

# Directionality and Resultativity: the Cross-linguistic Correlation Revisited

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## Abstract

Recent approaches to the cross-linguistic variation in the expressions of directed motion assume a tight correlation between adjectival resultative and directed motion constructions (e.g., Beck and Snyder 2001, Mateu and Rigau 2001; 2002, McIntyre 2004, Beavers et al. 2004). Beck and Snyder (2001), in particular, argue that languages that allow adjectival resultatives also allow directed motion with goal PP (or telic Path PP) based on the compounding parameter proposed by Snyder (1995; 2001). This paper, however, shows that such ‘macro’-parametric approaches to the cross-linguistic variation (in directed motion) fail when individual languages are investigated in detail. Based on Korean, Japanese, Hebrew, Czech, and Indonesian, I show that there is no necessary correlation between directed motion (i.e., goal PP) constructions and the availability of resultative phrases, and that the previous parameter approaches face challenges in explaining the facts drawn from these languages. I further show that the variation in directed motion is better explained by careful examination of individual adpositions that differ from one language (e.g., English) to another (e.g., Korean).

## 1. Introduction

This paper discusses the source of cross-linguistic variation in the expression of directed motion. As is well known, both inherently directional verbs (e.g., *go*) and manner verbs (e.g., *run*) in many Germanic languages (e.g., English and German) license directed goal interpretations when occurring with goal (or telic path) PPs (e.g., *to the store*).<sup>1</sup>

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<sup>1</sup>Abbreviations used in this paper are as follows: ACC: Accusative case, ADV: Adverbial marking, ALL: Allative, CL: Clitic marking, DAT: Dative case, DC: Declarative marking, DEF: Definite marker, DIR: Directional marker, ERG: Ergative case, F: Feminine, GEN: Genitive case, NOM: Nominative case, LOC: Locative marker, NEUT: Neutral, LINKER: Linking morpheme, LOC: Locative case, M: Masculine, NEUT: Neutral

- (1) a. Mary went/came to the store.  
 b. Mary ran/walked/crawled to the store. *English*
- (2) a. Hans ging/kam zum Laden.  
*John went/came to.the.DAT store*  
 ‘John went/came to the store’  
 b. Hans lief/kroch zum Laden.  
*John ran/crawled to.the.DAT store*  
 ‘John ran/crawled to the store’ *German*

Spanish and Korean also allow inherently directional verbs, ‘go’ and ‘come’, to occur with goal PPs, as shown in (3).

- (3) a. Juan fue/ vino a la tienda.  
*John went/ came to the store*  
 ‘John went/came to the store’ *Spanish*  
 b. Mary-ka kekey-ey ka/o-(a)ss-ta.  
*Mary-NOM store-LOC go/come-PAST-DC*  
 ‘Mary went/came to the store’ *Korean*

However, languages are known to vary when it comes to manner of motion verbs; unlike in English and German, manner verbs in Spanish and Korean cannot co-occur with the same goal PPs, and thus they do not license directed goal interpretations, as seen in (4).

- (4) a. Juan ??corrio/ \*anduvo/ \*gateo a la tienda.  
*Juan ran/ walked/ crawled to the store*  
 ‘John ran/walked/crawled to the store’ *Spanish*  
 b. \*Mary-ka kekey-ey ttwi-/ kel- /ki-ess-ta.  
*Mary-NOM store-LOC run/ walk/ crawl-PAST-DC*  
 ‘Mary ran/walked/crawled to the store’ *Korean*

Syntactic variation across languages is often taken to arise due to a particular choice of macroparameter settings that determine language specific structural properties during language acquisition (Chomsky 1981). The syntactic variation in the expression of directed motion (e.g., ‘run to the store’) shown above has also been handled by the same application; it has been argued that the cross-linguistic variation in expressing ‘run to the store’ is driven by syntactic (e.g., Mateu and Rigau 2001; 2002, McIntyre 2004) or semantic (e.g., Beck and Snyder 2001) parameters that allow or disallow languages to express directed motion with manner verbs. These parameter approaches also predict a tight correlation between directed motion with goal PPs (hereafter, goal PP constructions) and adjectival resultatives (e.g., ‘wipe the table clean’), provided that both constructions employ the same syntactic and semantic mechanism to derive accomplishment

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agreement, PAST: Past tense, PL: Plural, PRES: Present tense, PRF: Perfective, REFL: Reflexive, REFL: Reflexive, SG: Singular, SUB: Subjunctive, TOP: Topic marker

(complex) predicates from activity/manner-denoting predicates. However, I show that the previous macroparameter approaches fail when we consider a broader range of cross-linguistic data with close examination of individual languages; based on Korean/Japanese, Hebrew, Indonesian and Czech, I demonstrate that there is no necessary correlation between goal PP and adjectival resultative constructions, and that the macroparameter approaches face challenges in explaining facts drawn from these languages. Instead of invoking macroparameters, I argue that the variation shown in (1)-(4) is better explained by scrutinizing lexical featural properties of the adpositions in question under the decompositional theory of phrase structure. I further argue that some languages lack a lexical item responsible for a telic path interpretation (e.g., English *to*), which presumably leads to a different mode of encoding telic path (e.g., the use of inherently directional verbs ‘go’/‘come’ in combination with PlaceP).

This paper is organized as follows: I start out the discussion by providing a brief overview of Talmy’s (1975, 1985, 2000) typology on the lexicalization patterns of motion events, which has been the foundation of the discussion on the the issue at hand. In the following subsection, I show, based on Aske (1989), that the notion of path used in the description of directed motion events needs to be divided into two different path types, bounded (or telic) and unbounded (or atelic) path, and that Talmy’s typology needs to be refined accordingly. I then summarize two recent parameter approaches that attempt to derive Talmy’s typology and present problems for each approach. The following section presents an alternative approach to the cross-linguistic variation in directed motion without resorting to macroparameters, but rather by carefully comparing the adpositions in directed motion expressions. The last section concludes the paper with some speculations about the source of cross-linguistic variation in resultative constructions.

## 2. Background

### 2.1. Typology of lexicalization patterns of motion (Talmy 1975; 1985; 2000)

In an attempt to explain the cross-linguistic variation shown above, Talmy (1975; 1985; 2000) proposes a cross-linguistic model in which an event of motion is analyzed into a set of semantic components such as Figure, Motion, Path, Ground, and Manner/Cause, and languages vary depending on how these semantic components are packaged into linguistic expressions. Talmy’s classification is based particularly on how the path and the manner component are encoded in the expression of directed motion in a particular language. In English and German, for example, motion is often conflated with manner, and the path component is expressed mostly by satellites, where ‘satellite’ is defined as a grammatical category of any constituent other than a nominal complement that is in a sister relation

to the verb root (Talmy 1991:486). Satellites include particles, adpositions (prepositions and postpositions), prefixes, etc. Languages of the English type thus are categorized as satellite-framed languages (e.g., Chinese and Indo-European languages except Romance), according to Talmy's classification. The characteristic of the lexicalization pattern of motion events in satellite-framed languages thus explains the existence of numerous path-encoding PPs in English and their combinatory possibility with manner of motion verbs in the expression of directed motion, as shown below.

