Chapter 1

Preliminaries to the Lexicon-Syntax Relation and the Variable Behavior of Manner-of-Motion Verbs

The most noteworthy development in the area of the lexicon-syntax interface since the 1980s has been the realization that there are "constructional" meanings, which are independent of the particular lexical items that make up the sentence. For an excellent overview, see Goldberg 1995. The notion of "construction" varies across theories. In effect, the notion of "construction" assumed by Goldberg 1995 is distinct from the one assumed in generative grammar. Nevertheless, they share a common insight, which may be stated pretheoretically in general terms along the following lines:

(1) The meaning of an expression is to be attributed to the superimposition of the meaning of grammatical closed-class items and the meaning of open-class items. See Fillmore 1988.

In other words, there are "structures" that carry meaning and these "structures" are flagged by "closed-class items." Theories vary as to the nature of these "structures," as well as to the grammatical status of "closed-class items." Nevertheless, common to many different theories of the lexicon-syntax interface is the insight that linguistic expressions are associated with structured meaning that is independent of the particular open-class lexical items they contain. Interestingly, as acknowledged by Goldberg 1995, even so-called lexicalist theories, such as Pinker 1989 and Levin and Rappaport 1995, have bits of "constructional" assumptions, in the general sense of the term, as defined in (1). Indeed, the notion of construction defined in (1) is very general and uncontroversial. It is equally compatible with very different views of the lexicon-syntax interface.[1] It is compatible with a lexical-based account, such as the one put forth by Levin and Rappaport 1995 and Rappaport and Levin 1998, as well as with a syntax-based account, put forth by Hale and Keyser 1993, 2002,

as well as many other sources (e.g., Borer 1994, 2005; Folli and Ramchand 2001; Folli 2001; Harley 2002; Mateu and Rigau 2002; Mateu 2002, 2005; Megerdoomian 2002; Ramchand 1995, 2001, 2002; Ritter and Rosen 1998, 2000).

In this chapter, we briefly present the lexicalist approach (section 1.2) and some of the syntactic approaches (section 1.3) and assess their merits with respect to the main topic of this book, the much-discussed manner-of-motion construction (section 1.1). We present the framework put forth by Hale and Keyser 2002 (section 1.4), on which our proposal builds, and briefly discuss the aspectual notion of "boundedness" (section 1.5), a notion highly relevant to the understanding of constructions headed by motion verbs. And finally, we give a brief summary of the analysis defended in subsequent chapters (section 1.6), where we discuss in detail the properties of the motion construction in Korean, Germanic, and Romance.

1.1 The Motion Construction: The Main Issues

Manner-of-motion verbs have attracted the attention of many scholars due to their variable behavior (e.g., Hoekstra and Mulder 1990; Borer 1994; Ritter and Rosen 1998; Folli 2001; Mateu and Rigau 2002; Mateu 2002). The variable behavior of that class of verbs is systematic in English and Dutch, lexically restricted in Italian, and quasi-nonexistent in French and Spanish. Thus, in Dutch (and English), any manner-of-motion intransitive verb can express an activity, in which case its auxiliary in the perfect tense is *hebben* and its syntactic properties are that of an unergative verb; see (2) below. On the other hand, any manner-of-motion verb in Dutch (and English) can appear in sentences that express an accomplishment (i.e., movement toward a goal), in which case its auxiliary in the perfect tense is *zijn* and its syntactic properties are those of an unaccusative verb; see (3).

(2) a. dat Jan *naar Groningen* twee uur lang *heeft* gewandeld.
that Jan to Groningen two hours long has walked
'. . . Jan walked in the direction of Groningen for two hours.'
b. ??dat Jan twee uur lang *naar Groningen heeft* gewandeld.
that Jan two hours long to Groningen has walked

(3) dat Jan in twee uur *naar Groningen is* gewandeld.
that Jan in two hours to Groningen is walked
'. . . Jan walked to Groningen in two hours.'

While in French and Standard Spanish, the directed-motion usage of intransitive manner-of-motion verbs is rare, in Italian a small subclass of manner-of-motion verbs clearly shows variable behavior. Compare (4b) with (5b).

(4) a. Maria *a* cors*o* (fino a casa).
Maria has run-3rd p.s.masc. (to the house)
'Maria has run (to the house).'
b. Maria *è* cors*a* *(fino a casa).
Maria is run-3rd p.s.fem. *(to the house)
'Maria has run to the house.'

(5) a. Maria *a* camminat*o* (fino a casa).
Maria has walked-3rd p.s.fem (to the house)
'Maria has walked (to the house).'
b. *Maria *è* camminat*a* (fino a casa).
Maria is walked-3rd p.s.fem. (to the house)

In serial-verb (SV) languages, we find that the manner meaning and the directed-motion meaning are expressed independently by two distinct verbs; see the example in (6) from Igbo (a head-initial language) and the example in (7) from Korean (a head-final language).

(6) Ó gbà-ra óso ga-a ahyá.
3s do-rV race go-Á market.Gen
'He ran and went to the market.'/'He ran to the park.'
(Cited in Déchaine 1993, 239.)

(7) John-i kongwen-ey kel-e ka-ss-ta.
John-Nom park-Loc walk-L go-Past-Decl
'John went to the park running.'/'He walked to the park.'

The case of Nicaraguan Sign Language (NSL), which also seems to be an SV language, is particularly illuminating because it has recently evolved from a pidgin to a creole. In the September 2004 issue of *Science*, Senghas, Kita, and Özyürek report that the early generation of NSL, which is gestural and iconoclastic, represents manner and motion simultaneously, but that in later generations, when NSL develops into a linguistic system with discrete units and combinatorial rules, manner and path are represented sequentially. This evolution shows that the compositional nature of human languages is truly universal and suggests to us that, despite appearances, in the Dutch example in (3) and the Italian example in (4b),

the verb does not simultaneously encode manner and directed motion, but that at some abstract level, these two are represented independently.

As we will see below, the lexical approach, like the syntactic approach, can readily capture the compositionality of the phenomenon under discussion. The true challenge for any approach is to provide a principled account of the linguistic variation mentioned above and discussed more fully in chapters 2 and 3 of this book. A principled account is one in which the differences in the behavior of manner-of-motion verbs among languages can be related to other well-established differences among them.

1.2 A Lexical Approach: Levin and Rappaport 1995; Rappaport and Levin 1998

These authors (L&R) put forth an analysis in which verb meaning is decomposed into two parts: the structural and the idiosyncratic. The lexical decomposition associated with verbs encodes both aspects of lexical meaning. While the idiosyncratic part is encoded in terms of constants (i.e., a phonological string), the structural part is encoded in terms of a small number of lexical-semantic templates formed via the combination of primitive predicates such as ACT, CAUSE, BECOME, STATE, and in some cases the modifiers of such predicates (such as MANNER and INSTRUMENT), as well as their variable arguments (or event participants). A verb's grammatical meaning consists of the association of a constant with a particular lexical-semantic template, also referred to as "event-structure template."[2] The basic inventory of event-structure templates is given in (8). The predicate STATE can be replaced by the predicate PLACE, depending on whether the meaning of the constant expresses a state or a location. Thus, if the constant paired with the event-structure template in (8d) encodes a state, the resulting event denotes a change of state (e.g., *bloom, blossom, decay, flower, rot, rust, sprout*), and if the constant paired with the event-structure template in (8d) encodes a place, the resulting event denotes a change of location (e.g., *bag, box, cage, crate, garage, pocket*). Likewise, in (8a), the modifier MANNER can be replaced by the modifier INSTRUMENT, depending on whether the meaning of the constant expresses the manner of the activity (e.g., *creak, jog, run, whistle*) or the instrument used in the activity (e.g., *brush, hammer, saw, shovel*). Two types of causative events are recognized: internally caused and externally caused events. Internally caused

events are associated with the template in (8d) (e.g., *bloom, rot, rust, sprout*), and externally caused events are associated with the template in (8e) (e.g., *break, dry, melt, open*).

(8) a. i. [x $\text{ACT}_{\langle \text{MANNER} \rangle}$] (Activity)
ii. [x $\text{ACT}_{\langle \text{INSTRUMENT} \rangle}$]
b. i. [x ⟨STATE⟩] (State)
ii. [x ⟨PLACE⟩]
c. i. [BECOME [x ⟨STATE⟩]] (Achievement)
ii. [BECOME [x ⟨PLACE⟩]]
d. i. [x CAUSE [BECOME [y ⟨STATE⟩]]] (Accomplishment)
ii. [x CAUSE [BECOME [y ⟨PLACE⟩]]]
e. i. [[x $\text{ACT}_{\langle \text{MANNER} \rangle}$] CAUSE [BECOME [y ⟨STATE⟩]]] (Accomplishment)
ii. [[x $\text{ACT}_{\langle \text{MANNER} \rangle}$] CAUSE [BECOME [y ⟨PLACE⟩]]]

The *Canonical Realization Rule* (CRR) ensures that the minimal elements of meaning encoded in the constants are syntactically expressed. This is achieved by associating a constant (i.e., a phonological string) with a particular element in the template. For example, the Manner CRR replaces MANNER in (8ai) with a constant such as *creak, jog, run, whistle* (as exemplified in (9)); the constant in this case modifies the activity. The Externally Caused State CRR replaces STATE in (8e) with a constant such as *break, dry, harden, melt, open* (as exemplified in (10)); the constant in this case names the end state of the change (but provides no information regarding the causing subevent; i.e., MANNER remains unspecified).

(9) Run: [x $\text{ACT}_{\langle RUN \rangle}$]

(10) Break: [[x $\text{ACT}_{\langle \text{MANNER} \rangle}$] CAUSE [BECOME [y ⟨*BROKEN*⟩]]]

Within this theory, ACT, CAUSE, BECOME, and STATE belong to the closed-class items of the language, while RUN and BROKEN belong to the open class. Such a theory is then in line with the general and quite uncontroversial assumption in (1).

L&R put forth two well-formedness conditions on the syntactic realization of lexical-event structures. One is the *Subevent Identification Condition*:

(11) Each subevent in the event structure must be identified by a lexical head (e.g., a V, an A, or a P) in the syntax.

L&R (1998, 112) mention that "the Subevent Identification Condition allows for a single verb in the syntax to identify more than one subevent when a Canonical Realization Rule associates the constant with a complex event structure template." Thus, in a sentence like *John broke the vase*, both the subevent ACT and the subevent BECOME-STATE in (10) are identified by the verb *break*. The other well-formedness condition is the *Argument Realization Condition* (cf. the Theta Criterion stated in Chomsky 1981):

(12) *Argument Realization Condition*
   a. There must be an argument XP in the syntax for each structure participant in the event structure.
   b. Each argument XP in the syntax must be associated with an identified subevent in the event structure.

Furthermore, Linking Rules are postulated to capture the generalizations of which variable participant in the event template is linked with which grammatical function in the syntax.

As mentioned earlier, L&R distinguish two types of causatives: internally caused and externally caused. Internally caused verbs describe an eventuality in which "some property inherent to the argument of the verb is 'responsible' for bringing about the eventuality," as is the case with verbs of emotion (*blush, tremble*), verbs of emission (*glitter, gush, smell, whistle*), and agentive verbs (*play, speak*). On the other hand, externally caused verbs "imply the existence of an 'external cause' with immediate control over bringing about the eventuality described by the verb: an agent, an instrument, a natural force, or a circumstance" (L&R 1995, 91–92). L&R appeal to this distinction to characterize the class of alternating verbs. Alternating verbs are precisely those in which the causer does not depend on the internal properties of the verb and therefore can remain unspecified. The unspecified nature of the causing event in externally caused verbs is shown by the wide range of external argument types it can take. Compare the externally caused transitive *break* in (13a) with the internally caused transitive *cut* in (14a–b). If (and only if) the causer is unspecified, it can be existentially bound in the lexical-semantic representation and remain syntactically unrealized. This accounts for the contrast between (13b) and (14c).

(13) a. The vandals/The rocks/The storm broke the windows.
   b. The windows broke.

(14) a. The baker/that knife cut the bread.
b. *The lightning cut the clothesline.
c. *The bread cut. (On the interpretation 'The bread came to be cut.')

L&R (1995) acknowledge the variable behavior of manner-of-motion verbs in Germanic and give an account based on polysemy: such verbs optionally take a PP goal. The crosslinguistic variation is also acknowledged but no account is provided. In their 1998 article, L&R enrich their system with a process referred to as *Template Augmentation*, which allows for "more complex event structure templates to be built on simpler ones."

(15) *Template Augmentation*
Event-structure templates may be freely augmented up to other possible templates in the basic inventory of event-structure templates.[3]

To exemplify, the basic event structure in (16), to which activity-denoting events like (17) are associated, can be augmented as in (18). The latter is an accomplishment-denoting event structure, which underlies sentences like (19).[4]

(16) [x $\text{ACT}_{\langle \text{SWEEP} \rangle}$ y] Cf. (8ai)

(17) Phil swept (the floor).

(18) [x $\text{ACT}_{\langle \text{SWEEP} \rangle}$ y] CAUSE [BECOME [y ⟨STATE⟩]]] Cf. (8ei)

(19) Phil swept the floor clean.

Possibly the variable behavior of manner-of-motion verbs could be analyzed in terms of Template Augmentation. More precisely, the basic activity template in (20) could be augmented into an accomplishment, as shown in (21).

(20) [x $\text{ACT}_{\langle \text{RUN} \rangle}$] Cf. (8ai)
(e.g., *John ran*)

(21) [[x $\text{ACT}_{\langle \text{RUN} \rangle}$] CAUSE [BECOME [y ⟨PLACE⟩]]] Cf. (8dii)
(e.g., *John ran to the store*)

Indeed, Folli 2001 reports unpublished work by Fong and Poulin, who put forth such a proposal in Fong and Poulin 1997. While the activity-denoting event is identified by the verb, the accomplishment-denoting event is identified by the preposition, thus complying with the Subevent

Identification Condition in (11). In the serial-verb languages, the two events can be said to be identified by two distinct verbs, although in such cases we have the added complication of determining the subordination relation between the two verbs; see Déchaine 1993 for extensive discussion, as well as chapter 2.

