer walked the trail.'
- (52) *Tanxianjia you-le haixia.
adventurer swim-PFV channel
'The adventurer swam the channel.'
- (53) Deanne ti-le yi-ge dong zai qiang shang.
Deanne kick-PFV NUM-CLASS hole in wall above
'Deanne kicked a hole in the wall.'
- (54) Ta biao-le yi-ge jiantou.
she magick-PFV NUM-CLASS pointer
'She magicked a pointer.'
- (55) Ta shua-le yi-ge dong zai waitao shang.
she brush-PFV NUM-CLASS hole in coat above
'She brushed a hole in her coat.'
- (56) *John xiao-le-xie.
John smile-PFV-thank
'John smiled his thanks.'
- (57) no verb 'frown'

A.1.4 Hungarian²

- (58) János énekelt egy dalt.
János sang a song
'János sang a song.'
- (59) Táncoltak egy Sligo jiget.
danced.3PL a Sligo jig
'They danced a Sligo jig.'
- (60) Ariel ette a mangót.
Ariel ate.IPFV the mango
'Ariel was eating the mango.'
- (61) Ásott egy lyukat/gödröt a föld-be.
dug.3SG a hole the ground-into
'He dug a hole in the ground.'
- (62) Hímzett az asztalterítőt.
wove.3SG the tablecloth
'She wove the tablecloth.'

²The examples from Hungarian in (61), (66) and (69) display a directional PP instead of a locative one. According to an informant, locative PPs in these examples would be understood as specifying the location in which the whole event of creation takes place, including the referent of the external argument. The presence of a directional PP hardly implies that these examples do not involve an unergative argument structure of the type associated with predicates of creation/consumption. For instance, it is noteworthy that the directional PP remains post-verbal in these examples and it tends to be interpreted as a focused element when pre-verbal, which may tentatively be taken to suggest that it is merged as a nominal modifier within the DP object. In Hungarian resultative predicates, directional PPs in neutral sentences must appear pre-verbally in the absence of a resultative particle (see, e.g., [Kardos & Farkas 2022](#)).

- (63) Marco festett egy (??eget) / virágot.
Marco painted a sky / flower
'Marco painted a sky / flower.'
- (64) Maria faragott egy babát.
Maria carved a doll
'Maria carved a doll.'
- (65) Égetett egy lyukat a kabát-on.
burned.3SG a hole the coat-on
'She burned a hole in her coat.'
- (66) Kapart egy lyukat/gödröt a föld-be.
scratched.3SG a hole the ground-into
'He scratched a hole in the ground.'
- (67) *Fúrt egy sebet az ujjá-n.
punctured.3SG a wound the finger-on
'She punctured a wound in her finger.'
- (68) Vágott egy sebet a lábá-n.
cut.3SG a wound the foot-on
'She cut a wound in her foot.'
- (69) Harapott egy lyukat a táská-ba.
bit.3SG a hole the bag-into
'She bit a hole in the bag.'
- (70) A kalandor járta az ösvényt *(sokat).
the adventurer walked the trail a.lot
'The adventurer walked the trail *(a lot).'

- (71) *A kalandor úszta a csatornát.
the adventurer swam the channel
'The adventurer swam the channel.'
- (72) Deanne rúgott egy lyukat a falon.
Deanne kicked a hole the wall-on
'Deanne kicked a hole in the wall.'
- (73) Varázsolt egy kurzort.
magicked.3SG a cursor
'She magicked a cursor.'
- (74) Lyukat dörzsölt a kabát-on.
hole brushed/rubbed.3SG the coat-on
'She brushed a hole in her coat.'
- (75) *János mosolyogta a köszönet-ét.
János smiled the thanks
'János smiled his thanks.'
- (76) *Elna ráncolta a kényelmetlenségét.
Elna frowned.IPFV the discomfort
'Elna frowned her discomfort.'

A.2 Creation/consumption predicates in verb-framed languages

A.2.1 Italian

- (77) Gianni ha cantato una canzone.
Gianni has sung a song
'Gianni sang a song.'

- (78) Hanno danzato una Sligo jig.
have.3PL danced a Sligo jig
'They danced a Sligo jig.'
- (79) Ariel ha mangiato il mango.
Ariel has eaten the mango
'Ariel ate the mango.'
- (80) Ha scavato un buco nel terreno.
has dug a hole in.the ground
'He dug a hole in the ground.'
- (81) Ha tessuto la tovaglia.
has woven the tablecloth
'She wove the tablecloth.'
- (82) Marco ha dipinto un cielo.
Marco has painted a sky
'Marco painted a sky.'
- (83) Maria ha intagliato una bambola.
Maria has carved a doll
'Maria carved a doll.'
- (84) *Ha bruciato un buco sul suo cappotto.
has burned a hole on.the her coat
'She burned a hole in her coat.'
- (85) *Ha grattato un buco nel terreno.
has scratched a hole in.the ground
'He scratched a hole in the ground.'