- (5) a. John ran down the hill.  
 b. The bottle floated into the cave.  
 c. The bird flew over the hill.  
 d. John slid onto the mud.

Spanish and Korean, on the other hand, are classified as verb-framed languages (e.g., Romance, Semitic, Polynesian, Japanese), in which motion is often conflated with path, rather than manner, and manner is expressed as an adjunct, as seen in (6).

- (6) a. La botella entró a la cueva (flotando).  
*the bottle moved.in to the cave floating*  
 'The bottle floated into the cave' (Lit. 'The bottle went into the cave floating')
- b. Mary-ka cip-ey (ttwi-e) tul-e-ka-(a)ss-ta.  
*Mary-NOM house-LOC run-LINKER in-LINKER-go-PAST-DC*  
 'Mary ran into the house' (Lit. 'Mary went into the house running')

As seen above, the path component, mostly expressed by PPs in English (e.g., *into*), is conflated with the motion verb in Spanish (e.g., *entró*). In Korean, the path of motion is expressed by one of the verbs, *tul-* 'enter', in a serial verb construction. The manner of motion in both Spanish and Korean is expressed as an adjunct phrase as it is not part of the main verb in directed motion constructions and can easily be omitted.

Talmy further describes verb-framed languages as lacking path-encoding satellites, given that path is mostly conflated with motion verbs. Due to the lack of path-encoding satellites, pure manner of motion verbs in these languages cannot license directed motion interpretations, which is intended to explain the ungrammaticality of (4).

## 2.2. Refinements of Talmy's typology: Correlation between directed motion and resultative phrases

Talmy's typology has been refined over the past years due to the existence of path-encoding satellites in verb-framed languages. Aske (1989), for instance, notes that in Spanish there exist prepositions that add path semantics to manner-of-motion verbs, particularly when the event of motion is

unbounded, as seen in (7).<sup>2</sup>

- (7) a. Juan caminó por del tunel (dos horas).  
*Juan walked through the tunnel two hours*  
 ‘Juan walked through the tunnel (for two hours)’  
 b. La botella flotó hacia la cueva.  
*the bottle floated towards the cave*  
 ‘The bottle floated towards the cave’ (Aske 1989)

On the basis of the examples shown in (7), Aske (1989) argues that the notion of path in the discussion of the typology of directed motion must be divided into two different path types, bounded (telic) versus unbounded (atelic) path, and that Talmy’s typology is sensitive only to the bounded path type. He further suggests that the fact that Spanish does not allow telic path PPs might correlate with the lack of adjectival resultative phrases in the language, as illustrated in (8).

- (8) a. \*El río se congeló sólido.  
*the river REFL.CL froze solid*  
 ‘The river froze solid’  
 b. \*John golpeó la carne plana.  
*John pounded the meat flat*  
 ‘John pounded the meat flat’  
 c. \*John frotó la mesa limpia.  
*John wiped the table clean*  
 ‘John wiped the table clean’

The correlation between possible (telic) path-encoding in PPs and the availability of adjectival resultative phrases has been formalized further by a number of researchers as part of a ‘macro’-parameter that determines syntactic variability amongst languages (e.g., Snyder 2001, Beck and Snyder 2001, Snyder et al. 2001, Snyder and Lillo-Martin 2005, Mateu and Rigau 2001; 2002, McIntyre 2004); languages choose a particular parameter setting that allows manner-denoting verbs (e.g., *run* in directed motion and *wipe* in resultatives) to undergo event-type shifting by combining with an end-point-denoting predicate (e.g., goal PPs and property-denoting adjectives).

In what follows, I review some of the claims that make a strong correlation between directed motion (with respect to the availability of telic path PPs) and the availability of adjectival resultative phrases in a language.

<sup>2</sup>See Son (2006) and Stringer (2002) for similar observations in Korean and French, respectively.

### 2.3. Parameters and cross-linguistic variation in directed motion

#### 2.3.1. The compounding parameter: Snyder (1995; 2001)

One of the approaches to the cross-linguistic variation in directed motion constructions is rooted in the compounding parameter proposed by Snyder (1995; 2001). Snyder (1995; 2001) argues that complex predicate constructions in English, as exemplified in (9), depend on a single, parametric property of the grammar, namely the compounding parameter that makes morphological/syntactic compounding possible in a given language.

- (9) Complex predicate formation
- a. Resultatives: *beat the metal flat, wipe the table clean*
  - b. Verb-NP-particle: *lift the box up*
  - c. To-dative: *give a present to Mary*
  - d. Double object: *give Mary a present*

The compounding parameter is stated as below.

- (10) **Compounding Parameter** (Snyder 2001:328): The grammar {dis allows\*, allows} formation of endocentric compounds during the syntactic derivation [*\*unmarked value*].

Snyder argues that the availability of complex predicates illustrated in (9) depends on syntactic compounding made available by a marked value of the compounding parameter. This parameter approach predicts that there is a strong correlation between the availability of complex predicates and the availability of N-N compounding, another instance of apparent root compounding. For example, if a language allows adjectival resultatives, the language should have productive N-N compounding.<sup>3</sup> Snyder reports that this prediction is confirmed by a cross-linguistic survey, which shows that the availability of adjectival resultatives patterns closely with the availability of N-N compounding.<sup>4</sup> The result of the cross-linguistic survey reported in Snyder (2001) is summarized in (11).

- (11) a. Unmarked (no productive N-N compounding, no resultatives): Afroasiatic (e.g., Arabic(?), Hebrew), Austronesian (e.g., Javanese), Bantu, Romance (e.g., French/Spanish), Slavic

<sup>3</sup>Snyder (2001) notes that the choice of adjectival resultatives as a representative of the complex predicate family in his study is due to: 1) the fact that the (adjectival) resultative construction does not involve any idiosyncratic, closed-class lexical items as opposed to other constructions (e.g., verb-particle constructions), 2) it displays the apparent semantic properties of the complex-predicate class as a result of an event-type shifting from simple activity to accomplishment that consists of activity and end-point (e.g., Vendler 1967).

<sup>4</sup>Snyder also provides child language acquisition data as a source of evidence for the macroparametric generalization, which shows that the acquisition of complex predicates closely patterns with the acquisition of N-N compounding. See Snyder (2001) for detailed discussion.

- b. Marked (productive N-N compounding, resultatives):  
ASL, Austroasiatic (Khmer), Finno-Ugric (Hungarian), Germanic (English, German), Japanese/Korean, Mandarin, Thai
- c. Basque (exception): N-N compounding, no resultatives  
(Productive N-N compounding is a necessary, but not sufficient condition for the availability of resultatives.)

Notice that Austronesian (based on Javanese) and Romance languages are reported to be unmarked for the compounding parameter, and thus they do not exhibit adjectival resultative phrases (see Snyder 1995; 2001 for examples).<sup>5</sup> Germanic languages and Korean/Japanese are marked for the compounding parameter, and thus they allow resultatives, according to the survey. Basque is an exception to this correlation, but Snyder speculates that N-N compounding is a necessary but not sufficient condition for the availability of adjectival resultatives.