As mentioned earlier, the challenge is to provide a principled account of the crosslinguistic variation in the behavior of manner-of-motion verbs. Recall that in Romance, the variable behavior of manner-of-motion verbs is not a general phenomenon. It is lexically restricted, and in some languages (like Spanish and French) more so than in others (namely, Italian). How then would a lexical theory account for this variability? One could stipulate that verbs in Romance do not allow for Template Augmentation. The question then arises as to how to treat those cases in which manner-of-motion verbs do seem to express directed motion, such as the Italian example in (4b). One could stipulate that Template Augmentation applies to some manner-of-motion verbs, but not to others. Yet the question of what accounts for the typological variability remains unanswered. More specifically, what other independently attested properties are the above-mentioned crosslinguistic differences related to?

1.3 Some Syntactic Approaches: Borer 1994, 2005; Ritter and Rosen 1998; Folli 2001

Several authors have defended the view that the notion of event is structurally defined in the syntax (see Borer 1994, 2005; Folli 2001; Hale and Keyser 2002; Ramchand 2001, 2002; Ritter and Rosen 1998). This is often referred to as the constructional approach. A particular version of the constructional approach was put forth by Borer 1994, and more extensively by Borer 2005; we will denote this as the *functional-based constructional approach*. While we cannot address the different versions of this approach in any detail here, we will briefly examine how these accommodate the variable behavior of manner-of-motion verbs.

The functional-based approach (put forth by Borer 1994) argues that the interpretation of DP arguments is assigned by functional projections (via Spec-head agreement). It is not at all dependent on the properties of the verb. Thus, intransitive verbs are not lexically categorized as unaccusative or unergative. The unergative versus unaccusative behavior of verbs depends on which Spec position the argument occupies. There is a higher F category that licenses the meaning of originator and a lower one that

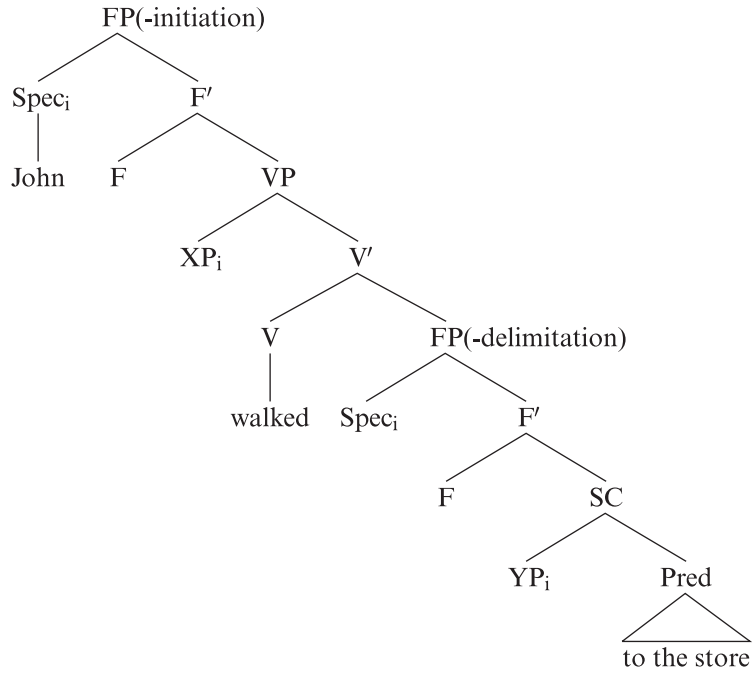
licenses the meaning of undergoer of the event (i.e., the delimiter of the event).

Ritter and Rosen (1998) develop a mixed theory, which assumes (with Borer 1994, 2005) that the interpretation of arguments depends on which functional projection licenses the argument, but it also assumes that the choice of functional projection is determined by the lexical properties of the verbs. More concretely, they put forth the following general idea:

(22) "The addition of a secondary predicate is constrained by the basic lexical representation of the main verb, but does not involve augmentation of this representation to derive a new lexical entry. Rather, an interpretation is assigned to lexical items post-syntactically on the basis of their lexically listed semantic content in conjunction with semantic content encoded in the syntactic structure. For example, when a secondary resultative predicate is added in the syntax, the delimiting FP is also added in the syntax, giving rise to a D[elimited]-eventive interpretation at LF" (p. 153).

Thus, a sentence like *John walked to the store* would have the structure below (*John* is both initiator and delimiter of the event in this theory).

(23)



We can see that the theory developed by Ritter and Rosen is (with some variation) a syntactic rendition of the Template Augmentation proposed by L&R. In effect, L&R (1998) address the debate between their own lexical approach (which they refer to as the "projectionist" approach) and the syntactic (or constructional) approach in the following terms:

> Most current lexical semantic theories recognize a dichotomy in verb meaning and distinguish what we have . . . referred to as the structural and the idiosyncratic aspects of verb meaning. . . . In the projectionist approach the structural aspect of meaning is usually encoded in some sort of skeletal event structure representation, while the idiosyncratic element of meaning is represented by the constant. The constructional approach recognizes the same distinction, although it is represented differently. In the constructional approach, the idiosyncratic component of meaning itself constitutes the lexical representation of the verb, while the structural aspects of meaning do not reside in the lexical entries of individual verbs but rather are associated with certain basic syntactic structures, those which are associated with skeletal event interpretations. Since both projectionist and constructional approaches recognize this basic distinction among the elements of verb meaning, the major difference between the two concerns whether the association between the constant and the template is registered in the lexicon or not. (p. 129)

Like L&R's theory, Ritter and Rosen's proposal does not address the typological differences across languages with respect to the variable behavior of manner-of-motion verbs.

Borer (2005) develops a more radical version of the functional-based constructional approach. Within this view, DP arguments are not arguments of the verb at all; they are solely arguments of aspectual functional projections. The verb, according to this view, is a modifier of the event structure. In effect, the radical theory put forth by Borer (in which DP arguments are completely severed from the verb) is the position that naturally ensues from the functional-based approach, when carried out to its ultimate logical extreme. Within this theory, verbs are not categorized into unbounded activities and bounded change-of-location events. Any verb can in principle receive any kind of eventive interpretation depending on its syntactic context. Thus, if the verb combines with an aspectual functional projection specified as Q (for quantifiable event), it will acquire the relevant interpretation and the argument in the Spec of the F_Q node will be interpreted as the undergoer/delimiter participant of the event.[5] Quantifiable events are +divisive; they are constituted of countable subintervals. Still, it is the case that the presence of the directional PP is crucial

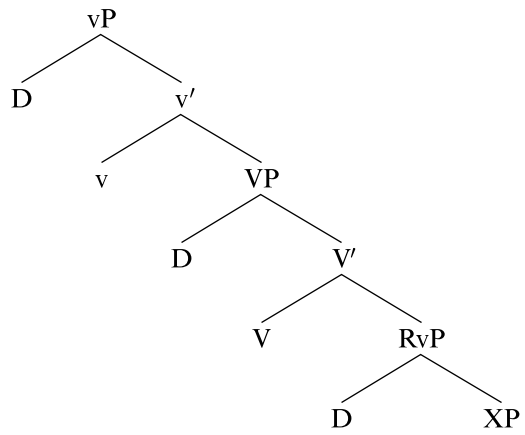
in licensing the quantifiable interpretation. This fact can be accommodated by stating that verbs are (to a large extent) −Q and some element (such as the directional PP in the case of intransitives) is needed to license F_Q.[6] In such a case, it is said that the F_Q "quantifies into the verb," in the same way that a generic adverb is said to quantify into bare nouns in examples like *cows are usually vegetarians*. In the absence of an F-projection marked as Q, the event is interpreted as an unbounded activity. H. Borer (personal communication) suggests that the typological distinction between Romance and Germanic may be stated in the following terms:

(24) The intransitive verbs in Romance languages do not allow a +Q Asp node to "quantify into" the verb.

Borer (personal communication) furthermore suggests that the property in (24) might be a property not only of Romance verbs, but also of Romance nominals. Bare plural DPs in subject position in Spanish and Italian lack a generic interpretation. If generic bare plurals are analyzed along the lines of Heim 1982—that is, as variables bound by a sentential generic operator—then a cross-categorial generalization can indeed be made.[7] The question then arises as to how to accommodate examples such as the Italian (4b), which needs a PP to denote a +Q type of event. Another issue is the assumption within such a theory that all verbs (like all nouns) are grammatical equals. Although in Germanic the class of verbs that imply directed motion seems to be relatively small compared to the class of activity-denoting manner-of-motion verbs, a grammatical characterization of such verbs is still necessary; see note 6.

Folli 2001 adopts the lexical-based constructional approach developed by Ramchand 2001, which in turn is a particular rendition of the influential approach developed by Hale and Keyser in numerous manuscripts and which culminated in Hale and Keyser 2002. Within this approach, the syntax generates the maximal event structure in (25), where v is interpreted as introducing a causative event, V specifies a change or process, and Rv introduces the telos of the event.

(25)



Like Ritter and Rosen, Folli also proposes to derive the accomplishment usage of manner-of-motion verbs by adding a result-denoting phrase. In this sense, Folli's proposal is in the same general spirit as the lexicalist proposal based on the process of event template augmentation. But unlike the previously discussed works, Folli attempts to characterize the differences between Germanic and Romance. That author locates the typological difference between the two sets of languages in the morphological (and eventive) makeup of prepositions. The proposal is based on the observation that morphologically simple prepositions in Italian (and other Romance languages) are point-denoting—that is, they denote a location. In these languages, only morphologically complex prepositions are dynamic; in other words, they denote both path and location. But in English (and other Germanic languages), morphologically simple prepositions can also be dynamic.[8] For this reason, morphologically simple prepositions in Germanic can be adjoined to a VP headed by an activity-denoting verb and give rise to a directed motion. On the other hand, in Romance, a morphologically simple preposition (which is unambiguously point-denoting) can combine with a verb to give rise to a directed-motion reading if and only if that verb selects for a RvP (a result phrase); see the structure in (25). This is the case of *correre* 'run', which is analyzed as ambiguous—that is, as either denoting an activity or an accomplishment (with a resultative PP complement). *Caminare* 'walk', on the other hand, is unambiguous; it only denotes an activity. In chapter 3, we will argue that the difference between the Germanic and the Romance morphologically simple prepositions cannot fully explain the differences between the two sets of languages. Furthermore, the question arises as to whether it is

desirable to analyze the Italian manner-of-motion verbs as polysemous between an activity-denoting verb and an accomplishment that simultaneously encodes manner and directed motion. We do not exclude the possibility that there might be some cases of polysemy of this type, but they are very rare, as can be appreciated in Spanish and French. Indeed, the phenomenon appears to be much more robust in Italian than in Spanish and French. While there is no property that is shared by all the manner-of-motion verbs that can appear in the directed-motion structure in Italian (i.e., the verbs that belong to this class must be stipulated in any account), it would be desirable if we could derive the directed-motion structure via some mechanism that is independently needed to account for some other phenomenon in the language.

Before we summarize the account that we will defend in the following chapters, we briefly present the Hale and Keyser model (section 1.4), which will serve as a framework for our own proposal, and we briefly discuss the notions of event boundedness and temporal boundedness (section 1.5), since they are relevant to an understanding of manner-of-motion verbs.

1.4 The Hale and Keyser Model and Some Elaborations

Hale and Keyser (H&K), in a series of articles that culminated in their 2002 monograph, developed a model, very much inspired by Larson 1988, in which predicative categories are associated with syntactic structures referred to as l-structures. In this model, the eventive properties of predicates are syntactically decomposed. Thus, like the works by Ritter and Rosen, Ramchand, and Folli cited earlier, H&K's model shares important insights with the lexicalist approach proposed by L&R. While the latter proposal encodes eventive structures in terms of relations between some basic semantic predicates (CAUSE, BECOME, ACT, PLACE, STATE) and argument variables, the H&K proposal encodes eventive structures in the syntax in terms of specifier-head and head-complement relations, in which the basic building blocks are the traditional part-of-speech categories (V, P, N, A).

1.4.1 Intransitives

At the heart of the theory developed by these authors is the syntactic distinction between unaccusative and unergative verbs. More specifically, they propose that unaccusatives, unlike unergatives, are associated with an l-structure that contains a specifier position.

(26) $[_{VP}$ D $[_{VP}$ V XP]]

According to H&K, the subject of an unergative structure is not an argument of the verb at all. It originates in the sentential part of the syntax (or s-syntax). H&K furthermore argue that unergatives are denominal verbs associated with the general structure in (27a). Thus, the unergatives *laugh* and *sleep* arise from the structures in (27b) and (27c), respectively. More concretely, these structures give rise to a process of "conflation," whereby the head projects the categorial feature and the complement provides the phonological content for the derived V.

(27) a. $[_{V}$ V N]
b. $[_{V}$ V [*laugh*]]
c. $[_{V}$ V [*sleep*]]

Probably not all unergatives are denominal verbs. Note that manner-of-motion verbs are systematically ambiguous between an (activity-denoting) unergative use and an (accomplishment-denoting) transitive use, comparable to verbs of consumption and creation, as recognized by Tenny 1987, 1994, 1995.

(28) John ran (a mile).

(29) a. John ate (an apple).
b. John drew (a circle).