- (86) ??Ha punto una ferita sul suo dito.
has punctured a wound on.the her finger
'She punctured a wound in her finger.'
- (87) *Ha tagliato una ferita sul suo piede.
has cut a wound on.the her foot
'She punctured a wound in her foot.'
- (88) *Ha morso un buco nella borsa.
has bitten a hole in.the bag
'She bit a hole in the bag.'
- (89) *L' avventuriero ha camminato il sentiero.
the adventurer has walked the trail
'The adventurer walked the trail.'
- (90) *L' avventuriero ha nuotato il canale.
the adventurer has swum the channel
'The adventurer swam the channel.'
- (91) *Deanne ha calciato un buco nel muro.
Deanne has kicked a hole in.the wall
'Deanne kicked a hole in the wall.'
- (92) no verb 'magick'
- (93) *Ha spazzolato un buco sul suo cappotto.
has brushed a hole on.the her coat
'She brushed a hole in her coat.'
- (94) *Gianni ha sorriso la sua gratitudine.
Gianni has smiled the his gratitude
'Gianni smiled his thanks.'

- (95) *Elna ha agrottato il suo disagio.
Elna has frowned the her discomfort
'Elna frowned her discomfort.'

A.2.2 Catalan

- (96) En Joan va cantar una cançó.
the Joan PST sing a song
'Joan sang a song.'
- (97) Van ballar un Sligo jig.
PST.3PL dance a Sligo jig
'They danced a Sligo jig.'
- (98) L' Ariel va menjar el mango.
the Ariel PST eat the mango
'Ariel ate the mango.'
- (99) Va excavar un forat a terra.
PST.3SG dig a hole at.the ground
'He dug a hole in the ground.'
- (100) Va teixir les estovalles.
PST.3SG weave the tablecloth
'She wove the tablecloth.'
- (101) En Marco va pintar un cel.
the Marco PST paint a sky
'Marco painted a sky.'
- (102) La Maria va entallar una nina.
the Maria PST carve a doll
'Maria carved a doll.'

- (103) *Va cremar un forat a la seva jaqueta.
PST.3SG burn a hole at the her coat
'She burned a hole in her coat.'
- (104) *Va rascar un forat a terra.
PST.3SG scratch a hole at.the ground
'He scratched a hole in the ground.'
- (105) *Va punxar una ferida al dit.
PST.3SG puncture a wound at.the finger
'She punctured a wound in her finger.'
- (106) *Va tallar una ferida al peu.
PST.3SG cut a wound at.the foot
'She cut a wound in her foot.'
- (107) *Va mossegar un forat a la bossa.
PST.3SG bite a hole at the bag
'She bit a hole in the bag.'
- (108) *L' aventurer va caminar el camí.
the adventurer PST walk the trail
'The adventurer walked the trail.'
- (109) *L' aventurer va nadar el canal.
the adventurer PST swim the channel
'The adventurer swam the channel.'
- (110) no verb 'kick'
- (111) no verb 'magick'

- (112) *Va raspallar un forat a la seva jaqueta.
PST.3SG brush a hole at the her coat
'She brushed a hole in her coat.'
- (113) *En Joan va somriure les seves gràcies.
the Joan PST smile the his thanks
'Joan smiled his thanks.'
- (114) *La Elna va arrufar el seu desconfort.
the Elna PST frown the her discomfort
'Elna frowned her discomfort.'

A.2.3 Spanish

- (115) Juan cantó una canción.
Juan sang a song
'Juan sang a song.'
- (116) Bailaron un Sligo jig.
danced.3PL a Sligo jig
'They danced a Sligo jig.'
- (117) Ariel comió el mango.
Ariel ate the mango
'Ariel ate the mango.'
- (118) Excavó un agujero en la tierra.
dug.3SG a hole in the ground
'He dug a hole in the ground.'
- (119) Tejió el mantel.
wove.3SG the tablecloth
'She wove the tablecloth.'

- (120) Marco pintó un cielo.
Marco painted a sky
'Marco painted a sky.'
- (121) María talló una muñeca.
María carved a doll
'María carved a doll.'
- (122) *Quemó un agujero en su abrigo.
burned.3SG a hole in her coat
'She burned a hole in her coat.'
- (123) *Rascó un agujero en la tierra.
scratched.3SG a hole in the ground
'He scratched a hole in the ground.'
- (124) *Pinchó una herida en su dedo.
punctured.3SG a wound in her finger
'She punctured a wound in her finger.'
- (125) *Cortó una herida en su pie.
cut.3SG a wound in her foot
'She cut a wound in her foot.'
- (126) *Mordió un agujero en la bolsa.
bit.3SG a hole in the bag
'She bit a hole in the bag.'
- (127) ?El aventurero anduvo el camino.
the adventurer walked the trail
'The adventurer walked the trail.'

- (128) ?El aventurero nadó el canal.
the adventurer swam the channel
'The adventurer swam the channel.'
- (129) *Deanne pateó un agujero en la pared.
Deanne kicked a hole in the wall
'Deanne kicked a hole in the wall.'
- (130) no verb 'magick'
- (131) *Cepilló un agujero en su abrigo.
brushed.3SG a hole in her coat
'She brushed a hole in her coat.'
- (132) ?Juan sonrió un "gracias".
Juan smiled a thanks
'Juan smiled his thanks.'
- (133) *Elna frunció su descontento.
Elna frowned her discomfort
'Elna frowned her discomfort.'