Building on Snyder (1995; 2001), Beck and Snyder (2001) extend this correlation to directed motion, in particular, goal PP constructions (e.g., *run to the store*). They propose that the setting of the compounding/complex-predicate parameter propounded by Snyder (1995; 2001) strongly affects the mode of semantic interpretation of goal PP constructions (as well as adjectival resultatives) as a resultative. They assume that when root compounding is available as a mechanism of syntactic combination, syntactic sisters can freely be treated as forming a complex word for purposes of semantic interpretation; certain modes of semantic composition are available only within a complex word. Crucially, they propose that Principle R, which is responsible for a resultative interpretation, is one such mode of word-internal semantic composition and is subject to parametric variation in its availability;<sup>6</sup> if a language has a marked value of Principle R, the language allows both adjectival resultatives and goal PP constructions. If a language is unmarked for this semantic parameter, then the language disallows both constructions. Thus, the availability of goal PP and adjectival resultative constructions is dependent on both the compounding parameter (responsible for syntactic compounding of two predicates) and Principle R (responsible for the interpretation of the compounding as a resultative). Since Principle R is crucially dependent on the compounding parameter and derives both adjectival resultatives and goal PP constructions, this also predicts that there should not be: 1) languages that allow adjectival resultatives and goal PP constructions without N-N compounding; 2) languages that allow only goal PP constructions but not adjectival resultatives or vice versa.<sup>7</sup>

<sup>5</sup>However, I will show later that Indonesian, another Austronesian language closely related to Javanese, allows N-N compounding although adjectival resultatives are strictly disallowed.

<sup>6</sup>See von Stechow (1995) for detailed discussion of Principle R.

<sup>7</sup>Although I have not encountered languages that allow adjectival resultatives without N-N compounding, I will show later that there exist languages that allow goal PP

Beck and Snyder (2001) thus note that the contrast between English and Spanish in the availability of telic path PPs and adjective resultative phrases observed by Aske (1989) reflects an underlying parameter of cross-linguistic variation. Their prediction for the correlation between adjectival resultatives and goal PP constructions is further supported by a cross-linguistic survey, which shows that the availability of adjectival resultatives patterns together with the availability of goal PP constructions. The result of the survey is summarized below.

- (12) a. No resultatives - no goal PP: Spanish/French, Hebrew, Hindi-Urdu, Russian  
 b. Resultatives - goal PP: English, German, Japanese(?)/Korean, Mandarin

As seen in (12), Spanish/French, Hebrew, and Russian are reported to disallow both resultatives and goal PPs. English/German, Chinese and Korean/Japanese are reported to allow resultatives and goal PPs. Beck and Snyder (2001) report that Japanese might be problematic since speakers disagree on the acceptability of resultative constructions such as *John wiped the table clean* and *Mary beat the metal flat*. Nonetheless, they report that Japanese is marked for Principle R as the informants accept goal PP constructions compatible with the *in*-phrase, which is often used as a diagnostic for an accomplishment predicate.

We have seen, however, that Korean (as well as Japanese) are verb-framed languages (in Talmy's typology), along with Spanish, that do not allow telic path to be encoded in PP (e.g., *to*-phrases). Beck and Snyder (2001) consider the *until*-phrase to be a type of goal PPs in order for Korean and Japanese to be included in the language group marked for the compounding parameter, since both languages allow N-N compounding. The postposition *made* 'until' in Japanese, however, is argued to be a generic event delimiter (Beavers 2007a), rather than a path postposition, due to its extended use in non-spatial (e.g., temporal, numeral) domain.<sup>8</sup> If the *until*-phrase should be excluded as an adjunct phrase with different semantics, Korean and Japanese present additional exceptions to Snyder's cross-linguistic survey, which would make his parameter approach less convincing.<sup>9</sup> I will show in a later section that Hebrew, Indonesian, and Czech present additional problems for the parameter approach for a similar rea-

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constructions without productive N-N compounding (e.g., Hebrew), languages that allow goal PP constructions but not adjectival resultatives (e.g., Indonesian), and languages that allow adjectival resultatives, but not goal PP constructions (e.g., Korean).

<sup>8</sup>See also Tanaka (2007) for a similar approach to *made*, who argues that the *made*-phrase is not a path PP but is an event measure phrase that adjoins to VP.

<sup>9</sup>In the later work (Snyder and Lillo-Martin 2005), however, they note that Japanese does not allow goal PP constructions of the English type (e.g., *run to the store*). They argue that Japanese is, in practice, a satellite-framed language like English but this fact is obscured by the scarcity of adpositions available in the language, similar to the claim being made in this paper.

son; I show that these languages present counter-examples to the correlation between adjectival resultatives and goal PP constructions in the opposite direction; they allow goal PPs, but not adjectival resultative phrases.

### 2.3.2. Manner conflation in syntax: Mateu and Rigau (2001; 2002) and McIntyre (2004)

Mateu and Rigau (2001; 2002) and McIntyre (2004) provide another line of argumentation in support of a correlation between adjectival resultative and goal PP constructions.

Mateu and Rigau (2001; 2002), in particular, propose a syntactic analysis of Talmy's typology concerning conflation patterns of motion events. They argue that directed motion constructions are analyzed as containing an abstract verbal head, GO for intransitive directed motion (e.g., *run to the store*) and CAUSE for transitive (or caused) directed motion (e.g., *push the cart to the store*). They further claim that manner of motion verbs, *run* and *push*, are conflated with these abstract verbal heads in the syntax. The cross-linguistic variation then is driven by the availability of this conflation process in a language: English-type languages allow the syntactic conflation of manner verbs with the postulated verbal heads, GO or CAUSE, while Romance-type languages disallow it. Crucially, adjectival resultatives (e.g., *wipe the table clean*, *hammer the metal flat*) are analyzed in a way identical to the analysis of caused directed motion that postulates an abstract CAUSE head. The lexical verbs, *wipe* and *hammer*, express the manner of the causing action, much like manner of motion verbs such as *run* and *walk*. They argue that these manner-denoting verbs are also conflated directly with the abstract CAUSE head in the syntax. According to Mateu and Rigau (2001; 2002), the correlation between directed motion and adjectival resultatives, at least as shown in English/German (as opposed to Spanish), is inevitable since both constructions involve the same syntactic operation that conflates lexical verbs with the abstract verbal heads, GO or CAUSE.

In what follows, I point out various problems that arise from the two aforementioned parameter approaches that assume a strong correlation between adjectival resultatives and directed motion constructions.

## 3. Problems with the macroparameter approaches

### 3.1. The cross-linguistic correlation between directed motion and resultatives revisited

The cross-linguistic correlation between goal PP constructions and adjectival resultatives seems to hold if we look at Germanic (e.g., English and German) and Romance (e.g., Spanish and French) languages. Recall that English and German allow goal PPs to combine with manner of motion verbs for directed goal interpretations, while Spanish does not allow manner verbs to license directional interpretations with goal PPs. As seen

below, English and German allow adjectival resultative phrases, but the corresponding sentences in Spanish and French are ungrammatical.