A possible way around polysemy here would be to assign the same kind of analysis for (28) that has been advanced for (29), namely, that such structures are in fact hidden transitives with an indeterminate object incorporated into the verb. More precisely, in the case of (28), the incorporated object would be an indeterminate distance-denoting object (where distance is understood as an abstract path). More concretely, the object could be analyzed as a distance classifier; consider *John ran a long distance* and *John ran a distance of two miles*. This would mean that *run, walk, swim*, and other manner-of-motion verbs are not denominal verbs (in contrast with *laugh, work, sleep*); see chapter 3 for further discussion. While the details of the analysis of unergative verbs will not be essential for what we have to say here, we are committed to the assumption that unergative verbs lack a specifier and that they have branching l-structures, as proposed by H&K.

We will endorse the view that the presence of an external argument is not regulated by the verb per se. However, following Marantz 1984,

Chomsky 1993, and Hale and Keyser 1993, we will assume the existence of a *v*P, headed by a functional head *v* and generated immediately above the l-structure of the verb. The category *v* is comparable to that referred to as "Voice" by Kratzer 1996 and as "Tr(ansitive)" node by Collins 1997; it serves the purpose of licensing an external argument and allows us to structurally define the notion of transitivity, which is so intimately related to Case assignment, in terms of the sequence "*v* V."[9] The node *v* is introduced by a general rule of syntactic composition:

(30) a. *v* may be freely merged with a VP.
b. If VP lacks a Specifier, *v* must be merged with VP.

Given (30b), the structures in (27) should be as in (31). Such structures are interpreted as activity-denoting events.

(31) a. [$_{v\text{P}}$ D [*v* [$_{\text{VP}}$ V D]]]
b. [$_{v\text{P}}$ D [*v* [$_{\text{VP}}$ V [*laugh*]]]]
c. [$_{v\text{P}}$ D [*v* [$_{\text{VP}}$ V [*sleep*]]]]

We may furthermore assume that

(32) In the *unmarked* case, only one *v* per l-structure is allowed.

Returning to the unaccusative structure in (26), two subtypes can be distinguished, depending on the nature of the XP complement. If the complement denotes a path with an endpoint, the structure encodes movement toward a telos (i.e., directed motion). Note that the path may be a scale and changes along such a scale can be conceptualized as directed motion. See Goldberg 1995; Jackendoff 1990, 1996; Krifka 1989; Tenny 1987, 1994, 1995. Similarly, change of possessor (e.g., *give a book to Mary*) can be represented as a case of directed motion; see Gruber 1965 and Jackendoff 1996. It is therefore not surprising that possessors (e.g., (33b)) can appear as the goal-denoting complement of *go*, alongside locatives (e.g., (33a)). And note that state-denoting predicates can do so, too (e.g., (33c)).

(33) a. John went to the park.
b. The prize goes to Mary.
c. The milk went sour.

On the other hand, if the XP complement in the unaccusative structure in (26) denotes a location or state, then the structure can be interpreted as stative:

(34) a. The book is on the table.
b. John is in the park.
c. The milk is sour.

The question arises as to how to structurally distinguish the complements in (33) from the complements in (34). Let us consider first the cases with a PP complement. H&K and others (e.g., Koopman 1997; Folli 2001; den Dikken 2003) have suggested that PPs that denote a directed path have complex syntactic structures. They consist of a (locative) P embedded under a (directional) P, as shown in (35a). On the other hand, a point-locating (or locative) preposition consists of one single P, as shown in (35b).

(35) a. $[_P$ P $[_P$ P D]]
b. $[_P$ P D]

The examples in (33a) and (34b) will then have the structure in (36) and (37), respectively.

(36) a. [D [V [P [P [D]]]]]
b. $[_{VP}$ John $[_V$ went $[_{PP}$ to $[_{PP}$ P [the park]]]]]

(37) a. [D [V [P [D]]]]
b. $[_{VP}$ John $[_V$ is $[_P$ in [the park]]]]

Evidence for the syntactic complexity of path-denoting prepositions is provided by the existence of morphologically complex prepositions, illustrated in (38). In such examples, the locative preposition is morpho-phonologically realized (*in*); it is cliticized onto the path-denoting preposition (*to*).

(38) John went *into* the room.

Note that the structure in (37), associated with a stative meaning, is also an unaccusative structure. Recall that an unaccusative l-structure is identified as one that contains a Spec-head relation. In the cases discussed above, the difference between the process-denoting and the stative unaccusatives is attributed to a difference in complementation (i.e., presence or absence of a path-denoting preposition). The unaccusative status of both types of events is confirmed by languages like Dutch and Italian, in which unaccusative structures select the auxiliary *be*.

(39) a. Jan is/*heeft in de tuin gegaan.
Jan is/*has in the garden gone
'Jan has gone to the garden.'

b. Jan is/*heeft in de tuin geweest.
Jan is/*has in the garden been
'Jan has been in the garden.'

The challenge to a constructional approach is posed by predicates that contain adjectival and nominal complements. Consider the unaccusatives with an adjectival complement. The question is whether we can structurally distinguish the adjectival complement in dynamic events, such as (33c), from the adjectival complement in stative events, such as (34c). If we follow the analogy with the prepositional structure, then adjectival complements in the change-of-state construction should be embedded under a path-denoting category as well, as shown in (40). The adjective *sour* names the telos of the path, in the same way that *the park* names the telos of the path in (36a). On the other hand, the sentence in (34c) would be associated with the simple structure in (41), which would be unambiguously associated with a stative meaning.

(40) a. [D [V [X_{path} [A]]]
b. [$_{VP}$ The milk [$_{V}$ went [X_{path} [$_{AP}$ sour]]]

(41) a. [D [V [A]]]
b. [$_{VP}$ The milk [$_{V}$ is [$_{AP}$ sour]]]

Sentences like (42) would also be associated with the structure in (40).

(42) a. The milk became sour. (Cf. The milk came to be sour.)
b. John became famous. (Cf. John came to be famous.)

The problem with the approach outlined above, which we may refer to as the *full decompositional approach*, is that there is no evidence for an abstract path-denoting category in (40), in contrast with PPs, where morphologically overt complex Ps testifiy to the existence of a path-denoting P; see (38).

An alternative to the full decompositional approach is provided by H&K's proposal that stativity be represented as a direct relation between a nominal specifier and an adjectival or nominal complement (a relation that H&K refer to as "central coincidence"). More precisely, P will have a specifier, as shown in (43a). In this structure, P establishes a relation of "central coincidence" between the specifier D and the complement D. In the case of the adjective, it is proposed that an abstract category α introduces a specifer for A, as shown in (43b). While this category is abstract, at least it can be identified with some other abstract category with the same type of function, namely "little *v*," discussed earlier, and for this

reason, we will refer to it as "little *a*," as in (43c). While "little *v*" introduces the originator of the event, "little *a*" introduces the relation of "central coincidence."

(43) a. [$_{P}$ D [P D]]
b. [D [α A]]
c. [D [*a* A]]

If we combine the above proposal with the assumption that verbs like *be* and *seem* are raising predicates, we can then distinguish the dynamic events in (33c) and (42) from the stative events in (34c) and (44) in structural terms. The latter will be associated with the structure in (45) and the former with the structure in (46).

(44) The milk seems sour.

(45) [$_{VP}$ The milk [$_{V}$ is/seems [$_{a}$P (the milk) [*a* [$_{AP}$ sour]]]]

(46) [$_{VP}$ The milk [$_{V}$ became/went [$_{AP}$ sour]]]

The structure in (46) lacks a category that introduces the relation of "central coincidence." In such a case, A is associated with the following default interpretation:

(47) If A is not immediately dominated by "little a," then A is interpreted as denoting the endpoint of a path.

Given the general interpretative assumption in (48), the VP in (46) will be correctly interpreted as a process-denoting event.

(48) If V immediately dominates a category that denotes the endpoint of a path (A or N), V denotes a change of state or location.

The analysis sketched above abandons the full decompositional approach and acknowledges that some aspects of eventive meanings are interpretational in nature (based on the immediate structural context).

The question that then arises is how to handle stative verbs other than the light verb *be* or semimodal *seem*, namely, measure verbs such as *cost/weigh*, possessor verbs such as *have/own*, and experiencer verbs like *love/fear*. The experiencer verbs can actually be reduced to the possessor category (where the object of possession is an abstract emotion). A possible approach is to extend the proposal put forth by Freeze 1992 for the verb *have* and adopted by Kayne 1993, den Dikken 1995, and others. These authors have proposed that structures headed by the verb *have* are actually copular structures with a locative P complement and that *be* + P is

spelled out as *have*. The relation is more obvious in a language like French, in which the copula + P structure actually surfaces, as illustrated in (50).

(49) a. John has the book.
b. The book is P_{loc} John. (*be* + P_{loc} → *have*)

(50) a. Marie a le livre.
b. Le livre est à Marie.

Following this proposal, we could analyze the complement of stative verbs that denote a point in a scale (like *cost* and *weigh*) as a locative PP—for example, *the metal weighs one pound* has a meaning comparable to "the metal is at point one pound in the scale." More precisely, we could argue that the cases of stative measure verbs involve subject-to-subject raising, as illustrated in (51).

(51) [*the metal* [weighs [(*the metal*) [P [one pound]]]]]

The case of experiencer verbs is more complex (e.g., *John feared the war*). We might analyze it as a case of subject control with a dyadic complement structure (comparable to *John promised Mary to leave*). Furthermore, the object in the "central coincidence relation" would be the emotion-denoting nominal—that is, *fear* in the example below; consider "John is at point *fear* in the emotion scale." (*Fear* ends up in V via head-to-head movement.)

(52) [$John_i$ [V [the war [PRO_i [P [fear]]]]]]

This analysis would account for why the stative measure verbs do not passivize, while the experiencer verbs do so; compare *One pound was weighed by the metal* versus *the war was feared by John*. In effect, as we know, subject-to-subject raising structures do not passivize, while control structures do. We will not attempt to develop this line of analysis any further and will not address the issue of the representation of stative predicates again in this work. We return to structures that encode change of state or location.

Assuming that the line of analysis outlined earlier for predicates of "change of state or location" is on the right track, it entails the following:

(53) The verbs *go* and *come* do not have intrinsic meaning.

Other than deixis, the meaning of *go* and *come* is purely eventive in nature. To the extent that the syntactic structure itself encodes that eventive meaning, such verbs do not contribute anything of major relevance to

the meaning of the sentence. Following Goldberg's (1995) terminology, we may then say that

(54) The light verbs *go, come, become* are the morphological signature of a constructional meaning.

On the other hand, unlike Goldberg, we assume that the constructional meaning arises solely from the composition of syntactic categories, as outlined above. To recapitulate, the verbs *go* and *come* are the morphological signature of the aspectual meaning associated with structure (36a) (repeated in (55a)). *Become* is the morphological signature of the aspectual meaning associated with structure (41a) (repeated in (55b)). In some restricted cases, *go* can function as the morphological signature of the aspectual meaning associated with structure (41a) (repeated in (55b))—that is, in cases where A dominates certain specified lexical items (*crazy, sour, stale*, ...). Thus, we have *John went crazy, the milk went sour* (alongside *John became crazy, the milk became sour*), but not *John went famous* or *the water went frozen*. Compare the latter with the well-formed *John became famous* and *the water became frozen*.[10]

(55) a. $[_{VP}$ D [V [P [P [D]]]]] (Change of location)
b. $[_{VP}$ D [V A]] (Change of state)

Within the theory outlined here, what does (54) mean exactly? Before we answer this question, we must make precise the notion of "lexical item" as we intend to use it here. A lexical item is composed of several types of information: a pointer to a concept (call it C), a bundle of phonological features (call it P-features), and possibly some formal features such as tense in the case of verbs (call it FF) (e.g., Chomsky 1994, 1995). Thus, *run, kill, eat, book, love, fear, sad*, and so on are just convenient shorthand labels for complex objects. And not all the properties of lexical items are relevant for the syntactic composition of phrases. In particular, P-features and C-features are not. Marantz (1997) has suggested that roots are unspecified for category type, the latter being dependent on the syntactic environment in which the lexical item is inserted. We will assume that roots are generally unspecified (or underspecified) for category type, but perhaps more so in a language like English (which has a prolific use of so-called backformation) than in a language like Spanish. Following the framework put forth by Hale and Keyser, we assume that a lexical item also specifies the type of l-structure that it instantiates and it is this property of a lexical item (along with its FF) that plays a fundamental role in the syntactic computation.[11] Thus, the lexical items

freeze and *melt* are category-neutral roots. These category-neutral roots are specified as being able to instantiate the l-structure in (55b), which expresses change of state (i.e., movement toward an endpoint state). More precisely, it is inserted under A and then moves to V, thus acquiring the categorial specification of a verb.

(56) a. [The water [$_{V}$ *froze* [$_{A}$ (*froze*)]]]
b. [The butter [$_{V}$ *melt* [$_{A}$ (*melt*)]]]

We now return to the case of *go/come* and *become*. The proposal here is that these items are not part of the lexicon and therefore cannot be part of the lexical array that serves as input to the syntax. The morphophonological form of the verbs *go/come* can only be determined after the composition of the phrasal structure in (55a). More precisely, *go/come* is the spell-out of V in the context of (55a). It will be *go* if the P expresses movement away from the speaker (i.e., endpoint) and it will be *come* if the P expresses movement toward the speaker (i.e., source point). The question then arises at what point in the derivation such spell-out occurs. We will adopt the assumption in (57). Categories defined as ''phases'' determine the domain of spell-out; see Chomsky 1999/2001. More precisely, Chomsky proposes that the complement of the head of a phasal category constitutes the domain of spell-out. On the other hand, Fox and Pesetsky (F&P) (2005) argue that the domain of spell-out should be identified with the phase itself, a proposal we adopt here.[12]

(57) CP and *v*P (or VP in the absence of *v*) are phases and phases constitute the domain of spell-out.

Furthermore, we put forth the hypotheses in (58) and (59):

(58) If VP in (55a) is a phase and its head V is lexically unspecified, the V is spelled out as *go/come*.