A.2.4 Basque

- (134) Jonek abesti bat abestu zuen.
Jon song a sing PST
'Jon sang a song.'
- (135) Sligo jig bat dantzatu zuten.
Sligo jig a dance PST.3PL
'They danced a Sligo jig.'

- (136) Arielek mangoa jan zuen.
Ariel mango eat PST
'Ariel ate the mango.'
- (137) Zulo bat egin zuen lurre-an.
hole a make PST.3SG ground-in
'He dug a hole in the ground.'
- (138) Mahaizapia ehundu zuen.
tablecloth weave PST.3SG
'She wove the tablecloth.'
- (139) Markok zeru bat margotu zuen.
Marko sky a paint PST
'Marko painted a sky.'
- (140) Mariak panpin bat zizelkatu zuen.
Maria doll a carve PST
'Maria carved a doll.'
- (141) Zulo bat erre zuen jak-an.
hole a burn PST.3SG jacket-in
'She burned a hole in her coat.'
- (142) Zulo bat hazkatu zuen lurre-an.
hole a scratch PST.3SG ground-in
'He scratched a hole in the ground.'
- (143) ??Zauri bat ziztatu zuen atzamarre-an.
wound a puncture PST.3SG finger-in
'She punctured a wound in her finger.'

- (144) ??Zauri bat moztu zuen oine-an.
wound a cut PST.3SG foot-in
'She cut a wound in her foot.'
- (145) ?Zulo bat hozkatu zuen poltsan.
hole a bit PST.3SG bag-in
'She bit a hole in the bag.'
- (146) Abenturazaleak bidea ibili zuen.
adventurer trail walk PST
'The adventurer walked the trail.'
- (147) no verb 'swim'
- (148) *Deannek zulo bat hostikatu zuen paret-an.
Deanne hole a kick PST wall-in
'Deanne kicked a hole in the wall.'
- (149) no verb 'magick'
- (150) *Zulo bat leundu zuen jak-an.
hole a brush PST.3SG jacket-in
'She brushed a hole in her coat.'
- (151) no verb 'smile'
- (152) no verb 'frown'
- A.2.5 Greek**
- (153) O John traghudhise ena traghudi.
the John sang a song
'John sang a song.'

- (154) Xorepsan ena Sligo jig.
danced.3PL a Sligo jig
'They danced a Sligo jig.'
- (155) I Ariel efaye to mango.
the Ariel ate the mango
'Ariel ate the mango.'
- (156) Eskapse mia tripa sto xoma.
dug.3SG a hole at.the ground
'He dug a hole in the ground.'
- (157) Eplekse ena trapezomandilo.
wove.3SG a tablecloth
'She wove a tablecloth.'
- (158) O Markos zoghrافise enan urano.
the Markos painted a sky
'Markos painted a sky.'
- (159) I Maria skalise mia kukla.
the Maria carved a doll.
'Maria carved a doll.'
- (160) *Ekapse mia tripa sto palto tis.
burned.3SG a hole at.the coat hers
'She burned a hole in her coat.'
- (161) Eksise mia tripa sto xoma.
scratched.3SG a hole at.the ground
'He scratched a hole in the ground.'

- (162) *Tripise mia pliyi sto dhaxtilo tis.
pierced.3SG a wound at.the finger her
'She punctured a wound in her finger.'
- (163) *Ekopse mia pliyi sto podhi tis.
cut.3SG a wound at.the foot hers
'She cut a wound in her foot.'
- (164) *Dhagose mia tripa stin tsanda.
bit.3SG a hole at.the bag
'She bit a hole in the bag.'
- (165) O ekserevnitis perpatise to monopati.
the adventurer walked the trail
'The adventurer walked the trail.'
- (166) O ekserevnitis kolimbise to kanali.
the adventurer swam the channel
'The adventurer swam the channel.'
- (167) *O Deanne klotsise mia tripa ston tixo.
the Deanne kicked a hole at.the wall
'Deanne kicked a hole in the wall.'
- (168) *Mayepse enan dhromea.
magicked.3SG a cursor
'She magicked a cursor.'
- (169) *Etripse mia tripa sto palto tis.
brushed.3SG a hole at.the coat hers
'She brushed a hole in her coat.'

(170) ?O John xamoghelase tis efxaristies tu.
the John smiled the thanks his
'John smiled his thanks.'

(171) *Elna katsufiase ti disareskia tis.
Elna frowned the discomfort her
'Elna frowned her discomfort.'

A.3 Imperfective creation/consumption predicates in Slavic languages

A.3.1 Russian

(172) Džon pel pesnju.
Džon sang.IPFV song
'Džon was singing a song.'

(173) Oni tancevali slaigskuju džigu.
they danced.IPFV Sligo jig
'They were dancing a Sligo jig.'

(174) Ariel el mango.
Ariel ate.IPFV mango
'Ariel was eating the mango.'

(175) On ryl jamu v zemle.
he dug.IPFV hole in ground
'He was digging a hole in the ground.'

(176) Ona tkala skatert'.
she wove.IPFV tablecloth
'She was weaving the tablecloth.'