- (13) a. John broke the vase open.  
 b. John drank the teapot dry.  
 c. John pounded the meat flat. *English*
- (14) a. Die teekanne leer trinken.  
*the teapot empty drink*  
 ‘Drink the teapot empty’  
 b. Sie haben den Tisch sauber gewischt.  
*they have the table clean wiped*  
 ‘They wiped the table clean’ *German* (Kratzer 2005)
- (15) a. \*John golpeó la carne plana.  
*John pounded the meat flat*  
 ‘John pounded the meat flat’  
 b. \*John frotó la mesa limpia.  
*John wiped the table clean*  
 ‘John wiped the table clean’ *Spanish*
- (16) a. \*Jean a martelé le métal plat.  
*John has pound the metal flat*  
 ‘John pounded the metal flat’  
 b. \*Marie a essuyé la table propre.  
*Mary has wiped the table clean*  
 ‘Mary wiped the table clean’  
 c. Jean a peint la maison \*(en) rouge.  
*John has painted the house in red*  
 ‘John painted the house red’ *French*

The contrast shown between English/German and Spanish/French in accepting adjectival resultative phrases, therefore, seemingly confirms the claim that there must be a correlation between goal PP and adjectival resultative constructions.

In what follows, however, I show that close examination of individual languages reveals counter-examples to this generalization; Korean and Japanese do not allow goal PP constructions of the English-type. Nonetheless, these two languages exhibit adjectival resultative constructions, as also noted in Snyder (1995; 2001) and Beck and Snyder (2001). Closer investigation of directed motion expressions in Hebrew and Indonesian shows that manner verbs in these languages are readily combinable with goal PPs, contrary to what has been reported in the previous literature. However, Hebrew and Indonesian strictly disallow adjectival resultative phrases. Similarly, according to Talmy’s typology, Czech is claimed to be one of the satellite-framed languages with properties similar to German (e.g., case distinction for location and direction). Yet, Czech does not exhibit adjectival resultative phrases with bare adjectives as secondary predicates, unlike

German, as described in §3.1.4.

### 3.1.1. Korean and Japanese: No goal PPs, adjectival resultatives

As was shown earlier, Korean is a purported verb-framed language according to Talmy, along with Spanish/French; it does not allow goal PP constructions (contrary to what has been reported in Beck and Snyder 2001). However, Korean allows not only productive N-N compounding but also adjectival resultatives, as also reported in Snyder (2001) and Beck and Snyder (2001). The following examples are illustrations of the productive N-N compounding and adjectival resultatives in Korean.<sup>10</sup>

- (17) a. sakwa/pay paksu  
*apple/pear box*  
 ‘apple/pear box’  
 b. kilum/khephi cakwuk  
*oil/coffee stain*  
 ‘oil/coffee stain’  
 c. pelley/ssuleyki thong  
*worm/garbage can*  
 ‘worm/garbage can’
- (18) a. Inho-ka kkangthong-ul napcakha-key twutulki-ess-ta.  
*Inho-NOM can-ACC flat-KEY pound-PAST-DC*  
 ‘Inho pounded the can flat’  
 b. Yenghi-ka sikthak-ul kkakkusha-key takk-ass-ta.  
*Yenghi-NOM table-ACC clean-KEY wipe-PAST-DC*  
 ‘Yenghi wiped the table clean’

As seen in (17), Korean allows productive N-N compounding, as novel N-N compounds can be freely created by replacing the first part of the noun compound with another lexical item. As seen in (18), adjectival resultative

<sup>10</sup>The exact syntactic and semantic nature of the morpheme *-key* attached to the resultatives adjectives in example (18) is controversial due to its multi-functional characteristics. It is used as a predicational marking in resultative and (syntactic) causative constructions as well as depictives. It is also used to derive an adverb (e.g., *ppalu-key* ‘be.quick-KEY’ meaning ‘quickly’). The occurrence of the morpheme in syntactic causatives has led the morpheme to be often treated as a complementizer in the literature. However, phrases headed by *-key* cannot be as big as CP since no intervening verbal morphology such as tense, mood, and aspect is permitted within the *-key* phrase. In apparent resultatives (e.g., ‘wipe the table clean’), the predicates selected by *-key* cannot be bigger than property-denoting adjectives (or stative predicates), although in syntactic causatives *-key* allows eventive predicates to be selected (e.g., *mek-key ha-* ‘eat-KEY do’ meaning ‘cause someone to eat’). Some people argue, based on its presence in both causative and resultative constructions, that *-key* might have something to do with marking a resultative phrase (see Kim 2007). However, this approach does not allow a unified analysis of the morpheme if its occurrence in depictives and adverbs is considered. Since the discussion of *-key* would take us too far afield, I leave open the question of the syntactic/semantic status of *-key* in resultatives and leave its glossing unspecified.

phrases are also readily available, contrary to the prediction made by Beck and Snyder (2001).

Japanese is also classified as a language with a marked value of the compounding parameter according to Snyder (1995; 2001). The following example is intended to demonstrate that Japanese allows adjectival resultatives, similar to Korean, supporting the correlation between N-N compounding and adjectival resultatives.<sup>11,12</sup>

- (19) John-ga teeburu-o kiree-ni huita.  
*John-NOM table-ACC clean-NI wiped*  
 ‘John wiped the table clean’ (Snyder 2001)

However, notice that the Japanese counterpart of *beat/pound the metal flat* is ungrammatical, unlike in Korean.

- (20) \*John-ga kinzoku-o taira-ni tataita.  
*John-NOM metal-ACC flat-NI beat*  
 ‘John beat/pounded the metal flat’

The use of a compounding verb or an achievement verb that entails the meaning of flatness (by spreading or flattening something) makes the sentence grammatical.

- (21) a. John-ga kinzoku-o taira-ni tataki-nobasita.  
*John-NOM metal-ACC flat-NI beat-flattened/spread*  
 ‘John flattened the metal flat’  
 b. John-ga kinzoku-o taira-ni nobasita.  
*John-NOM metal-ACC flat-NI flattened*  
 ‘John flattened the metal (flat)’ (Washio 1997)

<sup>11</sup>Similar to Korean, resultative adjectives in Japanese are marked with the overt morpheme *-ni*, which is homophonous with dative case and a locational postposition. Since it is not clear what the exact syntactic status of *-ni* is in resultatives, I leave its glossing unspecified, much as I have done with the morpheme *-key* in Korean resultatives.

<sup>12</sup>Washio (1997) divides resultative phrases into three different types, strong, weak and spurious resultatives; strong resultatives are those in which their main predicates do not entail properties denoted by resultative adjectives (e.g., *beat the metal flat*). Resultatives with unselected objects are also considered to be strong resultatives (e.g., *run the shoes rugged*). Weak resultatives are those in which their main predicates entail properties denoted by resultative adjectives (e.g., *paint the house red*). In spurious resultatives resultative adjectives can alternate with their adverbial counterparts without a meaning difference (*tie the shoes tight/tightly*). Washio (1997) argues that Japanese differs from English in allowing only the latter two types, weak and spurious resultatives. This might suggest that Japanese does not have adjectival resultatives of the English type that represent complex predicates as a result of event-type shifting from pure activity to accomplishment; Japanese might allow resultative secondary predicates to combine only with predicates that already entail result states (e.g., accomplishment or achievement verbs) (see Takamine this volume). If this was the case, Japanese would differ from Korean in having only a marked value of the compounding parameter, but lacking Principle R, presumably similar to Basque under the macroparameter approach.