(59) If VP in (55b) is a phase and its head V is lexically unspecified, the V is spelled out as *become*.

In (55), the domain of spell-out is the VP. If the head of the VP in (55a) is empty, it will be spelled out as *go*. If the head of the VP in (55b) is empty, it will be spelled out as *become*. Thus, in (56a), if the root corresponding to *froze* remains in A, it will be spelled out as *frozen* and the phonologically empty V will be spelled out as *become*; see *the water became frozen*.[13] As mentioned earlier, when A dominates specific lexical roots (such as *crazy, stale, sour*, and so on), an empty V in structure (55b) can also be

spelled out as *go* (e.g., he *went crazy, the bread went stale, the milk went sour*). In section 1.6, we will summarize the consequences of (57) and (58) for the manner-of-motion constructions across different language types (Korean, Germanic, and Romance).

1.4.2 Transitives

As discussed in the previous subsection, unergatives, unlike unaccusatives, are associated with an l-structure that lacks a Specifier. In the case of unergatives, the external argument is licensed by a *v*P shell; see (31). (We will refer to this level of structure as the "extended" l-structure of the verb.) On the other hand, the l-structure of unaccusatives does contain a specifier. Consider next the addition of a *v*P shell to the unaccusative structures (55a) and (55b).[14]

(60) $[_{vP}$ DP *v* $[_{VP}$ DP [V [P [P [DP]]]]]

(61) $[_{vP}$ DP *v* $[_{VP}$ DP [V [AP]]]

The above structures are associated with a causative meaning. This is illustrated by the sentences in (62) and (63), which are associated with the structures in (60) and (61), respectively.

(62) a. John sent the package to Paris.
b. John carried/took the package to Paris.
c. John gave the package to Mary.
d. John brought the package from Paris.
e. This medicine will up your blood pressure.

(63) a. The cold froze the water.
b. John broke the window.
c. Mary lowered the temperature.
d. Mary lengthened the pants.

To exemplify, sentences (62a) and (63a) would have the structures in (64a) and (64b), respectively.

(64) a. $[_{vP}$ John $[_{v}$ sent *v* $[_{VP}$ the package $[_{V}$ (sent) $[_{PP}$ to [P [Paris]]]]]]]
b. $[_{vP}$ The cold $[_{v}$ froze *v* $[_{VP}$ the water $[_{V}$ (froz-) $[_{A}$ (froz-)]]]]]

To recapitulate, in the present theory, the causative meaning does not arise from any (abstract) lexical item. It is a meaning associated with the construction itself, which can be summarized as in (65).

(65) $[_{vP}$ DP *v* $[_{VP}$ DP [V XP]]]

In this structure, the Spec of *v* is interpreted as bringing about (or causing) the event denoted by the embedded VP. To (54), we can therefore add the following generalization:[15]

(66) The causative meaning is not associated with some abstract lexical item. *In the unmarked case*, causation is the meaning derived from the structure in (65).[16]

Indeed, in the *unmarked case*, the causative meaning is derived from a structure formed by merging little *v* with an unaccusative structure. The above generalization follows from the fact that the Specifier of the embedded VP is interpreted as the Causee. Since the embedded VP in an unergative structure lacks a Specifier, there is no position that can be interpreted as the Causee of the embedded subevent.[17]

While all languages allow lexical causatives to be formed with unaccusative verbs and many languages allow causative formation only with unaccusatives, only some languages allow lexical causative formation with unergatives verbs (see Hale and Keyser 2002). It is therefore justified to consider the latter cases as marked. Lexical causatives formed with unergatives may be assumed to involve a higher "causative" structure. More precisely, while the *unmarked case* is for languages to allow at most one *v*P shell per VP structure (cf. (32)), some languages allow a recursive *v*P shell (as in (67)), making it possible for causative structures to be formed on the basis of unergative verbs (such as *the clown laughed the children*). The structure in (67) gives rise to an interpretation in which the higher *v*P shell is interpreted as bringing about the activity denoted by the lower *v*P shell.

(67) $[_{vP}$ D $[v\ [_{vP}$ D $[v\ [_{VP}$ V D]]]]] (Marked causative structure)

A final note regarding causative structures: In the unmarked case, the causative construction is formed by merging little *v* with an unaccusative structure. Therefore, transitives like *catch a fly* as well as transitives headed by "verbs of consumption" like *eat an apple* or *smoke a cigarette* should not be analyzed as causatives because there is no evidence that they contain an unaccusative structure. While some of the situations in the outside world associated with these sentences may be conceptualized as an object moving along a path (e.g., an object moving through the digestive organs in the case of an apple being eaten), it does not imply that they are grammaticalized as such. Tenny 1994 (building on ideas put forth by Dowty 1991 and Krifka 1989, 1992) argues that the object of verbs of

consumption and creation denotes a path that measures out the event denoted by the VP and thus such verbs share some aspectual commonality with verbs of directed motion. In her theory, verbs of directed motion and "verbs of consumption" share a notion of "core event" (which is derived from the common aspectual role "path"). Although both *eat an apple* and *go to school* give rise to bounded events, we will assume that they have fundamentally different l-syntax. Indeed, there is no reason to assume that the l-syntax of the bounded VP *eat an apple* is any different from that of the unbounded VP *eat apples*. Such transitive verbs are associated with an l-structure that contains a complement but no specifier:

(68) $[_{VP}$ V D]

As with unergatives, a *v* is merged with the structure in (68), giving rise to the transitive structure in (69). Such a structure will not be interpreted as causative because, as mentioned earlier, the notion of causation is derivative in this framework.

(69) $[_{vP}$ D $[v\ [_{VP}$ V D]]

To close this section, we note that the VP structures discussed above are themselves embedded under a series of functional projections. We are not going to address in any detail the nature of these functional projections, but it must be mentioned that above the (extended) l-syntax, we find the so-called inflectional categories, in the specifier of which Nominative and Accusative Cases are licensed. It is generally assumed that Nominative Case is licensed in the Spec of Tense. More controversial is the position for licensing of Accusative Case. Some have identified it with an abstract Object Agreement, in line with a proposal put forth by Chomsky 1991. Others have identified it with an "inner" Aspect Phrase projected immediately above the VP (e.g., Borer 1994; Ritter and Rosen 1998; Megerdoomian 2002; Travis 2000).[18] As argued by these authors, this assumption allows us to articulate the relation between the aspectual properties of the object and the aspectual properties of the VP. In this work we will endorse the view that T and Asp play a role in licensing Nom and Acc, respectively.[19]

The general picture that emerges is summarized below. As we will see later, a series of VPs uninterrupted by functional projections is one core property of serial-verb constructions (i.e., a necessary but not sufficient condition). In a serial-verb construction, a series of VPs share the same set of functional projections: one Asp node and one Tense node immediately above the highest VP.

(70) a. Unaccusative structure
$[D_1\ [T \ldots [Asp\ [D\ [V\ XP]]]]]$
b. l-causative structure
$[D_1\ [T \ldots [D_2\ [Asp\ [D_1\ v\ [D_2\ [V\ XP]]]]]]]$
c. Unergative structure
$[D_1\ [T \ldots [Asp\ [D_1\ v\ [V\ D]]]]]$
d. Non–l-causative transitive structure
$[D_1\ [T \ldots [D_2\ [Asp\ [D_1\ v\ [V\ D_2]]]]]]$

1.5 Event Boundedness and Temporal Boundedness

In this section, we briefly discuss the notions of event boundedness and temporal boundedness, since they are relevant to the discussion of manner-of-motion verbs.

1.5.1 Disentangling Event Boundedness (Telicity) and Temporal Boundedness

This section is based on Zagona 2004, which contains an illuminating discussion of how e(vent) boundedness and t(emporal) boundedness are articulated in the grammar.

As mentioned in note 2, four main event types have been recognized (see Vendler 1957):

(71) 1. *States* involve no change throughout an interval. (*own a house, know a poem, love a person*)
2. *Activities* involve a process with transitions from one state to another (i.e., it is durative), but lacking a natural endpoint. (*run, laugh, drink juice, push a cart*)
3. *Accomplishments* involve a process with transitions from one state to another state toward a natural endpoint. Since it contains substates, it is durative. (*run a mile, run to the park, draw a circle, eat an apple*)
4. *Achievements* involve a process that consists of a transition to an endpoint state from an immediately preceding state. It contains no intermediate substates, and is therefore nondurative. (*reach the top, notice a problem*)

Because activities lack an endpoint, they are homogeneous processes. In effect, in the absence of a telos, the substates that compose an activity cannot be differentiated from each other. On the other hand, because

accomplishments have a telos (or endpoint), the substates that compose this type of process are nonhomogeneous.[20] In effect, any given substate will be viewed as closer to or farther from the telos than some other substate. Therefore, the substates involved in an accomplishment can be differentiated from each other.

The endpoint (or telos) of an event is a property encoded in the l-structure by a PP complement in verbs of directed motion (72a) or by a determinate object in the case of verbs of consumption (72b) and verbs of creation (72c).

(72) a. John ran to the park (in an hour).
b. John ate the apple (in a minute).
c. John drew a circle (in a second).

In the Reichenbach framework on "Times," Speech time (S) and Event time (E) are mediated by Reference time (R). While S (moment of speech) and E (moment of the event) are intuitive notions, R is a more abstract theoretical notion that serves to explicate the concepts of "more past than normal past" (past perfect tense, such as *John had left*) and "past in the future" (future perfect tense, such as *John will have left*). According to Zagona 2004, the relation between R and E is an aspectual one, not a tense-ordering relation. In the absence of Viewpoint aspect (i.e., the progressive and the perfect), R and E are simultaneous. In the present tense, R and E are simultaneous with S, while in the simple past, R and E precede S. Since Viewpoint aspect is absent in (72), R and E are simultaneous. Because the examples in (72) denote processes with a natural endpoint or telos (they are accomplishments), the temporal adjunct introduced by the preposition *in* can measure R, which coincides with E. The *in*-temporal phrase thus measures the temporal span of the event. On the other hand, the examples in (73) denote processes that lack an endpoint; they are activities. Therefore, these cannot be modified by a telic *in*-temporal phrase, but they can be modified by the durative adverb introduced by the preposition *for*.

(73) a. John ran (for an hour/*in an hour).
b. John ate (for an hour/*in an hour).
c. John laughed (for an hour/*in an hour).

Zagona points out that even in the absence of Viewpoint aspect, there are certain types of verb phrases in which there are systematic mismatches between the duration of R and of E. Zagona discusses two types of mis-

matches. Below, we will discuss one of them, namely, cases that involve iterated events within an interval modified by a durational adverb. The iterative reading arises in the presence of a bare plural object or subject (see Verkuyl 1993 and the references cited there):

(74) a. John broke glasses for an hour.
b. John read abstracts for an hour.

(75) a. Trees fell over for an hour.
b. People voted for an hour.

The above examples involve iterative events, in which each event is a subinterval of R. Each event (which corresponds to a subinterval in the R-timeline) is bounded, but R (modified by the durative adverb) is unbounded. The mismatch can be best appreciated with an example such as (76). It involves iterative events of picture framing. Each picture-framing event constitutes a subinterval in the R-timeline. On the other hand, each picture-framing event is bounded. While the durative phrase modifies the unbounded set of subintervals, the *in*-temporal phrase modifies each subinterval that, as just mentioned, corresponds to a telic event.

(76) John framed pictures in an hour for years.

As is well known, determinate plurals block the type of mismatch described above:

(77) Fred ate the apples in a minute/*for a minute.

Yet Zagona points out that if the event "ate the apples" is individuated with the help of the modifier "one-by-one," then the iterative reading becomes available, giving rise to an unbounded event:

(78) Fred ate the apples one by one for an hour.

Similarly, note that activities can be individuated by the modifier "in bouts of" and each individuated bout of activity can be modified by a telic temporal phrase (e.g., *ten minutes*). This is illustrated by the example below, which involves iterative bouts of laughter, each of which lasts ten minutes. Each individuated laughing event constitutes a subinterval in the R-timeline, which is unbounded (as indicated by the temporal adverb *for an hour*).

(79) John laughed in bouts of ten minutes (for an hour).

To conclude, the temporal adverbs (i.e., the telic *in*-phrase and durative *for*-phrase) modify the Reference time or R. In the absence of Viewpoint

aspect, the (un)boundedness of R is determined by the properties of the event. If the event is singular and telic, R will be bounded. If there is a plurality of events and if each event can be individuated and mapped onto a subinterval in R, then each subinterval of R will be bounded (although the iteration of such subintervals is unbounded).

1.5.2 Some Clarification on the Notion of Endpoint

At this point, it will be useful to clarify the grammatical status of endpoint. When we say that an l-structure specifies a telos, it means that it specifies a reference point in terms of which the endpoint can be computed. Thus, in the directed-motion reading of (80), *the bridge* is said to be the grammatical telos because it is the reference point in terms of which the endpoint of the movement is computed, namely, any point that is perceived as being on the other side of the bridge.

(80) The boat floated under the bridge.

Furthermore, we must distinguish between having a telos and reaching a telos. Directed motion requires a telos toward which movement is directed, but it does not necessarily assert that the telos has been reached; compare (81a) and (81b). (See note 16.)

(81) a. The boat floated toward the bridge.
b. The boat floated up to the bridge.

Scalar verbs like *increase/decrease, lengthen/shorten*, and many others are also worth mentioning because they have led some scholars to reject the idea that telicity is a relevant grammatical concept. In particular, Hay, Kennedy, and Levin (1999) argue that the endpoint of an event may be entirely determined on the basis of world knowledge. These authors give the paradigm in (82)–(85) to illustrate the dependency of telicity on world knowledge. They use an entailment test (attributed to Vendler 1957 and Dowty 1979) to determine (a)telicity. Atelic predicates are entailed by their progressive forms, while telic predicates are not. The difference between (82)–(83) and (84)–(85) lies in the fact that we have a conventionalized notion of "lengthened pants" and "lowered blind," but not of "lengthened commute" and "lowered heat." Therefore, the endpoint is flexible in (84)–(85) and any amount of lengthening or lowering (whatever it might be) counts as the endpoint.