- (177) Marco risoval nebo.
Marco painted.IPFV sky
'Marco was painting a sky.'
- (178) *Maria rezala kuklu.
Maria carved.IPFV doll
'Maria was carving a doll.'
- (179) *Ona žgla dyru v pal'tó.
she burned.IPFV hole in coat
'She was burning a hole in her coat.'
- (180) On carapal dyru v zemle.
he scratched.IPFV hole in ground
'He was scratching a hole in the ground.'
- (181) *Ona bila ranu na pal'ce.
she punctured.IPFV wound in finger
'She was puncturing a wound in her finger.'
- (182) *Ona rezala ranu na noge.
she cut.IPFV wound in foot
'She was cutting a wound in her foot.'
- (183) *Ona kusala dyru v sumke.
she bit.IPFV hole in bag
'She was biting a hole in the bag.'
- (184) *Putešestvennik šel tropu.
traveller walked.IPFV trail
'The traveller was walking the trail.'

(185) *Putešestvennik plyn kanal.
traveller swam.IPFV channel
'The traveller was swimming the channel.'

(186) *Deanne pinkom bila dyru v stene.
Deanne kick.INS hit.IPFV hole in wall
'Deanne was kicking a hole in the wall.'

(187) *Ona koldovala kursor.
she magicked.IPFV cursor
'She was magicking a cursor.'

(188) *Ona česala dyru v svojem pal'tó.
she brushed.IPFV hole in her coat
'She was brushing a hole in her coat.'

(189) 'smile' is only reflexive

(190) 'frown' is only reflexive

A.3.2 Ukrainian

(191) Jon spivav pisniu.
Jon sang.IPFV pisniu
'Jon was singing a song.'

(192) Vony tancjuvaly slaigo jig.
they danced.IPFV Sligo jig
'They were dancing a Sligo jig.'

(193) Ariel jila mango.
Ariel ate.IPFV mango
'Ariel was eating the mango.'

- (194) Vin kopav jamu u zemli.
he dug.IPFV hole in ground
'He was digging a hole in the ground.'
- (195) Vona vjazala skatertynu.
she wove.IPFV tablecloth
'She was weaving the tablecloth.'
- (196) Marco maluvav nebo.
Marco painted.IPFV sky
'Marco was painting a sky.'
- (197) *Maria rizala lialku.
Maria carved.IPFV doll
'Maria was carving a doll.'
- (198) Vona zhgla/*palyla dyrku v kurtci.
she burned.IPFV hole in coat
'She was burning a hole in her coat.'
- (199) Vin driapav jamu u zemli.
he scratched.IPFV hole in ground
'He was scratching a hole in the ground.'
- (200) Vona kolola ranu v palci.
she punctured.IPFV wound in finger
'She was puncturing a wound in her finger.'
- (201) *Vona rizala ranu v stupni.
she cut.IPFV wound in foot
'She was cutting a wound in her foot.'

- (202) *Vona gryzła/kussala dyrku v sumci.
she bit.IPFV hole in bag
'She was biting a hole in the bag.'
- (203) *Mandrivnyk ishov steshku.
adventurer walked.IPFV trail
'The adventurer was walking the trail.'
- (204) *Mandrivnyk plyv kanal.
adventurer swam.IPFV channel
'The adventurer was swimming the channel.'
- (205) *Din byv dyru u stini.
Din kicked.IPFV hole in wall
'Din was kicking a hole in the wall.'
- (206) *Vona chakluwała kursor.
she magicked.IPFV cursor
'She was magicking a cursor.'
- (207) *Vona terła dyrku na kurtci.
she brushed.IPFV hole in coat
'She was brushing a hole in her coat.'
- (208) 'smile' is only reflexive
- (209) 'frown' is only reflexive
- A.3.3 Polish**
- (210) Jan śpiewał piosenkę.
Jan sang.IPFV song
'Jan was singing a song.'

- (211) Tańczyli gigę Sligo.
danced.IPFV.3PL jig Sligo.
'They were dancing a Sligo jig.'
- (212) Ariel jadła mango.
Ariel ate.IPFV mango
'Ariel was eating the mango.'
- (213) On kopał dziurę w ziemi.
he dug.IPFV hole in ground
'He was digging a hole in the ground.'
- (214) Tkała obrus.
wove.IPFV.3SG tablecloth
'She was weaving the tablecloth.'
- (215) Marco malował niebo.
Marco painted.IPFV sky
'Marco was painting a sky.'
- (216) Maria rzeźbiła lalkę.
Maria sculpted.IPFV doll
'Maria was carving a doll.'
- (217) ?Paliała dziurę w płaszczu.
burned.IPFV.3SG hole in coat
'She was burning a hole in her coat.'
- (218) *On drapał dziurę w ziemi.
he scratched.IPFV hole in ground
'He was scratching a hole in the ground.'

- (219) *Kłuła ranę na palcu.
punctured.IPFV.3SG wound on finger
'She was puncturing a wound in her finger.'
- (220) *Cięła ranę na nodze.
cut.IPFV.3SG wound on foot
'She was cutting a wound in her foot.'
- (221) *Gryzła dziurę w torbie.
bit.IPFV.3SG hole in bag
'She was biting a hole in the bag.'
- (222) *Poszukiwacz przygód szedł szlak.
searcher adventures.GEN walk.IPFV trail
'The adventurer was walking the trail.'
- (223) *Poszukiwacz przygód płynął kanał.
searcher adventures.GEN swam.IPFV channel
'The adventurer was swimming the channel.'
- (224) *Deanne kopnęła dziurę w ścianie.
Deanne kicked.IPFV hole in wall
'Deanne was kicking a hole in the wall.'
- (225) *Czarowała kursor.
magicked.IPFV.3SG cursor
'She was magicking a cursor.'
- (226) *Ona czesała dziurę w swoim płaszczu.
she brushed.IPFV hole in her coat
'She was brushing a hole in her coat.'
- (227) 'smile' is only reflexive

(228) 'frown' is only reflexive

A.3.4 Slovak

(229) John spieval pieseň.