The ungrammaticality of (20) is unexpected if Japanese has a marked value of Principle R that allows Japanese speakers to produce the examples in (19). The variability of the acceptable adjectival resultative phrases in Japanese, therefore, suggests that the availability of adjectival resultatives in a language is not a simple matter of choosing a particular macroparametric setting, i.e., Principle R, but more detailed investigation of adjectival resultatives seems necessary.<sup>13</sup>

Crucial to the issue at hand is that there is no necessary correlation between the existence of adjectival resultatives and of goal PP constructions in a given language. Snyder and Lillo-Martin (2005) later report that Japanese lacks goal PP constructions but still has a marked value of Principle R. They argue that Japanese is, in practice, similar to English but its characteristic as a satellite-framed language is obscured by the small inventory of adpositions, unlike in English. Be that as it may, the macroparameter approach that emphasizes a correlation between adjectival resultatives and goal PP constructions still faces challenges in explaining counter-examples that emerge in the opposite direction, i.e., languages with goal PP constructions but no adjectival resultatives. I turn to the discussion of such languages in the following section.

### 3.1.2. Hebrew: Goal PPs, no adjectival resultatives

According to the survey reported in Beck and Snyder (2001), Hebrew is unmarked for the compounding parameter; it does not allow N-N compounding (excluding construct state constructions) and adjectival resultatives. The unavailability of adjectival resultative phrases in Hebrew is confirmed by the following examples.

- (22) a. \*Hu kara et ha-xavila ptuxa.  
           *he tore ACC the-package open*  
           ‘He tore the package open’  
       b. \*Hu cava et ha-kir adom.  
           *he painted ACC the-wall red*  
           ‘He painted the wall red’

If some resultative phrases are allowed, they are expressed by PPs, as seen below.

<sup>13</sup>See Son and Svenonius (2007) who attribute the source of variation in resultatives to different featural properties of a functional head, R, from a microparametric perspective.

- (23) a. Hu cava et ha-kir be-adom.  
*he painted ACC the-wall in-red*  
 ‘He painted the wall red’
- b. Yoni shavar et ha-kufda le-xatixot.  
*Yoni broke ACC the-box DAT-pieces*  
 ‘John broke the box to pieces’
- c. Yoni hemis et ha-shokolad le-nozel.  
*Yoni melted ACC the-chocolate DAT-liquid*  
 ‘John melted the chocolate into liquid’

Based on the unavailability of N-N compounding and adjectival resultatives, Snyder (1995; 2001) report that Hebrew has an unmarked value of both the compounding parameter and Principle R. Beck and Snyder (2001) support the parametric setting of Hebrew by reporting that it also disallows goal PP constructions, although no actual examples are provided in their paper.

Contrary to the observation made in Beck and Snyder (2001), speakers of Hebrew I have consulted find the following examples all grammatical, which show that manner of motion verbs do license directional goal interpretations with goal PPs. The examples below also contradict Talmy’s typology that classifies Semitic languages as verb-framed languages.<sup>14</sup>

- (24) Manner verbs combined with *to*-phrases
- a. David {rac/zaxal} {la-xeder/ el ha-xeder}.  
*david ran/crawled DAT.DEF-room/ ALL the-room*  
 ‘David ran/crawled to the room’
- b. ha-bakbuk caf {la-me’ara/ el ha-me’ara}.  
*the-bottle floated DAT.DEF-cave/ ALL the-cave*  
 ‘The bottle floated (in)to the cave’

Notice that *to*-phrases in Hebrew can be expressed either by *le* or *el* without a meaning difference according to native speakers of Hebrew. I will discuss differences between the two, *el* being an allative marker and *le* being a dative marker, in §4.3 based on a distributional difference of their pronominal forms.

Aske (1989) and Stringer (2002) note, based on Spanish, French and Japanese, that verb-framed languages strictly disallow boundary-crossing paths (e.g., ‘into,’ ‘out of’) to be expressed by PPs, while a non-boundary crossing path may be encoded in PP as long as the event of motion is unbounded. Hebrew allows manner of motion verbs to license directional interpretations with boundary-crossing path PPs, unlike verb-framed languages but similar to satellite-framed languages (e.g., English and German). Consider the examples below.

<sup>14</sup>The verb meaning ‘walk’ is left out on purpose since its meaning has been bleached to mean ‘go’ without manner specification in modern Hebrew (Gabriella Hermon, p.c.).

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- (25) Boundary-crossing PPs (*into/out of*)
- a. David {rac/zaxal} {le-tox /el-tox} ha-xeder.  
*David ran/crawled DAT-inside /ALL-inside the-room*  
 ‘David ran/crawled into the room’
  - b. ha-bakbuk caf {le-tox /el-tox} ha-me’ara.  
*the-bottle floated DAT-inside /ALL-inside the-cave*  
 ‘The bottle floated into the cave’
  - c. Yoni {rac/zaxal} (haxuca) me-ha-xeder.  
*Yoni ran/crawled out from-the-room*  
 ‘John ran/crawled out of the room’

Locational PPs in English are often ambiguous between directional and locational interpretations when combined with manner of motion verbs (Bennett 1988).

- (26) English
- a. John ran under the bridge. (Locational and Directional)
  - b. The bird flew over the roof. (Locational and Directional)

The same kind of ambiguity is also observed in Hebrew, as seen in (27).

- (27) Locational (preferred) and Directional
- a. Yoni rac/zaxal mitaxat la-gesher.  
*Yoni ran/crawled under DAT.DEF-bridge*  
 ‘Yoni ran/crawled under the bridge’
  - b. ha bakbuk caf mitaxat le-gesher.  
*the bottle floated under DAT-bridge*  
 ‘The bottle floated under the bridge’
  - c. Yoni kafac me’axorey ha-sapa.  
*Yoni jumped behind the-sofa*  
 ‘John jumped behind the sofa’

As seen above, locational prepositions ‘under’ and ‘below’ in Hebrew can also encode path semantics in directed motion constructions. Manner verbs combined with these prepositions, therefore, can license directional interpretations, although speakers prefer locational readings. The addition of the allative marker *el* (corresponding to English ‘to’) to PP disambiguates the sentences, and speakers accept only directional interpretations.

- (28) Directional Only
- a. Yoni rac/zaxal **el** mitaxat la-gesher.  
*Yoni ran/crawled ALL under DAT.DEF-bridge*  
 ‘Yoni ran/crawled (to) under the bridge’
  - b. ha bakbuk caf **el** mitaxat la-gesher.  
*the bottle floated ALL under DAT.DEF-bridge*  
 ‘The bottle floated (to) under the bridge’

- c. Yoni kafac el me'axorey ha-sapa.  
*Yoni jumped ALL behind the-sofa*  
 'John jumped (to) behind the sofa'

The following examples show that transitive counterparts of intransitive manner of motion verbs also license directional interpretations when combined with path PPs headed by *el* 'to' or *le* 'dative'. Transitive/caused directed motion verbs also include *daxaf* 'push,' *he'if* 'fly x,' *hesi'a* 'drive.'