(82) The tailor is lengthening my pants $\not\Rightarrow$
The tailor has lengthened my pants

(83) Kim is lowering the blind $\not\Rightarrow$
Kim has lowered the blind

(84) The traffic is lengthening my commute $\Rightarrow$
The traffic has lengthened my commute

(85) Kim is lowering the heat $\Rightarrow$
Kim has lowered the heat

As Hay and colleagues show, the fact that the notion of endpoint can be vague or relative to the discourse situation is also true for verbs of creation and consumption:

(86) a. She ate the sandwich, but as usual she left a few bites.
b. She drew a house, but it was missing a door.

If a speaker is happy to accept a variable endpoint in (84)–(85), that speaker should be equally willing to take that variable endpoint as determining the temporal span measured by the *in*-phrase. For such a speaker, (87b) should be as acceptable as (87a):

(87) a. Kim lowered the blind in a minute.
b. Kim lowered the heat in a minute.

Similarly, if a speaker is willing to accept (86) as noncontradictory, that speaker should be equally willing to accept (88):

(88) a. She ate the sandwich in a minute, but as usual she left a few bites.
b. She drew a house in a minute, but it was missing a door.

What the above discussion shows is that the notion of "telos" is not absolute. Yet this notion is crucial in the grammatical characterization of directed motion. The l-structure of verbs of directed motion, including scalar verbs, encodes movement toward a telos, where the telos can be entirely specified, or it can be vague, or it can have a variable interpretation and be subject to pragmatic considerations. In the case of scalar predicates, movement is along an abstract path in the direction specified by a variable argument "x-amount more" or "x-amount less." This variable measure can be left unspecified by the grammar, in which case pragmatics can "fill in" the information (as in the cases discussed earlier). Alternatively, the grammar provides an adverb that specifies the variable measure, as in (89). The status of the measure phrase is thus comparable to that of the implicit agent in verbal passives. Indeed, it has long been recognized

that in verbal passives there is a covert indefinite argument, which can remain unspecified or can be modified by an overt *by*-phrase; see (90).

(89) a. The tailor lengthened my pants by 3 inches.
b. Kim lowered the heat by 3°.

(90) a. My pants were lengthened (by the tailor).
b. The heat was lowered (by Kim).

1.5.3 Duration as an Interpretational Feature

A final comment with regard to the event types summarized in (71). Note that both accomplishments and achievements involve movement toward a telos; the difference between them is that accomplishments are +durative (the process is composed of internal substates) and achievements are −durative (the process lacks internal substates). In the system proposed in section 1.4, achievements and accomplishments are not structurally differentiated—that is, they are associated with the same type of l-structure. The duration component is purely interpretational. More precisely, we will assume that achievements (such as *arrive, shatter, glimpse, reach*) are lexically specified as [−durative], but accomplishments and activities are unspecified for duration. In other words, in the unmarked case, a process is interpreted as [+durative]. More precisely:

(91) A process will be automatically interpreted as [+durative], unless it is lexically specified as [−durative].

It follows from (91), in conjunction with (58) and (59), that the structures headed by *go/come* and *become* will receive a +durative interpretation. Indeed, since these items are not part of the lexicon (i.e., they are the spell-out of V in a certain structural configuration), they cannot be associated with any type of lexical feature. The prediction is correct for the directed-motion constructions in English, as well as for the directed-motion constructions (headed by the light verbs *ka-, o-, -(e)ci*) and the causative constructions in Korean; see chapter 2 for extensive discussion.

1.6 A Crosslinguistic Analysis of Manner-of-Motion Constructions: A Preview of Chapters 2 and 3

The line of analysis that we will develop here is highly inspired by the Nicaraguan Sign Language (NSL) mentioned earlier in this chapter. Recall that at the pidgin stage in NSL, "manner" and "directed motion"

were expressed simultaneously, but that at the creole stage, they get to be realized sequentially (i.e., in a serial-verb fashion). This strongly argues for the view that "manner" and "directed motion" are generally expressed compositionally in human language. We will articulate an analysis of these constructions, in which "manner" and "directed motion" are expressed compositionally at the syntactic level. The formal mechanism that we will develop is close in spirit (but not in details) to the one put forth by Mateu 2002. We first introduce the subject of serial verbs, their structure and how they are formed, with particular attention to Korean (section 1.6.1). We then discuss Germanic (section 1.6.2) and Romance, and in particular the differences between Italian, on the one hand, and French and Spanish, on the other hand (section 1.6.3). Finally, we conclude and recapitulate the theoretical implications of the present analysis (section 1.6.4).

1.6.1 Serial-Verb Constructions (SVCs) and Directed Motion in Korean

In the minimalist approach outlined first in Chomsky 1994 (see also Chomsky 1995), the general operation Merge is the basic mechanism by which phrase structure is constructed. Merge can apply to any two syntactic constituents to form a new syntactic object. The resulting syntactic object must receive a label and, given the compositional nature of language, this label must be calculated from the labels of its parts. In particular, no new features can be added in the course of the derivation (cf. the Inclusiveness Condition). The label of a constituent is ultimately identified with a particular lexical item that it dominates. Recall that a lexical item is defined as a set of features: phonological (P), a pointer to a concept (C), categorial features, and some set of formal features (FF). This set of features constitutes the label. There are therefore three possible options to determine the label of a constituent Z created by Merge of X and Y:

(92) a. The label of Z = the label of X
b. The label of Z = the label of Y
c. The label of Z = the union or the intersection of X and Y

The option in (92a) gives rise to a phrase in which X is the head, the option in (92b) gives rise to a phrase in which Y is the head, and the option in (92c) is assumed to give rise to a biheaded phrase. Chomsky (1994) rejects (92c) as a possible option on the grounds that a phrase with such a label will not be able to undergo further computation. Note that under

this theory, there is no intrinsic difference between the label of a head and that of its phrasal projection. They have the same label and can only be distinguished contextually.

Contra Chomsky, Baker and Stewart (1999) argue that (92c) is indeed an option, in particular, in languages with serial-verb constructions (SVCs), like the West African languages. A signature property of SVCs is as follows:[21]

(93) SVCs consist of a succession of verbs and their complements (if any) in a single clause with one Tense or Aspect value and one subject (e.g., Déchaine 1993; Collins 1997).

Baker and Stewart (1999) put forth the following logic. In SVC languages, two verbs or verb phrases can be merged and the label of the output category is an intersection of the features of the two Vs. Indeed, since P-features and C-specification are irrelevant to the syntactic computation, they can be ignored. The output label can, in principle, be constituted solely by the categorial features and the formal features (FF) or a subset of these. Thus, if the two objects merged have the same categorial features and the same relevant FF, then (92c) is indeed an option—that is, $X \cup Y_L = X \cap Y_L = X_L = Y_L$.

The question that then arises is why SVC is available in some languages but not others. Baker and Stewart suggest that the relevant parameter is whether or not the verb carries inflectional morphology, and in particular, tense specification. They argue that in the Kwa languages, and in particular, in Edo, the verb in most tenses is not morphologically specified for Tense. In such cases, tense is morphologically realized by an independent morpheme. Therefore, T does not attract V (overtly or covertly). On the other hand, in a language in which V is inflected for tense, T does attract V. In such a case, a biheaded verbal structure is impossible because T would not be able to find a unique head to attract. Baker and Stewart note that in Edo, there is one tense in which verbs are inflected. This is the case of the past perfective and as expected, serial verbs cannot appear in this tense. The formulation of Attract in (94) is proposed to achieve the desired result. It is furthermore assumed that functional heads between T and V (like Voice and *v*) are ignored by Attract.

(94) X attracts a head Y iff Y can check a feature of X, and for all Z such that Z is not equal to Y and Z can check this feature of X, Y asymmetrically c-commands Z.

Baker and Stewart discuss three types of SVCs: Covert Coordination, Consequential SVC, and Resultative SVC.

(95) a. Òzó ghá gbé èwé khi̱ẹ̀n ùhùnmwùn
Òzó FUT hit goat sell head
éri̱ẹ̀n. (Covert Coordination)
its
'Òzó will kill the goat and sell its head.'
b. Òzó ghá gbè èwé khi̱ẹ̀n. (Consequential SVC)
Òzó FUT hit goat sell
'Òzó will kill the goat and sell it.'
c. Òzó ghá gbè e̱wé wù. (Resultative SVC)
Òzó FUT hit goat die
'Òzó will strike the goat dead.'

Baker and Stewart assume that Voice (and not *v*) introduces the external argument. They argue that Covert Coordination (CC) arises when two Voice Phrases are merged, that the Consequential SVCs (CSVCs) arise when two *v*Ps are merged, and that the Resultative SVCs (RSVCs) arise when two Vs are merged.

Stewart 1996, on the other hand, argues that the CC involves two distinct Aspect categories, one associated with the first V and another associated with the second V, and that it is the presence of two distinct AspPs that allows for the licensing of two overt objects. We will follow Stewart 1996 and furthermore assume that the second Asp is merged with the first V, giving rise to a subordination (rather than a coordination) structure, as shown in (96).

(96) [T [Asp [*v* [V . . . [Asp [V . . .]]]]]

Korean and Japanese both have CC and CSVCs, but they lack RSVCs. These languages also have another type of SVC (not discussed by Baker and Stewart but discussed by Déchaine 1993, among others), namely, the Simultaneous or Coevents SVC (or SSVC). We will not discuss the CC any further here and will restrict our attention to the other types—CSVC, RSVC, and SSVC. We note that Korean and Japanese verbs do inflect for tense, unlike Edo and other Kwa languages. Therefore, the analysis proposed by Baker and Stewart for these languages does not extend to Korean and Japanese. We conclude (contra Baker and Stewart) that the parameter that distinguishes the SVC languages from the non-SVC ones is not morphological. Following Larson 1991 and Nishiyama

1998, we assume that such SVCs involve verbal subordination. More precisely, we suggest that[22]

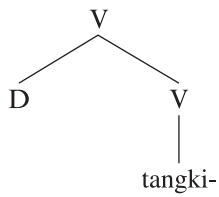
(97) An SVC arises when a language uses the particular Generalized Transformation (GT) below:
   a. Merge a verbal l-structure with the head of another verbal l-structure.
   b. Merge a verbal lexical item with the head of a verbal l-structure.

To exemplify, consider the Korean example in (98), which expresses a consequential relation between the two Vs. The reader must keep in mind that the English translation does not do entire justice to the meaning of the CSVC. It is crucial that the two events be connected. In the example below, the event of "gripping the rope" renders possible the event of "pulling the rope." In other words, the first event is a necessary (although not sufficient) condition for the second event to take place. See chapter 2 for further discussion of this point.

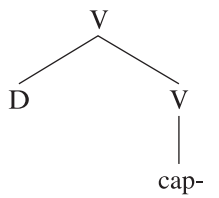
(98) John-i cwul-ul cap-a tangki-ess-ta.
John-Nom rope-Acc grip-L pull-Past-Decl
'John gripped and then pulled the rope.'

Both *cap-* 'grip' and *tangki-* 'pull' instantiate the same type of l-structure, as shown below. For the sake of convenience, we will continue to use the old notation, whereby the syntactic category labels the lexical item. But we must keep in mind that the lexical item (*cap-* and *tangki-* in the case under discussion) is simply a shorthand notation for a set of features, among them the categorial feature (V in this case) and the formal features (FF).

(99) a.

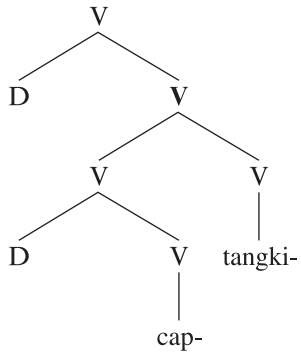


b.



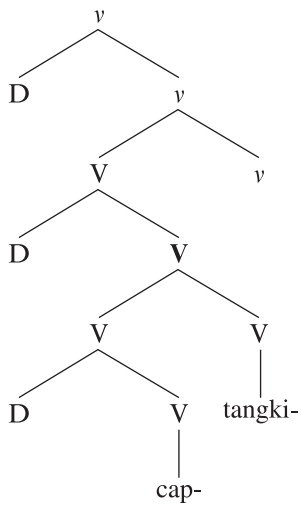
The SVC in (98) arises when the GT in (97a) merges the V-projection in (99b) with the V-head in (99a). The resulting structure is shown below, where the V in bold is the category created by the GT:

(100)



Recall that little *v* is not part of the l-structure of verbs; it is the extended l-structure. It is inserted via the constructional convention in (30), giving rise to the structure in (101).

(101)



We furthermore assume the following interpretative convention:

(102) In an SVC, the DP in the Spec of the highest V is interpreted as the originator of the event denoted by each one of the Spec-less Vs that the highest V dominates.

The structure in (101) is then merged with the relevant functional projections—for example, Neg, Asp, and Tense. Ultimately, Nom DP

subjects are licensed by T and Acc DP objects are licensed in Asp via the operation "Agree" (see note 24). To the extent that there is one AspP, only one object argument will be overtly realized in the SVC.