John sang.IPFV song

'John was singing a song.'

(230) Oni tancovali Sligo jig.

they danced.IPFV Sligo jig

'They were dancing a Sligo jig.'

(231) Ariel jedla mango.

Ariel ate.IPFV mango

'Ariel was eating the mango.'

(232) On kopal dieru v zemi.

he dug.IPFV hole in ground

'He was digging a hole in the ground.'

(233) Ona tkala obrus.

she wove.IPFV tablecloth

'She was weaving the tablecloth.'

(234) Marco maľoval nebo.

Marco painted.IPFV sky

'Marco was painting a sky.'

(235) ?Maria rezala bábiku.

Maria carved.IPFV doll

'Maria was carving a doll.'

(236) ??Ona páčila dieru vo svojom kabáte.

she burned.IPFV hole in her coat

'She was burning a hole in her coat.'

- (237) On driapal/škriabal dieru v zemi.
he scratched.IPFV hole in ground
'He was scratching a hole in the ground.'
- (238) *Ona pichala ranu vo svojom prste.
she punctured.IPFV wound in her finger
'She was puncturing a wound in her finger.'
- (239) *Ona rezala ranu vo svojom nohe.
she cut.IPFV wound in her foot
'She was cutting a wound in her foot.'
- (240) *Ona kusala dieru v taške.
she bit.IPFV hole in bag
'She was biting a hole in the bag.'
- (241) *Dobrodruh chodil/šiel chodník.
adventurer walked.IPFV trail
'The adventurer was walking the trail.'
- (242) *Dobrodruh pláva kanál.
adventurer swam.IPFV channel
'The adventurer was swimming the channel.'
- (243) *Deanne kopol dieru v stene.
Deanne kicked.IPFV hole in wall
'Deanne was kicking a hole in the wall.'
- (244) *Ona čarovala kurzor.
she magicked.IPFV cursor
'She was magicking a cursor.'

(245) Ona kefovala dieru vo svojom kabáte.
she brushed.IPFV hole in her coat
'She was brushing a hole in her coat.'

(246) 'smile' is only reflexive

(247) 'frown' is only reflexive

A.3.5 Serbian

(248) Jovan je pevao pesmu.
Jovan AUX sang.IPFV song
'Jovan was singing a song.'

(249) Plesali su sligo džig.
danced.IPFV AUX.3PL Sligo jig
'They were dancing a Sligo jig.'

(250) Arijel je jela mango.
Arijel AUX ate.IPFV mango
'Arijel was eating the mango.'

(251) Kopao je rupu u zemlji.
dug.IPFV AUX.3SG hole in ground
'He was digging a hole in the ground.'

(252) Tkala je stolnjak.
wove.IPFV AUX.3SG tablecloth
'She was weaving the tablecloth.'

(253) Marko je slikao nebo.
Marko AUX painted.IPFV sky
'Marko was painting a sky.'

- (254) Marija je rezbarila lutku.
Marija AUX carved.IPFV doll
'Marija was carving a doll.'
- (255) *Pržila je rupu na kaputu.
fried.IPFV AUX.3SG hole on coat
'She was burning a hole in her coat.'
- (256) ??Grebao je rupu u zemlji.
scratched.IPFV AUX.3SG hole in ground
'He was scratching a hole in the ground.'
- (257) ??Bušila je ranu na svom prstu.
pierced.IPFV AUX.3SG wound on her finger
'She was puncturing a wound in her finger.'
- (258) *Sekla je ranu na svom stopalu.
cut.IPFV AUX.3SG wound on her foot
'She was cutting a wound in her foot.'
- (259) ?Grizla je rupu na torbi.
bit.IPFV AUX.3SG hole in bag
'She was biting a hole in the bag.'
- (260) ??Avanturista je hodao/šetao stazu.
adventurer AUX walked.IPFV trail
'The adventurer was walking the trail.'
- (261) ??Avanturista je plivao kanal.
adventurer AUX swam.IPFV channel
'The adventurer was swimming the channel.'

- (262) *Dejana je šutirala rupu u zidu.
Dejana AUX kicked.IPFV hole in wall
'Dejana was kicking a hole in the wall.'
- (263) *Mađijala je kursor.
magicked.IPFV AUX.3SG cursor
'She was magicking a cursor.'
- (264) *Ona je četkala rupu na svom kaputu.
she AUX brushed.IPFV hole on her coat
'She was brushing a hole in her coat.'
- (265) 'smile' is only reflexive
- (266) 'frown' is only reflexive
- A.3.6 Croatian**
- (267) John je pjevao pjesmu.
John AUX sang.IPFV song
'John was singing a song.'
- (268) Plesali su Sligo jig.
danced.IPFV AUX.3PL Sligo jig
'They were dancing a Sligo jig.'
- (269) Ariel je jeo mango.
Ariel AUX ate.IPFV mango
'Ariel was eating the mango.'
- (270) On je kopao rupu u zemlji.
he AUX dug.IPFV hole in ground
'He was digging a hole in the ground.'