- (29) Yosef holix et axiv {el ha-/ la-} xeder.  
*Yosef walked ACC brother.his ALL the/ DAT.DEF room*  
 'Joseph walked his brother to the room' (Frances 2006)

The examples of directed motion constructions in Hebrew we have seen thus far suggest that Hebrew allows goal PP constructions of the English type despite the fact that adjectival resultatives (and N-N compounding) are not attested in the language, an apparent contradiction to the claim made by Beck and Snyder (2001).

### 3.1.3. Indonesian: Goal PPs, no adjectival resultatives

Snyder (2001) reports, based on data from Javanese, that Austronesian languages are unmarked for the compounding parameter and Principle R. The following Javanese examples, cited from Snyder (2001), illustrate that N-N compounding and adjectival resultatives are not available.

- (30) N-N compounding and Adjective Resultatives in Javanese
- a. bok ngangge wadah pisang  
*box for contain banana(s)*  
 'box that contains bananas' (=intended for 'banana box')  
 (Snyder 2001: Appendix 4d)
  - b. Tukang pande-nipun mande wesi ngantos gepeng  
*worker forge-POSS beat iron until flat*  
 'The blacksmith beat the iron until (it was) flat'  
 (ibid.: Appendix 2e)

Investigation of Indonesian, another Austronesian language closely related to Javanese, however, reveals that Indonesian differs from Javanese in allowing N-N compounding although adjectival resultatives are still strictly disallowed. Consider the examples below. (Indonesian has a head-initial NP structure, hence the reversed word order in N-N compounding.)

- (31) N-N compounding in Indonesian
- a. kotak pisang/apel  
*box banana/apple*  
 'banana/apple box'

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- b. kaleng cacing  
*can worm*  
'worm can'
  - c. noda minyak  
*stain oil*  
'oil stain'
- (32) a. Tika menumbuk daging itu \*(sampai) penyet.  
*Tika pounded meat the until flat*  
'Tika pounded the meat until it became flat'
- b. Tika menggelap meja itu \*(sampai) bersih.  
*Tika wiped table the until clean*  
'Tika wiped the table until it became clean'
  - c. Tika tidur sampai saya pulang.  
*Tika sleep until I return*  
'Tika slept until I came home'

As seen above, N-N compounding is readily available in Indonesian, while adjectival resultative phrases must be expressed periphrastically; resultative adjectives cannot appear alone but must be introduced by the clausal adverbial *sampai* 'until.' Example (32c) is intended to show that *sampai* 'until' is a clausal adverb that introduces an adjunct clause, similar to English *until*.

If Snyder's macroparameter approach was on the right track, the facts based on N-N compounding and adjectival resultatives in Indonesian would suggest that Indonesian must be marked only for the compounding parameter but not for Principle R, similar to Basque. This would predict that goal PP constructions should also be disallowed due to the negative setting of the semantic parameter. Contrary to the prediction, however, Indonesian shows patterns similar to English/German in expressing directed motion with goal PPs; as we will see below, manner of motion verbs in Indonesian freely combine with goal PPs and license directed goal interpretations.

Location and direction in Indonesian are expressed by combining Ax-Part elements (Svenonius 2006) with the locative preposition *di* and the directional/path preposition *ke*, respectively. The type of AxPart elements that form complex PPs are listed in (33).

(33) Spatial Prepositions in Indonesian<sup>15</sup>

P	AXPARTS
<i>ke</i> 'to' or <i>di</i> 'in/on/at'	<i>atas</i> 'above,' <i>bawah</i> 'beneath,' <i>depan</i> 'front,' <i>belakang</i> 'back,' <i>luar</i> 'outside,' <i>dalam</i> 'inside,' <i>seberang</i> 'the other side,' etc.

<sup>15</sup> *via* paths in Indonesian are expressed by verbal elements (e.g., *menyeberangi* 'across (v. go across),' *melewati* 'past' (v.pass)). The exact grammatical status of these elements is yet to be examined.

As seen below, manner of motion verbs in Indonesian can easily combine with the directional PPs headed by *ke* ‘to’ and license directed goal interpretations.

- (34) **Intransitive Directed Motion**
- a. John berlari/ berjalan/ merangkak ke dalam ruangan.  
*John ran/ walked/ crawled to inside room*  
‘John ran/walked/crawled into the room’
  - b. John berlari/ berjalan/ merangkak ke bawah jembatan.  
*John ran/ walked/ crawled to under bridge*  
‘John ran/walked/crawled (to) under the bridge’
  - c. Tika berlari/ berjalan/ merangkak ke luar ruangan.  
*Tika ran/ walked/ crawled to outside room*  
‘Tika ran/walked/crawled out of the room’
  - d. Botol itu terapung ke bawah jembatan.  
*ball the floated to under bridge*  
‘The ball floated (to) under the bridge’
- (35) **Caused Directed Motion**
- a. John mendorong gerobak itu ke toko.  
*John pushed cart the to store*  
‘John pushed the cart to the store’
  - b. John menyeret tong sampah itu ke bengkel.  
*John dragged can trash the to garage*  
‘John dragged the trash can to the garage’

The following examples show that while manner of motion verbs are atelic, the addition of the *ke*-phrase to the base sentences gives rise to telicity, given that the goal PP constructions are compatible with the temporal *in*-phrase.

- (36) a. John berlari (di taman) {selama/ \*dalam} satu jam.  
*John ran in park for/ in one hour*  
‘John ran (inside the park) for one hour/\*in one hour’
- b. John berjalan ke taman {dalam/ ??selama} satu jam.  
*John walked to park in/ for one hour*  
‘John walked to the park in one hour/\*for one hour’
- (37) a. John mendorong gerobak itu {selama/ \*dalam} 10 menit.  
*John pushed cart the for/ in 10 minute*  
‘John pushed the cart for 10 minutes/\*in 10 minutes’
- b. John mendorong gerobak itu ke toko {dalam/ ?selama} 10 menit.  
*John pushed cart the to store in/ for 10 minute*  
‘John pushed the cart to the store in/\*for 10 minutes’

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It is also worth mentioning that a number of different types of complex predicates that Snyder (2001) includes as members of the complex predicate family are attested in Indonesian, most of which make use of the suffix *kan* (Son and Cole in press).<sup>16</sup>

- (38) Causatives
- a. Kecelakaan itu men-(t)ewas-**kan** banyak orang.  
*accident that MEN-dead-KAN many people*  
 ‘The accident killed many people’
- b. Ia mem-(p)utih-**kan** wajahnya.  
*3SG MEN-white-KAN face.3*  
 ‘He whitened his face (= he caused his face to be(come) white)’
- (39) Benefactive Double Object Constructions
- a. Tika mem-(p)anggang roti itu (untuk Eric).  
*Tika MEN-bake bread the for Eric*  
 ‘Tika baked the bread for Eric’
- b. Tika mem-(p)anggang-**kan** Eric roti itu.  
*Tika MEN-bake-KAN Eric bread the*  
 ‘Tika baked Eric the bread’
- (40) a. John mem-beri-**kan** surat itu kepada Peter.  
*John MEN-give-KAN letter the to Peter*  
 ‘John gave a letter to Peter’
- b. John mem-ber(i)-**i** Peter surat itu.  
*John MEN-give-I Peter letter the*  
 ‘John gave Peter the letter’ (Double Object Dative)

Indonesian lacks verb-particle constructions of the English type, but equivalent constructions are found with the suffix *-kan*, similar to the other complex predicate constructions seen above.