Suppose we assume with Baker and Stewart that the label of a category that results from Merge need only specify features relevant to the syntactic computation of phrases, such as categorial features and FF (but not P- and C-features). On the other hand, unlike Baker and Stewart, we will assume that there is no absolute notion of head. Headedness is relativized with respect to the type of computation involved. Therefore the root V in (100) is structurally ambiguous as to whether it is the projection of the first or second V. The morphosyntactic head is the one that realizes the tense (and other inflectional) feature(s) of the clause. Technically speaking, this will depend on which head checks the features of T and this is determined by the Minimality Condition on movement operations. Given Minimality, the highest V (with a phonological label) will be attracted to T.[23] In a left-branching language like Korean, the highest V will be the last V, and indeed, the last V in the SV sequence morphologically realizes the tense feature in this type of language; see *tangki-* in (98).[24]

While the final V in an SV sequence is the morphosyntactic head in a left-branching language like Korean, it remains open as to which V gets computed semantically as the matrix event and which head gets computed as the subordinate event. Indeed, the semantic ambiguity in this type of structure was noted and extensively discussed by Déchaine 1993, a phenomenon she refers to as the "bivalency" property of SVCs. With this in mind, let us turn back to the CSVC. In the CSVC, the antecedent event (A) is perceived as a necessary condition for the consequent event (B) to take place. In other words, the worlds that contain B are a subset of the worlds that contain A. The relation between the two is then comparable to the well-known cause-result structures, where the cause constitutes the matrix event and the result the subordinate event. This suggests that in the CSVC, the consequent is subordinate to the antecedent (see Carstens 2001). If this is indeed the case, we must conclude that the first V in (100) is the semantic head of the SVC, while the second V is semantically subordinate. We then have a mismatch between the morphosyntactic head (the second V) and the head that introduces the matrix event (the first V). In chapter 2, we provide empirical evidence for the semantic headedness of the first V in the CSVC, based on adverbial modification. We note furthermore that the CSVC is not the only case where we have a mismatch between the notion of morphosyntactic head and the notion of

sem(antico)-syntactic head. As we will see in section 1.6.3, this is also the case in verbal structures with an auxiliary verb.

The alternative order of verbs in (98) is unacceptable; see (103). But this is not due to a syntactic ill-formedness. Indeed, there is no syntactic principle that can exclude this particular order of verbs.

(103) *John-i cwul-ul tangki-e cap-ass-ta.
John-Nom rope-Acc pull-L grip-Past-Decl

The ill-formedness of (103) is due to a PF interface condition, namely, the *Temporal Iconicity Condition* or TIC (Muysken 1988; Li 1993):

(104) *Temporal Iconicity Condition (TIC)*
In an SVC, if the events denoted by the SVs are sequential, the surface order of Vs must reflect the temporal ordering of events.

We turn next to the RSVC. This type of SVC also encodes a consequential relation between the events denoted by V1 and V2: the event denoted by V1 is a necessary condition for the event denoted by V2 to take place. Yet the CSVC and the RSVC are grammatically different. While the CSVC consists of two transitive Vs, the RSVC consists of a transitive V and an unaccusative V. Interestingly, Baker and Stewart discovered an interpretational difference between the object in the CSVC and the RSVC in Edo. They illustrate the difference in meaning between the two with the following examples:

(105) Òzó sùá èhán khérhé dè-lé. RSVC
Òzó push tree few fall-PL
'Òzó pushed a few trees down.'

(106) Òzó dé̲ èbé khéhré tié. CSVC
Òzó buy book little read
'Òzó bought a few books and read them.'

The CSVC in (106) implies that Òzó bought few books and read all of them. It is not compatible with a situation in which Òzó bought many books but read only a few of them. The above contrast suggests that in the CSVC there are two events and the quantifier *few* quantifies into the first one only.[25]

(107) John *v* (few (bought *x*=books)) & (read *x*=books)

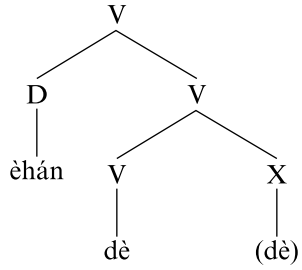
On the other hand, the RSVC in (105) is compatible with a situation in which Òzó pushed many trees but most of them did not fall. Or

alternatively, it is compatible with a situation in which many trees fell, but for some other reason than Òzó pushing them. In either situation, it is the case that there are *few* trees that fell as a consequence of Òzó pushing them. This suggests that in the RSVC, the two Vs conjointly give rise to a complex event (*push and fell*) and the quantifier *few* quantifies into this complex event:

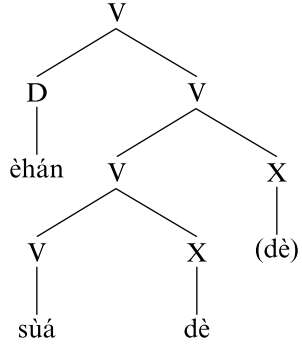
(108) Òzó *v* (few ((pushed & fell) *x*=trees))

Baker and Stewart take the meaning discussed above to suggest that the syntax of RSVC involves a complex V, which is predicated of the same object. Let us assume that this is achieved via the GT in (97b), which adjoins the verbal lexical item *sùá* 'push' to the head of the l-structure of *dè* 'fall'. The latter is an unaccusative verb that encodes change of state, as shown in (109). Adjunction of *sùá* to the head of (109) gives rise to the structure in (110). The resulting structure is merged with little *v*, and after further adjunction of *sùá* to *v*, (111) is obtained. *Sùá* thus gets interpreted as the causing event. Note that the resulting structure obeys the TIC: *sùá* 'push' both temporally and linearly precedes *dè* 'fall'.[26]

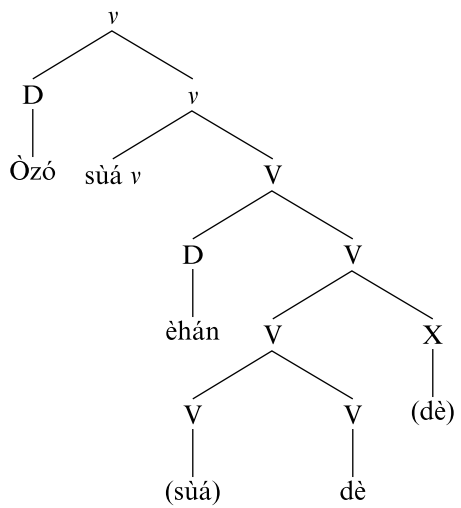
(109)



(110)



(111)



As noted earlier, Korean and Japanese lack the RSVC (see Li 1993; Nishiyama 1998). In these languages a transitive V cannot be combined with an unaccusative V, as illustrated by the ill-formedness of (112).

(112) a. *Òzó-ka yemso-lul ttali-e cwuk-ess-ta.
Òzó-Nom goat-Acc hit-L die-Past-Decl
b. *Òzó-ka yemso-lul cwuk-e ttali- ess-ta.
Òzó-Nom goat-Acc die-L hit-L-Past-Decl
Intended meaning: 'The goat died as a result of Òzó hitting it.'

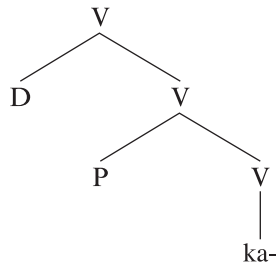
Recall that Korean and Japanese are head-final languages. In Korean and Japanese, functional projections, such as T, branch to the left. And this has consequences for an RSVC analysis. Consider the Korean examples in (112). The verb *ttali-* 'hit' must move out of the verbal compound and adjoin to little *v*; see (111). This verb will then be the highest V in the extended l-structure and will be attracted to T (to check the tense feature of T). Since in this language T is rightmost, *ttali-* should surface as the rightmost V. This is not the case in (112a) and it is therefore ruled out (as failure of V-to-T movement). In (112b), *ttali-* 'hit' has adjoined to little *v* and then to T. The syntactic computation is therefore felicitous. The problem with the output form in this case is that it violates the linear ordering required by the TIC: the consequent event *cwuk-* 'die' precedes (rather than follows) the antecedent event *ttali-* 'hit'. (See Li 1993 for a similar conclusion within a different framework of analysis.) As we will

see in chapter 2, the lack of RSVC in Korean has important consequences with regard to the typology of directed-motion constructions found in this language. Indeed, Korean lacks the variety of directed-motion SVCs that Yoruba and Edo have.[27]

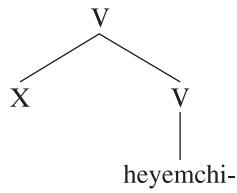
We turn next to the third type of SVC, the Simultaneous (coevents) SVC (or SSVC). A manner-of-motion verb (such as *heyemchi-* 'swim') can be combined with the light verbs *ka-* 'go' or *o-* 'come', as illustrated in (113). As we will see in detail in chapter 2, the Korean manner-of-motion verbs are unambiguously activity-denoting verbs, with an unergative structure; see (115). Light verbs, on the other hand, are the spell-out of V in the context of the directed-motion construction; see (55a) and (114). All of these structures are formed independently of one another; therefore, each constitutes a phase and a spell-out domain. The GT in (97a) forms the SVC in (113) by adjoining the l-structure in (115) to the head of the l-structure in (114). The morphosyntactic head of the resulting structure is unambiguously the second V, namely, the highest V in the structure. Therefore, it is attracted by T and, consequently, it realizes the tense inflectional feature of the clause.

(113) John-i hoswu hanccok-phyen-*ey* heyemchi-e ka-ss-ta.
John-Nom lake one side-side-Loc swim-L go-Past-Decl
'John swam to one side of the lake.'

(114)



(115)



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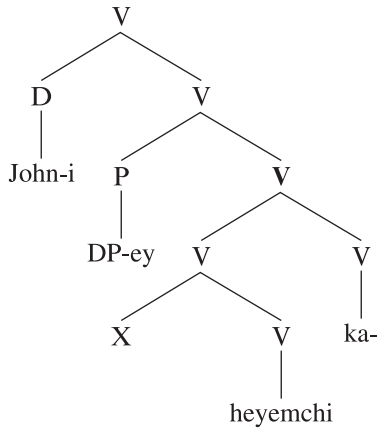


As for the semantic relation between the two Vs, the most salient meaning is one in which the first V denotes the manner in which the directed motion "going to the other side of the lake" was achieved; consider 'John went to the other side of the lake swimming'.[28] Under this interpretation, V2 constitutes the matrix event and V1 the subordinate event. Therefore, V2 is not only the morphosyntactic head of this type of SVC, but also the sem-syntactic head. In chapter 2, we will discuss in detail this type of SVC, which overtly exemplifies the compositional nature of manner and directed motion in natural language.

1.6.2 Directed Motion in Germanic

In section 1.1, we mentioned that in Germanic, manner-of-motion verbs appear to exhibit a variable behavior systematically. They appear to be able to head a construction that denotes an activity (117) or directed motion (118).

(117) John ran/walked/danced/swam for hours/*in an hour.[29]

(118) a. John ran/walked/danced to the park in an hour.
b. John swam to the other side of the lake in ten minutes.

Furthermore, it has been argued that the activity-denoting construction has unergative properties, while the directed-motion construction has unaccusative properties. This can best be appreciated in Dutch, in which the two types of constructions select a different type of auxiliary (*heben* versus *zijn*); see the examples in (2)–(3), repeated in (119)–(120). Futhermore, the locative PP in the unergative construction can be shown to have the grammatical status of an adjunct, while the locative PP in the

unaccusative construction can be shown to have the status of a complement; see chapter 3 for detailed discussion.

(119) a. dat Jan naar Groningen twee uur lang *heeft* gewandeld.
that Jan to Groningen two hours long has walked
b. ??dat Jan twee uur lang naar Groningen *heeft* gewandeld.
that Jan two hours long to Groningen has walked

(120) dat Jan in twee uur naar Groningen *is* gewandeld.
that Jan in two hours to Groningen walked is
'. . . Jan walked to Groningen in two hours.'

As mentioned earlier, postulating polysemy for each manner-of-motion verb would miss a robust generalization. Crosslinguistic data strongly suggests that manner-of-motion verbs do not select a PP directional argument (see the discussion of Korean in chapter 2). If that is indeed the case, then the PP complements in (118) and (120) are not complements of the lexical verb at all. Jackendoff (1983, 1990) proposes to analyze the English manner-of-motion construction exemplified in (118) as a case of subordination of manner with respect to an abstract verb GO at the semantic level of representation. Under such a view, GO is the main predicate, which is modified by the manner-of-motion verb. The meaning of the sentences in (118) is thus close (although not identical) to the ones in (121). Many authors who have studied the directed-motion construction in English and other languages have been inspired by Jackendoff's insight (see, for example, Goldberg 1995; Mateu and Rigau 2002; Mateu 2002; Spencer and Zaretskaya 1998).

(121) a. John went to the park running/walking/dancing.
b. John went to the other side of the lake swimming.

In Germanic, there are also plenty of "cause–directed motion" cases in which directed motion is not entailed by the lexical verb. Indeed, Goldberg 1995 and Goldberg and Jackendoff 2004 point out examples like those in (122) and (123) as showing that the complementation properties in such cases cannot be attributed to the lexical properties of the verbs involved.