- (271) Ona tkala je stolnjak.
she wove.IPFV AUX tablecloth
'She was weaving the tablecloth.'
- (272) Marko je slikao nebo.
Marko AUX painted.IPFV sky
'Marko was painting a sky.'
- (273) Maria je rezbarila lutku.
Maria AUX carved.IPFV doll
'Maria was carving a doll.'
- (274) Ona palila je rupu u kaputu.
she burned.IPFV AUX hole in coat
'She was burning a hole in her coat.'
- (275) *On je grebao rupu u zemlji.
he AUX scratched.IPFV hole in ground
'He was scratching a hole in the ground.'
- (276) *Ona pikala je ranu na prstu.
she punctured.IPFV AUX wound on finger
'She was puncturing a wound in her finger.'
- (277) *Ona rezala je ranu u nozi.
she cut.IPFV AUX wound in foot
'She was cutting a wound in her foot.'
- (278) *Ona grizla je rupu u vrećici.
she bit.IPFV AUX hole in bag
'She was biting a hole in the bag.'

- (279) *Pustolov je hodao stazu.
adventurer AUX walked.IPFV trail
'The adventurer was walking the trail.'
- (280) *Pustolov je plivao kanal.
adventurer AUX swam.IPFV channel
'The adventurer was swimming the channel.'
- (281) *Deanne je udarala rupu u zidu.
Deanne AUX kicked.IPFV hole in wall
'Deanne was kicking a hole in the wall.'
- (282) Ona čarobirala je kursor.
she magicked.IPFV AUX cursor
'She was magicking a cursor.'
- (283) *Ona četkala je rupu u kaputu.
she brushed.IPFV AUX hole in coat
'She was brushing a hole in her coat.'
- (284) 'smile' is only reflexive
- (285) 'frown' is only reflexive and perfective

A.4 Slavic perfective predicates with creation/consumption reading

A.4.1 Russian

- (286) Džon s-pel pesnju.
Džon PFV-sang song
'Džon sang a song.'

- (287) Oni s-tancevali slaigskuju džigu.
they PFV-danced Sligo jig
'They danced a Sligo jig.'
- (288) Ariel s''-el mango.
Ariel PFV-ate mango
'Ariel ate the mango.'
- (289) On vy-ryl jamu v zemle.
he PFV-dug hole in ground
'He dug a hole in the ground.'
- (290) Ona vy-tkala skatert'.
she PFV-wove tablecloth
'She wove the tablecloth.'
- (291) Marco na-risoval nebo.
Marco PFV-painted sky
'Marco painted a sky.'
- (292) Maria vy-rezala kuklu.
Maria PFV-carved doll
'Maria carved a doll.'
- (293) Ona pro-žgla dyru v pal'to.
she PFV-burned hole in coat
'She burned a hole in her coat.'
- (294) On vy-carapal dyru v zemle.
he PFV-scratched hole in ground
'He scratched a hole in the ground.'

- (295) Ona pro-bila ranu na pal'ce.
she PFV-punctured wound in finger
'She punctured a wound in her finger.'
- (296) Ona vy-rezala ranu na noge.
she PFV-cut wound in foot
'She cut a wound in her foot.'
- (297) Ona pro-kusila dyru v sumke.
she PFV-bit hole in bag
'She bit a hole in the bag.'
- (298) Putešestvennik pro-šel tropu.
traveller PFV-walked trail
'The adventurer walked the trail.'
- (299) Putešestvennik pro-/pere-plyl kanal.
traveller PFV-swam channel
'The adventurer swam the channel.'
- (300) Deanne pinkom pro-bila dyru v stene.
Deanne kick.INS PFV-hit hole in wall
'Deanne kicked a hole in the wall.'
- (301) Ona na-koldovala kursor.
she PFV-magicked cursor
'She magicked a cursor.'
- (302) Ona pro-časala dyru v svojëm pal'to.
she PFV-brushed hole in her coat
'She brushed a hole in her coat.'
- (303) 'smile' is only reflexive

(304) 'frown' is only reflexive

A.4.2 Ukrainian

(305) Jon sa-spivav pisniu.

Jon PFV-sang song

'Jon sang a song.'

(306) Vony z-tancjuvally slaigo jig.

they PFV-danced Sligo jig

'They danced a Sligo jig.'

(307) Ariel z-jila mango.

Ariel PFV-ate mango

'Ariel ate the mango.'

(308) Vin vy-kopav jamu u zemli.

he PFV-dug hole in ground

'He dug a hole in the ground.'

(309) Vona z-vjazala skatertynu.

she PFV-wove tablecloth

'She wove the tablecloth.'

(310) Marco na-maluvav nebo.

Marco PFV-painted sky

'Marco painted a sky.'

(311) Maria vy-rizala lialku.

Maria PFV-carved doll

'Maria carved a doll.'

(312) Vona pro-zhgla/pro-palyła dyrku v kurtci.

she PFV-burned hole in coat

'She burned a hole in her coat.'