- (41) Wim meludah-kan biji semangka.  
*Wim MEN-spit-KAN seed watermelon*  
 ‘Wim spat the watermelon seeds out’

Although Indonesian superficially differs from English in making use of suffixation in a number of complex predicate constructions, the facts shown so far indicate that Indonesian has a marked value of the compounding parameter based on Snyder’s parameter approach. Indonesian should also have a marked value of the semantic parameter that allows speakers to produce goal PP constructions. Thus, the unavailability of adjectival resultatives in Indonesian is unexpected under the macroparameter approach.

<sup>16</sup>The prefix *meN-* is assumed to be a functional element that introduces an external argument, similar to Kratzer’s (1996) Voice. The suffix *-kan* is argued to be an overt realization of a Result head. The suffix *-i* in (40b) is often treated as a locative suffix since verbs combined with this suffix normally take final-location-denoting objects as their primary objects (see Son and Cole in press).

### 3.1.4. Czech: Telic path PP, no adjectival resultatives

Czech is another language that challenges the putative correlation between the possibility of (telic) path encoding in PP and the availability of adjectival resultatives. As seen below, Czech is similar to German, a satellite-framed language in Talmy's typology, in terms of indicating a location-direction distinction by case alternation, i.e., dative versus accusative.

The examples in (42) illustrate that in German accusative case on a complement of P, *in*, gives rise to directionality while dative case only allows a locational reading.

- (42) German
- a. Maria ist in das Haus gelaufen.  
*Maria is in the.ACC house run*  
 'Mary ran into the house' (Directional)
  - b. Maria ist in dem Haus gelaufen.  
*Maria is in the.DAT house run*  
 'Mary ran in(side) the house' (Locational)

Similarly, in Czech, accusative case on a complement of a P like *na* licenses only a directional reading while locative (or prepositional) case allows only a locational reading.

- (43) Czech
- a. Míč se kutálel na stůl.  
*ball REFL.CL rolled on table-ACC*  
 'The ball was rolling onto the table' (Directional)
  - b. Míč se kutálel na stol-e.  
*ball REFL.CL rolled on table-LOC*  
 'The ball was rolling on the table' (Locational)

Unlike German (e.g., (14)), however, Czech lacks adjectival resultative phrases. If some resultative expressions are allowed, they are expressed in the form of PPs, similar to Hebrew (e.g., (23)).

- (44) a. Petr si ostříhal vlasy na krátk-o/  
*Peter CL.DAT cut hair.ACC.PL on short-ACC.NEUT.SG/*  
*\*krátc-e/ \*krátk-é.*  
*short-ADV/ short-ACC.PL*  
 'Peter cut his hair (into) short/\*shortly/\*short'
- b. Petr smažil cibuli do hněd-a/  
*Peter fried onions-ACC.F.SG in brown-ACC.NEUT.SG/*  
*\*hněd-ě/ \*hněd-ou.*  
*brown-ADV/ brown-ACC.F.SG*  
 'Peter was frying the onions (into) brown/\*brownly/\*brown'

As seen above, bare adjectives agreeing with the objects or adverbials are

ungrammatical in resultative expressions; the prepositions *na* or *do* must be present in order to construct resultative phrases equivalent to the English counterparts.

I have shown thus far that as we conduct more detailed examination of individual languages, more examples emerge that contradict the predictions made by the macro-parameter approach. In particular, we have seen that counter-examples to the semantic parameter emerge in each direction; there exist languages that have adjectival resultatives but lack goal PP constructions (Korean and Japanese) or vice versa (Hebrew, Indonesian, Czech). Although it seems true that if a language has adjectival resultatives, then the language must have productive N-N compounding, there seems to be no strong correlation between adjectival resultatives and goal PP constructions predicted by the semantic parameter, or between goal PP constructions and productive N-N compounding (e.g., Hebrew).

In the following section, I show that the syntactic manner-conflation approach that assumes a strong correlation between the two constructions fails to explain the facts drawn from the aforementioned languages for the same reason. I further show that this approach makes a wrong prediction regarding the presence of atelic path PPs found in various verb-framed languages.

### 3.2. Problems for the manner-conflation theory

As discussed earlier, Mateu and Rigau (2001; 2002) and McIntyre (2004) propose syntactic analyses of directed motion constructions that are argued to derive Talmy's typology. Mateu and Rigau (2001; 2002), in particular, claim that there is no syntactic augmentation of a result phrase (or a small clause) to the event structure of a base (manner of motion) verb (cf. Levin and Rappaport Hovav 1995, Folli and Harley 2006). Rather, a manner-denoting verb conflates directly with the abstract verbal heads, GO or CAUSE, postulated in the syntax of directed motion constructions, in the spirit of Hale and Keyser (1993). This is roughly illustrated below.

- (45) a. [<sub>vP</sub> Mary GO-*run* [<sub>PP</sub> to the store]]  
           'Mary ran to the store'  
       b. [<sub>vP</sub> Mary CAUSE-*push* the cart [<sub>PP</sub> to the store]]  
           'Mary pushed the cart to the store'

Adjectival resultatives receive the same syntactic representation as that of caused directed motion, wherein manner-denoting verbs such as *wipe* and *hammer* are conflated with CAUSE, as in (46).

- (46) [<sub>vP</sub> Mary CAUSE-*wipe* the table [<sub>AP</sub> clean]]  
       'Mary wiped the table clean'

They argue that the cross-linguistic variation in directed motion constructions is driven by the availability of the manner-conflation process in the

syntax; English and German allow this syntactic manner conflation while Spanish and French disallow it. This parameter also applies to the availability of resultative phrases in a given language; if a language does not allow goal PP constructions that are derived by conflating manner verbs with the abstract verbal head, GO or CAUSE, resultative phrases should also be disallowed since they are constructed through the same syntactic implementation as caused directed motion constructions.

However, we have already seen that any analysis that makes a tight correlation between directed motion and adjectival resultatives cannot explain the facts drawn from Korean/Japanese, Hebrew, Indonesian and Czech. Furthermore, the syntactic analysis proposed by Mateu and Rigau (2001; 2002) is a simple replication of Talmy's typology in syntactic terms, without providing adequate explanations for why certain languages should lack the manner-conflation process in the syntax while others allow it. The analysis also fails to account for the fact that manner verbs can combine with atelic path PPs in Romance languages and Korean. Recall that it has been noted that there exist atelic path-encoding adpositions in purported verb-framed languages (Aske 1989, Slobin and Hoiting 1994, Stringer 2002, Son 2006). The previous examples from Spanish are repeated below.

- (47) a. Juan caminó por del tunel (dos horas).  
*Juan walked through the tunnel two hours*  
 'Juan walked through the tunnel (for two hours)'  
 b. La botella flotó hacia la cueva.  
*the bottle floated towards the cave*  
 'The bottle floated towards the cave' *Spanish* (Aske 1989)

Stringer (2002) and Son (2006) also note that French and Korean allow atelic paths to be encoded in PPs, as illustrated below.