(122) a. The professor talked *us into a stupor*. (Cf. *The professor talked us)
b. The critics laughed *the play off the stage*. (Cf. *The critics laughed the play)

c. He sneezed *the napkin off the table*. (Cf. *He sneezed the napkin)

(123) a. Bill belched/danced *his way out of the restaurant*. (Cf. *Bill belched/danced his way)
b. Bill elbowed *his way through the crowd*. (Cf. *Bill elbowed his way)

Verbs such as *talk, laugh, sneeze* are typically intransitive verbs that head a construction denoting an activity. A theory that assumes that complements are systematically arguments of the lexical verb would have to multiply the senses associated with these verbs. On the one hand, such verbs would be associated with an intransitive argument structure (with an activity meaning) and, on the other hand, they would be associated with a ditransitive structure (with a cause-motion-along-a-path meaning). Undoubtedly, some polysemy does exist in natural language. Nevertheless, a parsimonious approach to polysemy would trivialize the issue of the relation between form and meaning. Furthermore, and more worrisome, it would have to assume that languages that lack forms like (122) and (123) (such as the Romance languages) have radically different lexicons from English (and other Germanic languages). Goldberg 1995 and Goldberg and Jackendoff 2004 argue that, while the verbs *talk, laugh, sneeze* are not causative verbs, there is a causative construction that underlies the sentences in (122). The verbs may be analyzed as modifiers of the construction, giving rise to meanings close (but not identical) to the ones in (124). Similarly, it may be argued that while *dance, belch, elbow* are not causative verbs, there is a causative construction that underlies the sentences in (123),[30] giving rise to meanings close (but not identical) to the ones in (125).[31]

(124) a. The professor made us go into a stupor *by (excessive) talking.*
b. The critics *got* the play off the stage *by (excessive) laughing.*
c. He *got* the napkin off the table *by (excessive) sneezing.*

(125) a. Bill *made his way* out of the restaurant *by belching/dancing*.
b. Bill *made his way* through the crowd *by elbowing*.

The apparent variability of manner-of-motion verbs can be readily understood if the contribution of the verb is separated from the grammatical contribution of the construction. The path in (118), (122), and (123) is contributed by the construction, not the lexical verb. The lexical verb modifies the construction; it specifies the manner of the motion or the means by which the motion is brought about.

The constructional approach outlined above distinguishes cases in which verbs "instantiate" a construction (by virtue of their lexical meaning) from cases in which verbs "modify" a construction. In a nutshell, the distinction can be described as follows:

Instantiation This is the typical case, where there is a one-to-one correspondence between the arguments of the lexical verbs and the arguments of the construction. For instance, among the verbs that instantiate the cause-directed-motion construction are *hand, give, send, throw* (e.g., *John handed/gave the ball to the boy; John sent the letter to Mary; John threw the towel to the floor*). The purest cases of "instantiation" of a construction are the so-called *light verbs*, in which the verb adds very little meaning beyond that which is encoded by the construction itself (such as deixis) (e.g., *go/come; give/get*). In Goldberg's terms, such verbs are the morphological signature of constructional meaning. They belong to the closed class of lexical items, alongside prepositions.
Modification In this case the main syntactic verb constitutes the *modifier* of the construction. Some of the arguments are arguments of the construction alone, and not of the verbal lexical item.

In section 1.4, we outlined a structural conception of the constructional approach. Within that framework, we can state the following generalizations for Germanic:

(126) In Germanic, there is a compositional analysis for "manner" and "directed motion." The structure in (55a) (= (128)) encodes the meaning of "directed motion," which is modified by "manner."

(127) In Germanic, there is a compositional analysis for "means" and "cause-directed motion." The structure in (60) (= (129)) encodes the meaning of "cause-directed motion," and "means" modifies a subevent encoded by this structure.

(128) $[_{VP}$ D [V [P [P [D]]]]] (Directed motion)

(129) $[_{vP}$ DP v $[_{VP}$ DP [V [P [P [DP]]]]] (Cause-directed motion)

Yet the Germanic languages are not SVC languages, in the sense that they lack (97). How then do they compose manner and directed motion? Germanic has another property that we believe is relevant and that was first identified by Snyder (1995, 2001). This author proposes that the presence/absence of certain types of resultative structures be related to the presence/absence of productive compounding in a given language. More precisely,

(130) Germanic has productive and compositional N-N (root) compounding.

Such compounds are created by the following mechanism:

(131) Merge two lexical categories of the same categorial type.

Thus, English can combine any two nouns freely, and the semantic relation among them is open. Roeper, Snyder, and Hiramatsu (2002) note that this is not the case in Romance. These authors illustrate the difference between the two sets of languages with the following examples. Unlike the English compound, the French compound only has an idiomatic meaning and admits no variation; compare *femme grenouille versus "frog woman."[32]

(132) a. homme grenouille (lit. 'man frog') [= 'undersea diver'].
b. frogman [= 'undersea diver', or 'man who collects frogs', or 'man resembling a frog', or 'man who sells statues of frogs', etc., ad infinitum].

We note that overt V-V compounding is virtually nonexistent in English and we conjecture that this is due to the fact that in simple tenses, English verbs associate with the functional category Tense in the absence of the dummy auxiliary *do*.[33] V-V compounding would therefore lead to an intolerable ambiguity with respect to attraction by Tense because both members of the compound are equidistant from T; see (94). On the other hand, if one of the Vs in the compound is not a lexical item at all (no P-features and no C-specification), then V-V compounding should be possible, if we make the reasonable assumption that Tense unambiguously associates with the V specified with P-features. Indeed, if V lacks P-features, then there will be no morphological realization of Tense. We suggested earlier (section 1.4) that there are some lights verbs, in particular *go* and *come*, that are not lexical items listed in the lexicon. They are the spell-out of V in a certain syntactic context. It is precisely this kind of element that is a candidate to appear as a null V when it merges with a fully specified verbal lexical item. We develop this point below.

At this point, we part ways with Beck and Snyder (2001), who put forth a semantic rule for generating semantic complex predicates in Germanic that applies both to word-level compounds and phrasal-level resultative structures.[34] Instead, we advance the hypothesis that Germanic makes use of the syntactic Compound Rule (131) to compose directed motion and manner. More precisely, we propose that a manner verb

(such as *dance, run, swim*, and so on) can modify the directed-motion construction in (128) in Germanic by merging the manner verb with the phonologically empty V in that structure, thus creating verbal compounds such as the one exemplified below.[35]

(133) [John [$_{VP}$ [$_{V}$ dance V] [to [P the kitchen]]]]

Similarly, contact verbs like *kick, push, pull*, and many others can modify the cause-directed-motion construction in (129) in Germanic. This arises when a lexical item such as *kick, push, pull*, and so on is merged with little *v*.

(134) [John [kick *v* [the ball [$_{V}$ V [to [P the garden]]]]]]

The question that we must then address is the following. Why is it that the light V in the above structures cannot be lexicalized by the verb *go*? Indeed, why is it that forms like *John danced go to the garden* and *John kicked the ball go to the garden* never surface? The answer lies in the assumption formulated in (57) and (58), and repeated below.

(135) CP and the highest verbal phrase in the (extended) l-structure are phases. Phases are the domain of spell-out rules.[36]

(136) If VP in (55) (=(128)) is a phase and its head V is morphophonologically empty, then V is spelled out as *go/come* or *become*.

Consider the derivation of (133). Given the proposal that the light verb *go* has no inherent lexical meaning and is nothing other than the morphological spell-out of the meaning of a construction, it follows that Merge at the lexical level cannot produce [$_{V}$ *dance go*]. The lexicon does not contain a verb *go*; therefore *go* is not part of the lexical array on the basis of which a verbal compound [$_{V}$ *dance go*] can be generated via Merge. On the other hand, *dance* can merge with empty V. The derived compound [*dance V*] is then merged with the PP [*to P the kitchen*], and the output is merged with the specifier *John*, giving rise to the output in (133). VP is a phase (and therefore a domain for spell-out rules to apply), but its head is not empty. The head of VP is a compound and one of its members has morphophonological content. Assumption (136) therefore fails to apply, and compound forms like [$_{V}$ *dance go*] fail to be generated at that point in the derivation as well. Likewise, the structure in (134) cannot generate forms like *John kicked the ball go to the garden* because the lower V projection does not constitute a phase. Indeed, (135) defines the highest V-

projection in the (extended) l-projection as the verbal phase. Therefore, the lowest V fails to be spelled out.

Finally, we would like to point out that Merge applies to syntactic objects independently of their morphological status. As mentioned earlier, Snyder (1995, 2001) proposes to relate the existence of resultative structures (which this author analyzes as semantic complex predicates) to the existence of root compounding. While we believe that Snyder is right in relating resultatives to word formation (i.e., compounding in particular), we do not think that the relation should be restricted to inflectional morphology. It should be extended to include derivational morphology as well. Indeed, the mechanism responsible for generating root-root compounding is no different from the one responsible for generating stem-stem compounding, namely Merge. Russian, which Snyder (1995) considered a counterexample to his own proposal, provides evidence for such a unified view. Consider some Russian examples from Spencer and Zaretskaya 1998, 28.

(137) a. One v-bezala v magazin.
she V-ran into the shop-ACC
'She ran into the shop.'
b. Rebenok pod-lez pod stol.
baby POD-crawled under table-ACC
'The baby crawled under the table.'
c. Mjac pere-katilsja cerez dorogu.
ball PERE-rolled across the road-ACC
'The ball rolled across the road.'

Spencer and Zaretskaya note that the prefix is obligatory to obtain the directional meaning, even in the perfective aspect. On the other hand, the accusative marked locative is optional: it has the status of an adjunct, the function of which is to specify further the path meaning encoded by the prefix. These authors put forth an analysis of complex predicates in which the prefix is the main predicate and the verb is the modifier. We propose to modify their analysis slightly in the following way. In Russian the path is morphologically a prefix. The path-denoting prefix merges with a morphologically empty V, giving rise to the structure in (138a). The derived V then merges with a manner-of-motion verbal stem, giving rise to the complex verbal form in (138b). Under this analysis, the prefix is not the semantic head of the word; the semantic head is an empty light V to which the prefix is adjoined. This combination of prefix-V constitutes

a verbal stem that forms a stem-stem compound with the manner-of-motion verbal stem.

(138) a. [$_{VP}$ DP [$_{V}$ *affix*$_{(path)}$ V]]
b. [$_{VP}$ DP [$_{V}$ [$_{V}$ *affix*$_{(path)}$ V] V$_{(manner)}$]]

We illustrate below the resulting structure with a concrete example; see (137b):

(139) [$_{DP}$ Rebenok [$_{V}$ [$_{V}$ *pod*-V] *lez*]]
baby prefix-V crawled

1.6.3 Directed Motion in Romance

As mentioned earlier, the Compound Rule is not productive in Romance. More precisely,

(140) In Romance, the Compound Rule is lexically restricted and its output is semantically frozen.

Because the Compound Rule in Germanic is lexically unrestricted, it can merge a lexical item with an empty V. On the other hand, because the application of the Compound Rule in Romance is restricted to specified combinations of lexical items, it cannot be extended to cases that involve an empty V—that is, it cannot merge a lexical item with an element that consists only of a category type. Consequently, Romance cannot use the Compound Rule to compose "manner" and "directed motion" in the way Germanic does.

As predicted, a close examination of Spanish reveals that manner-of-motion verbs (with a few rare lexical exceptions) cannot appear in the directed-motion construction; see (141) and section 3.2.1.1, where apparent dialectal variations are also discussed. Nor do we find cause-directed-motion cases in Spanish such as the ones in (142). The contrast between English and Spanish has been discussed and analyzed by Talmy 1985, Aske 1989, Morimoto 2001, Mateu and Rigau 2002, and Mateu 2002, among others. French patterns with Spanish; see Bergh 1948, Lamiroy 1983, Boons 1987, and section 3.2.1.2.

(141) a. *Juan bailó a la cocina.
'Juan danced to the kitchen.'
b. *Los atletas nadaron al barco.
'The athletes swam to the ship.'
c. *La botella flotó a la playa.
'The bottle floated to the beach.'

(142) a. *Juan pateó la pelota al jardín.
'Juan kicked the ball to the garden.'
b. *Juan empujó la carretilla al granero.
'Juan pushed the cart to the barn.'

Italian is somewhat different from Spanish and French. In Italian, there is a subset of manner-of-motion verbs that can appear in the directed-motion construction. Folli 2001 gives the list in (143). The verbs in (143a) are unambiguous manner-of-motion verbs; they can appear only in the unergative, activity-denoting structure. The verbs in (143b) can appear either in the unergative activity-denoting structure or in the unaccusative directed-motion structure.[37]

(143) a. camminare (walk), galleggiare (float), galoppare (gallop), danzare (dance), nuotare (swim), sciare (ski), passeggiare (walk around), vagabondare (wander)
b. correre (run), rotolare (roll), rimbalzare (bounce), scivolare (glide, slide), gattonare (crawl), saltare (jump), volare (fly), saltellare (hop)

The difference between the two classes of verbs is clearly indicated by the choice of auxiliary and by the type of complementation (the *correre* class, unlike the *camminare* class, can take a PP complement headed by the preposition *a*). Particularly noteworthy is the fact that the *correre* class takes the auxiliary *essere* 'be' when it appears in the directed-motion construction, which is typical of unaccusative constructions. This is an especially robust fact, not shared by Spanish (which uses the auxiliary *haber* across all contexts), nor by French (which no longer exhibits ''restructuring'' properties—a relevant fact, as we suggest below).

(144) a. Maria *è* corsa *a* casa.
Maria is run-3rd p.s.fem. to house
'Maria has run to the house.'
b. *Maria *è* camminata *a* casa.
Maria is walked-3rd p.s.fem to house
Cf. Maria *a* camminato *fino a* casa.
'Maria has walked up to the house.'

How then can we account for Italian? One possibility is that the verbs in (143b) are ambiguous; they can instantiate either an unergative or an unaccusative (resultative) structure. This is the line developed by Folli 2001. It is likely that some of these verbs (namely, the nonagentive *roto-*

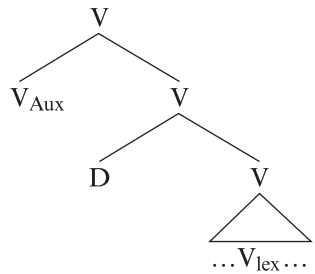
lare, rimbalzare, and *scivolare*) can indeed instantiate an unaccusative directed-motion construction, but this is unlikely in the case of agentive verbs such as *correre, gattonare, saltellare, saltare*. It is therefore worth raising the question as to whether the variable behavior of these verbs in Italian could be related to some other property of the language. In section 3.2.2, we explore the following hypothesis:

(145) Italian recruits the auxiliary position designated for a class of restructuring verbs in order to compose "directed motion" and "manner" (in some lexically restricted cases).