- (313) Vin vy-driapav jamu u zemli.
he PFV-scratched hole in ground
'He scratched a hole in the ground.'
- (314) Vona pro-kolala ranu v palci.
she PFV-punctured wound in finger
'She punctured a wound in her finger.'
- (315) ?Vona pro-rizala ranu v stupni.
she PFV-cut wound in foot
'She cut a wound in her foot.'
- (316) Vona pro-gryzla/pro-kussyla dyrku v sumci.
she PFV-bit hole in bag
'She bit a hole in the bag.'
- (317) Mandrivnyk pro-ishov steshku.
adventurer PFV-walked trail
'The adventurer walked the trail.'
- (318) Mandrivnyk pro-plyv kanal.
adventurer PFV-swam channel
'The adventurer swam the channel.'
- (319) Din pro-byv dyru u stini.
Din PFV-kicked hole in wall
'Din kicked a hole in the wall.'
- (320) Vona na-chakluvala kursor.
she PFV-magicked cursor
'She magicked a cursor.'

(321) Vona pro-terla dyrku na kurtci.
she PFV-brushed hole in coat
'She brushed a hole in her coat.'

(322) 'smile' is only reflexive

(323) 'frown' is only reflexive

A.4.3 Polish

(324) Jan za-śpiewał piosenkę.
Jan PFV-sang song
'Jan sang a song.'

(325) Za-tańczyli gigę Sligo.
PFV-danced.3PL jig Sligo
'They danced a Sligo jig.'

(326) Ariel z-jadła mango.
Ariel PFV-ate mango
'Ariel ate the mango.'

(327) On wy-kopał dziurę w ziemi.
he PFV-dug hole in ground
'He dug a hole in the ground.'

(328) U-tkała obrus.
PFV-wove.3SG tablecloth
'She wove the tablecloth.'

(329) Marco na-malował niebo.
Marco PFV-painted sky
'Marco painted a sky.'

- (330) Maria wy-rzeźbiła lalkę.
Maria PFV-sculpted doll
'Maria carved a doll.'
- (331) Wy-paliła dziurę w płaszczu.
PFV-burned.3SG hole in coat
'She burned a hole in her coat.'
- (332) On wy-drapał dziurę w ziemi.
he PFV-scratched hole in ground
'He scratched a hole in the ground.'
- (333) Wy-kluła ranę na palcu.
PFV-punctured.3SG wound on finger
'She punctured a wound in her finger.'
- (334) Wy-cięła ranę na nodze.
PFV-cut.3SG wound on foot
'She cut a wound in her foot.'
- (335) Wy-gryzła dziurę w torbie.
PFV-bit.3SG hole in bag
'She bit a hole in the bag.'
- (336) Poszukiwacz przygód prze-szedł (ten) szlak.
searcher adventures.GEN PFV-walked this trail
'The adventurer walked the trail.'
- (337) Poszukiwacz przygód prze-płynął kanał.
searcher adventures.GEN PFV-swam channel
'The adventurer swam the channel.'

- (338) Deanne wy-kopała dziurę w ścianie.
Deanne PFV-kicked hole in wall
'Deanne kicked a hole in the wall.'
- (339) Wy-czarowała kursor.
PFV-magicked.3SG cursor
'She magicked a cursor.'
- (340) Ona wy-czesła dziurę w swoim płaszczu.
she PFV-brushed hole in her coat
'She brushed a hole in her coat.'

(341) 'smile' is only reflexive

(342) 'frown' is only reflexive

A.4.4 Slovak

- (343) John za-spieval pieseň.
John PFV-sang song
'John sang a song.'
- (344) Oni za-tancovali Sligo jig.
they PFV-danced Sligo jig
'They danced a Sligo jig.'
- (345) Ariel z-jedla mango.
Ariel PFV-ate mango
'Ariel ate the mango.'
- (346) On vy-kopal dieru v zemi.
he PFV-dug hole in ground
'He dug a hole in the ground.'

- (347) Ona ut-kala obrus.
she PFV-wove tablecloth
'She wove the tablecloth.'
- (348) Marco na-maľoval nebo.
Marco PFV-painted sky
'Marco painted sky.'
- (349) Maria vy-rezala bábiku.
Maria PFV-carved doll
'Maria carved a doll.'
- (350) Ona vy-pálila dieru vo svojom kabáte.
she PFV-burned hole in her coat
'She burned a hole in her coat.'
- (351) On vy-driapal/vy-škriabal dieru v zemi.
he PFV-scratched hole in ground
'He scratched a hole in the ground.'
- (352) Ona vy-pichla ranu vo svojom prste.
she PFV-punctured wound in her finger
'She punctured a wound in her finger.'
- (353) Ona vy-rezala ranu vo svojom nohe.
she PFV-cut wound in her foot
'She cut a wound in her foot.'
- (354) Ona vy-kusala dieru v taške.
she PFV-bit hole in bag
'She bit a hole in the bag.'

- (355) Dobrodruh pre-šiel/??-chodil chodník.
adventurer PFV-walked trail
'The adventurer walked the trail.'
- (356) Dobrodruh pre-pláva kanál.
adventurer PFV-swam channel
'The adventurer swam the channel.'
- (357) Deanne vy-kopol dieru v stene.
Deanne PFV-kicked hole in wall
'Deanne kicked a hole in the wall.'
- (358) Ona vy-čarovala kurzor.
she PFV-magicked cursor
'She magicked a cursor.'
- (359) Ona vy-kefovala dieru vo svojom kabáte.
she PFV-brushed hole in her coat
'She brushed a hole in her coat.'

(360) 'smile' is only reflexive

(361) 'frown' is only reflexive

A.4.5 Serbian

- (362) Jovan je ot-pevao pesmu.
Jovan AUX PFV-sang song
'Jovan sang a song.'
- (363) Ot-plesali su sligo džig.
PFV-danced AUX.3PL Sligo jig
'They danced a Sligo jig.'

- (364) Arijel je po-jela mango.
Arijel AUX PFV-ate mango
'Arijel ate the mango.'
- (365) Is-kopao je rupu u zemlji.
PFV-dug AUX.3SG hole in ground
'He dug a hole in the ground.'
- (366) Is/sa-tkala je stolnjak.
PFV-wove AUX.3SG tablecloth
'She wove the tablecloth.'
- (367) Marko je na-slikao nebo.
Marko AUX PFV-painted sky
'Marko painted a sky.'
- (368) Marija je iz-rezbarila lutku.
Marija AUX PFV-carved doll
'Marija carved a doll.'
- (369) ??Is-/?s-pržila je rupu na kaputu.
PFV-fried AUX.3SG hole on coat
'She burned a hole in her coat.'
- (370) ??Iz-grebao je rupu u zemlji.
PFV-scratched AUX.3SG hole in ground
'He scratched a hole in the ground.'
- (371) ??Pro-bušila je ranu na svom prstu.
PFV-punctured AUX.3SG wound on her finger
'She punctured a wound in her finger.'

- (372) *Po-/*i(z)-/*ra(z)-sekla je ranu na svom stopalu.
PFV-cut AUX.3SG wound on her foot
'She cut a wound in her foot.'
- (373) Iz-grizla je rupu na torbi.
PFV-bit AUX.3SG hole in bag
'She bit a hole in the bag.'
- (374) Avanturista je od-šetao/pre-hodao stazu.
adventurer AUX PFV-walked trail
'The adventurer walked the trail.'
- (375) Avanturista je pre-plivao kanal.
adventurer AUX PFV-swam channel
'The adventurer swam the channel.'
- (376) ??Dejana je i-šutirala rupu u zidu.
Dejana AUX PFV-kicked hole in wall
'Dejana kicked a hole in the wall.'
- (377) *O-/?iz-mađijala je kursor.
PFV-magicked AUX.3SG cursor
'She magicked a cursor.'
- (378) ?Iš-četskala je rupu na svom kaputu.
PFV-brushed AUX.3SG hole on her coat
'She brushed a hole in her coat.'
- (379) 'smile' is only reflexive
- (380) 'frown' is only reflexive

A.4.6 Croatian

- (381) John je ot-pjevao pjesmu.
John AUX PFV-sang song
'John sang a song.'
- (382) Ot-plesali su Sligo jig.
PFV-danced AUX.3PL Sligo jig
'They danced a Sligo jig.'
- (383) Ariel je po-jeo mango.
Ariel AUX PFV-ate mango
'Ariel ate the mango.'
- (384) On je is-kopao rupu u zemlji.
he AUX PFV-dug hole in ground
'He dug a hole in the ground.'
- (385) Ona is-tkala je stolnjak.
she PFV-wove AUX tablecloth
'She wove the tablecloth.'
- (386) Marco je na-slikao nebo.
Marco AUX PFV-painted sky
'Marco painted a sky.'
- (387) Maria je iz-rezbarila lutku.
Maria AUX PFV-carved doll
'Maria carved a doll.'
- (388) Ona za-palila je rupu u kaputu.
she PFV-burned AUX hole in coat
'She burned a hole in her coat.'

- (389) *On je o-grebao rupu u zemlji.
he AUX PFV-scratched hole in ground
'He scratched a hole in the ground.'
- (390) *Ona u-pikla je ranu na prstu.
she PFV-punctured AUX wound on finger
'She punctured a wound in her finger.'
- (391) *Ona iz-rezala je ranu u nozi.
she PFV-cut AUX wound in foot
'she cut a wound in her foot.'
- (392) *Ona od-grizla je rupu na vrećici.
she PFV-bit AUX hole in bag
'She bit a hole in the bag.'
- (393) Pustolov je pre-hodao stazu.
adventurer AUX PFV-walked trail
'The adventurer walked the trail.'
- (394) Pustolov je pre-plivao kanal.
adventurer AUX PFV-swam channel
'The adventurer swam the channel.'
- (395) *Deanne je u-darila rupu u zidu.
Deanne AUX PFV-kicked hole in wall
'Deanne kicked a hole in the wall.'
- (396) Ona iš-čarobirala je kursor.
she PFV-magicked AUX cursor
'She magicked a cursor.'

(397) *Ona o-četkala je rupu u kaputu.

she PFV-brushed AUX hole in coat

‘She brushed a hole in her coat.’

(398) ‘smile’ is only reflexive

(399) ‘frown’ is only reflexive

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