We suggest that the choice of auxiliary is what makes such a recruitment process robust and gives a clear signal to the learner that a position designated for a certain class of restructuring verbs has been extended to a particular manner-of-motion verb. We develop this idea below.

In section 1.6.1, we presented the idea that the notion of headedness is a relative one. More precisely, it was suggested that there are structures in which a category C_n functions as the morphosyntactic head while another category C_m functions as the sem-syntactic head. We argued that such head ambiguity is found in certain SVCs. Another case in point is that of verbal auxiliaries. Indeed, in the structure below, either the verbal auxiliary or the lexical verb can be interpreted as the head of the highest V node. Because V_{Aux} is the highest V, it is attracted by T. This requires that the tense features be realized on V_{Aux}. We may therefore say that V_{Aux} functions as the morphosyntactic head of the verbal structure. On the other hand, V_{Aux} (by definition) is not associated with any l-structure, but V_{lex} is. Semantically, V_{Aux} is the modifier (i.e., specifier) of the verbal structure, while V_{lex} is the head of that verbal structure.[38] We will therefore refer to V_{lex} as the sem-syntactic head of the maximal V projection above it.

(146)



As is well known, Italian and Spanish (but not Modern French) have a class of modals (e.g., *potere* 'can', *dovere* 'must', *volere* 'want'), aspectual

verbs (e.g., *comenciare* 'begin', *continuare* 'continue', *solere* 'used to'), and motion verbs (e.g., *venire* 'come', *andare* 'go', *tornare* 'return') that trigger a phenomenon known as restructuring. We will refer to these as the R-verbs (or V_R). In both Italian and Spanish, these verbs give rise to clitic climbing (i.e., placement of the clitic on the auxiliary verb instead of the lexical verb) and long object preposing in middle constructions. But even more remarkably, in Italian, these verbs trigger an "auxiliary switch."[39] To illustrate this phenomenon, we first state the generalization regarding Aux-selection in Italian.

Whatever the ultimate account of Auxiliary choice in Italian might be, the generalization at the observational level is as follows:[40]

(147) a. Unaccusative VPs select Aux_{pp} *essere*.
b. If the node Aux_{pp} has the impersonal *si* clitic or the reflexive clitic adjoined to it, Aux_{pp} is *essere*.
c. Otherwise, Aux_{pp} is *avere*.

The generalization in (147a) seems to be pretty much exceptionless (although judgments appear to be of a gradient nature with some subclasses of unaccusatives; see Soracce 2000). The contrast below (from Rizzi 1978) illustrates the phenomenon of auxiliary switch in "restructuring" contexts. In (148b), clitic climbing indicates that we are dealing with a "restructuring" context, and in such a context, the nature of V_{lex} is relevant in determining the choice of auxiliary. Indeed, *venire* heads an unaccusative structure and therefore the choice of auxiliary is *essere*. Compare, on the one hand, (148a) and (148b) and, on the other hand, (148b) and (148c).[41]

(148) a. Maria *ha* dovuta veni*ci* molte volte.
Maria *has* modal come+loc.Cl many times
'Maria has had to come there many times.'
b. Maria c'*è* dovuta venire molte volte.
Maria loc.Cl+*is* modal come many times
c. *?Maria ci *ha* dovuta venire molte volte.
Maria loc.Cl+*has* modal come many times

Cinque 2004 argues extensively for the functional or auxiliary status of R-verbs. (See also Strozer 1976; Picallo 1985, 1990; Rochette 1988, 1990.) Cinque develops a very fine-grained hierarchy of functional projections for the clause and locates different semantic subclasses of R-verbs within such a hierarchy. We will not dwell on that issue here, but will assume at least three main V_R positions (some of which are recursive): V_{Mod} (for

modal verbs), V_{Asp} (for aspectual verbs), and V_{MT} (for motion verbs).[42] (We ignore temporal categories in the schema given below.)

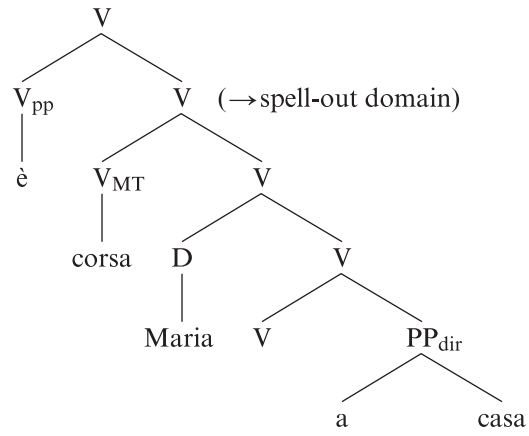
(149) $[V_{Mod}\ [V_{Asp}\ [V_{MT}\ [V_{lex}\ \ldots\ ]]]]$ (Italian and Spanish)

An example that illustrates the presence of all three types of R-verbs is given below (from Rizzi 1978):

(150) Maria li avrebbe *potuti* *stare per*
Maria acc.Cl+would-have-been able (Mod) be-on-the point (Asp)
andare a prender lei stessa.
go (MT) to get herself
'Maria would have been able to be on the point of going to get them herself.'

We now return to the manner-of-motion cases—for example, (144a). Since *correre* and the other verbs in (143b) are unergatives, they cannot license the presence of the Aux_{pp} *essere*, nor can they license the presence of a goal-denoting argument. The presence of these elements indicates the presence of a directed-motion structure headed by an empty V. Where then is *correre* located in the structure? We suggest that *correre*, and other agentive manner verbs in (143b), recruit the V_{MT} position in (149) in order to modify the directed-motion construction. The structure of (144a), prior to undergoing Merge with T, will be as shown in (151). Furthermore, we assume that in Italian the verbal phase (which defines the spell-out domain) includes V_{MT}. Therefore, in a structure like (151), the head of the verbal phase is the V_{MT} (*corsa*), which is morphophonologically specified. Consequently, the embedded V that heads the directed-motion structure remains phonologically unspecified; see the rule in (135).

(151)



In section 3.2.2.2, we will discuss evidence for the above analysis, based on the phenomenon of infinitival final *-e* deletion, discussed and analyzed by Cardinaletti and Sholonsky 2004.

It was suggested above that in Italian, the verbal phase can be extended to include V_{MT}, thus giving rise to structures such as (151). The question then arises as to why it cannot be extended beyond V_{MT} to include higher functional categories, such as V_{Mod}. One possibility is that if "phasal extension" occurs, it can do so only minimally within the functional hierarchy in (149). More precisely, only the verbal functional category immediately above the lexical verb in the schema in (149) can be included in the verbal phase. Interestingly, Wumbrand 2004 argues that in German there are two types of "restructuring": one functional (in which the "restructuring" verb has a functional status as suggested by Cinque 2004) and one lexical (in which the "restructuring" verb is a lexical verb that takes a small VP complement). According to Wumbrand, in German, only the modal verbs have a functional status. Therefore, for German, the schema in (149) should be replaced by (152) (again ignoring temporal categories):

(152) $[V_{Mod} [\ldots V_{lex} \ldots]]$ (German)

If Wumbrand is correct and if indeed "phasal extension," when it occurs, can only be extended to include the functional verb immediately above the lexical verb, we can expect to find among the Germanic languages a spell-out domain that includes V_{Mod}. The prediction is borne out. van Riemsdijk, forthcoming, has provided evidence for the existence of a phonologically empty verb in the directed-motion construction in Dutch, German, and Swiss German in the context of modals; see the examples below. One of the arguments that van Riemsdijk puts forth in favor of an empty V is that it explains a number of word-order puzzles—for example, the apparent right-edge position of directional PPs in subordinate clauses; see (154). Indeed, if the PPs in these examples are to the left of an empty final V, the observed word order is readily accounted for.

(153) a. Du darfst nach Hause. (German)
you may to home
'You may ⟨go⟩ home.'

b. Moeten wij nog de stad in. (Dutch)
must we still the town in
'Do we still need ⟨to go⟩ to town?'

c. Si sott aber no in challer. (Swiss German)
she should but still into-the cellar
'But she should still ⟨go⟩ down into the cellar.'

(154) a. ... wil si het muese i d scheul.
because she would-have-had-to into the school
'... because she should have ⟨gone⟩ to school."

b. ... das mer noni hand doorfe hai.
that we not-yet have may (p.part) home
'... that we were not allowed ⟨to go⟩ home yet.'

1.6.4 Some Final Remarks

The study of how the notions of "manner" and "directed motion" are concomitantly expressed provides support for the idea that grammatical meaning in natural language is highly compositional in nature. It furthermore suggests that lexical ambiguity (of the type that gives rise to distinct grammatical realizations) is not the norm in natural language, but rather the exception. That this generalization follows from innate principles of the language faculty is supported by the observation that children tend to associate one form with one meaning; consider the *Uniqueness Principle* put forth by Clark 1987 and Pinker 1989, and the *Avoid Synonymy Principle* argued for by Carstairs-McCarthy 1999.

With Hale and Keyser 2002 and many other authors cited in this introductory chapter, we argue that the compositionality of meaning follows from the compositionality of the syntax (albeit an abstract syntax). What defines syntax is, on the one hand, the vocabulary (i.e., the objects that are manipulated are defined in terms of syntactic categories) and, on the other hand, the rules of syntax—for example, Merge and Move (or double Merge), syntactic distance computed in terms of Minimality, and sisterhood and extended sisterhood relations. The force of such a view does not appear from looking at one language, but rather at a variety of languages. A successful account is one that can account for the properties of each language, as well as for the variability among languages. Furthermore, a successful account of language variation is an account that can relate the differences among languages to other independently established properties of these languages.

In the case under discussion, namely the composition of "manner" and "directed motion," we have identified the following relevant parameters:

(155) a. The grammar of language L makes use of the syntactic GT in (97).
b. The grammar of language L makes use unrestrictively of the syntactic Compound Rule in (131).
c. The language extends the syntactic V_{MT} position in (151) to some manner-of-motion verbs.

SVC languages (like Korean) make use of (155a). Non-SVC languages with lexically unrestricted compounding (like Germanic) make use of (155b). Non-SVC languages with lexically restricted compounding (like Romance) cannot generally compose "manner" and "directed motion" within the verbal projection, although a "restructuring" language with highly robust properties (like Italian) makes use of strategy (155c) for some lexically specified cases. Furthermore, the account put forth can provide an explanation for certain gaps in the "directed-motion" paradigm in Korean (chapter 2), as well as for what appears on the surface to be contradictory behavior on the part of certain manner-of-motion verbs in Romance (chapter 3).

Finally, we comment briefly on other analyses in the literature that have argued for a syntactic composition of manner and directed motion: Mateu 2002 and McIntyre 2004. Mateu 2002 endorses Jackendoff's insight that the manner-of-motion verb is not the main semantic predicate of the construction, but rather the modifier of the construction. Furthermore, this author argues that this "subordination" relation is syntactically encoded and that the typological difference between English and Spanish is syntactic in nature. Mateu assumes an abstract l-syntax in which lexical categories are derived from more abstract eventive features (transitional or change, terminal coincidence or result, and agentive source). Putting details aside, it is assumed that manner-of-motion verbs systematically have the syntax of unergative verbs and that in English, the l-structure of unergative verbs can merge and conflate with the head of the unaccusative construction. Thus, an example like *John danced to the kitchen* arises by merging the two structures in (156) via a generalized transformation, generating the structure in (157). The null head stands for an eventive (+transitional) head.[43] A process of "conflation" is assumed, by which a lexical item provides phonological content to a sister category; see Hale and Keyser 2002. Via the conflation process, the manner verb provides phonological content to the empty eventive head: $\varnothing \rightarrow$ *dance*.

(156) a. [John [∅-Tr [to the kitchen]]
b. [$_{v}$ dance X]

(157) [John [$_{v}$ [$_{v}$ dance X] [∅-Tr]] [to the kitchen]]

Details aside, the above analysis is very close to the one we propose for SVC languages. But Germanic is not an SVC language, so we conclude that Mateu's analysis of English is not quite on the right track.

As for the crosslinguistic differences between Germanic and Romance, Mateu adopts Talmy's intuition that these languages cannot conflate "motion" and "manner" because they choose to conflate "motion" and "path." Mateu's analysis assumes a dependency between Merge and conflation: if Merge applies, then conflation must also apply. Because path and motion are systematically merged and conflated in Romance, the output cannot merge with manner since the head that encodes motion has already been provided phonological content by path. The problem with such an analysis is that the operations of Merge and conflation are logically independent. Merge does not entail conflation. Both can coexist in a given language, and there is no conceptual reason why conflation of "path" and "motion" should block merging of "manner" and "path." In fact, this would be the case for Russian (discussed at the end of section 1.6.2), if analyzed in terms of conflation. Note furthermore that Mateu's analysis denies the existence of phonologically empty null light verbs; it therefore cannot account for the Dutch and Swiss German data analyzed by van Riemsdijk (see the discussion at the end of section 1.6.3).

The analysis proposed by McIntyre (2004) for English is very close to the one we propose here for Germanic. Like Mateu, this author assumes that the primitives involved are eventive semantic notions like "change" or "become" and "initiation" or "originator."

(158) a. [$_{\text{ChangeP}}$ Ethel [[$_{\text{Change}}$ dance + GO] [into the room]]]
b. [$_{\text{IntP}}$ Ethel [[$_{\text{Int}}$ dance + INT] [$_{\text{ChangeP}}$ herself [CHANGE AP]]]]

On the other hand, in the present work, we adopt the view that the aspectual interpretation is read off from the composition of syntactic categories (à la Hale and Keyser). This assumption is crucial if the crosslinguistic variations discussed in detail in the next two chapters (and summarized above) are to be understood in terms of variation in syntactic composition.