- (48) a. La fille a dansé le long de la rivière.  
*the girl has danced the long of the river*  
 'The girl danced along the river'  
 b. La fille a dansé vers le garçon.  
*the girl has danced towards the boy*  
 'The girl danced towards the boy' *French* (Stringer 2002)
- (49) John-i kakey-lo ttwi/kel-ess-ta.  
*John-NOM store-DIR run/walk-PAST-DC*  
 'John ran/walked towards the store' *Korean*

Japanese also allows atelic path P, *-e* 'toward', to occur with manner verbs when the right context is provided. See the example below, cited from Beck and Snyder (2001).<sup>17</sup>

<sup>17</sup>The postposition *-e* is often put aside as an alternate of the postposition *-ni* in directed motion constructions. Thus, its exact semantics and syntax compared to the postposition *-ni* has not been discussed much in the literature. At first glance, *-e* also

- (50) hasi-no sita-e oyogu-no-wa zikan-ga kakarisugiru.  
 bridge-GEN under-DIR swim-THING-TOP time-NOM take.much  
 ‘Swimming under the bridge takes too long’ (Path reading)

Unless directed motion constructions with atelic path PPs above receive a radically different analysis from their telic counterparts, the manner-conflation analysis fails to explain the possible combination of manner verbs and atelic path PPs in various verb-framed languages. One could argue that atelic path PPs are not complements of the motion verbs, but are adjunct phrases (e.g., Zubizarreta and Oh 2007; Chae 2000). However, there has been syntactic evidence showing that atelic path PPs (e.g., *toward*-phrases) across languages are argumental, much as their telic counterparts (e.g., *to*-phrases) (see Folli and Harley 2006 for English and Italian and Son 2006 for Korean).<sup>18</sup>

I have shown thus far that the previous macro-parameter approaches that make a strong connection between directed motion and adjectival resultatives fail to account for the fact that the availability of adjectival resultatives is independent of the availability of goal PP constructions. Thus, the cross-linguistic variation in directed motion does not seem to be subject to the same parametric setting that derives cross-linguistic variation in adjectival resultatives. Instead of invoking macro-parametric settings to explain syntactic variation in directed motion, I argue that the cross-linguistic variation is better explained by considering lexical featural specification of the adpositions used in goal PP constructions. I demonstrate that the adpositions used in goal PP constructions differ between languages of the English type and those of the Spanish type in their lexical properties; the adposition in so-called satellite-framed languages in Talmy’s typology is a Path head in the extended PP structure, while the adposition used in verb-framed languages is unambiguously a PlaceP.

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looks different from the atelic path P *-lo* in Korean since it does not co-occur with manner verbs such as ‘run’ and ‘walk’. However, closer examination of distributional properties of the two postpositions indicates that *-e* differs from *-ni* in their syntax and semantics. First of all, *-e* in example (50) cannot be replaced by *-ni*. Secondly, *-e* cannot co-occur with punctual transition verbs like ‘fall’ while *-ni* can. Lastly, when motion verbs combine with an aspectual auxiliary expressing a continuation of a result state (i.e., *-te iru*), *-e* cannot be replaced by *-ni*. This distinction between *-e* and *-ni* in their distribution is similar to that between the atelic path P *-lo* and the stative locative *-ey* in Korean (see Son 2006). Thus, distributional differences of *-e* and *-ni* suggest that the former is an atelic path P while the latter is a place-denoting P, although the ungrammatical combination of *-e* and manner verbs is still mysterious. See Son (2007b) for further discussion.

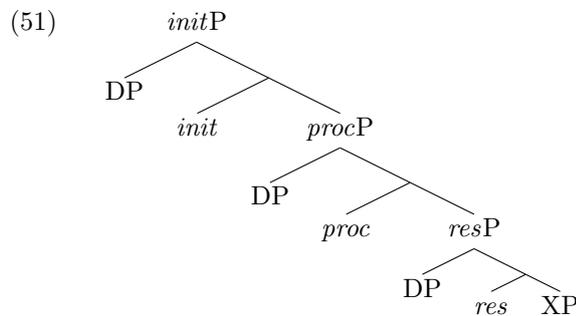
<sup>18</sup>Acquisitional findings from Snyder et al. (2001) and Snyder (2005) also show that atelic (or non-resultative) path PPs do not differ from telic path PPs.

#### 4. On the nature of cross-linguistic variation in directed motion: An alternative approach

A closer look at directed motion constructions in various languages reveals that languages of the Spanish type lack telic path (or allative) *to* in their inventory of adpositions, while languages of the English-type all have adpositions that express telic path.<sup>19</sup> In what follows, I show that the adpositions in verb-framed languages, which are often considered to be equivalent to English *to*, are, in fact, place-denoting adpositions, under the decompositional theory of P (e.g., Svenonius 2006). Before presenting the main argument, it is instructive to discuss the basic framework adopted in the current analysis regarding phrase structure.

##### 4.1. Framework

I adopt the view that there is an intimate correlation between the semantics of event structure and the morpho-syntax, and that the syntactic projection of arguments is based on event structure (e.g., Hale and Keyser 1993, Borer 1994, Ramchand in press). In particular, I follow the proposal put forth by Ramchand (in press), according to which a verb phrase is decomposed into three different sub-eventual components as *init*(iation)P, *proc*(ess)P, and *res*(ult)P. Each component is syntactically projected and forms a core predicational structure with the specifier being filled by its subject, as illustrated in (51).

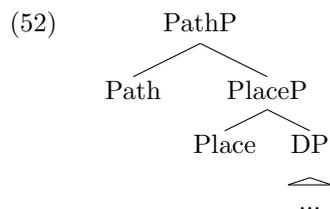


*InitP* introduces the causation/initiation of event and licenses different types of external argument (comparable to Kratzer's 1996 VoiceP). *ProcP* specifies the nature of the change or process and licenses the object of change or process (comparable to VP). *ResP* gives the 'telos' of the event and licenses the object of result (comparable to a small clause, Hoekstra and Mulder 1990). The projection of each subeventual component is determined by verbal meaning (e.g., *initP* is present when the verb expresses causation

<sup>19</sup>See Beavers (2007b) who draws a similar conclusion about Japanese; he argues that Japanese lacks the allative marker 'to,' which has an effect on argument structure alternations.

or initiation, and *resP* is present when the verbal meaning entails a result state, etc.).

I further adopt the decompositional approach to PP (e.g., Jackendoff 1983, Koopman 2000, van Riemsdijk and Huybregts 2002, Svenonius to appear a, Tungseth 2006), according to which a prepositional or postpositional head is further decomposed into Path and Place with Place being embedded under Path, as depicted in (52).<sup>20,21</sup>



It has also been shown that this decomposition corresponds to the semantics. Zwarts (2005) and Zwarts and Winter (2000), for instance, argue that paths are constructed from place denotations in a compositional fashion. In languages where distinctive morphology is found, the place morpheme is always closer to the root than the path morpheme (e.g., Svenonius to appear a).

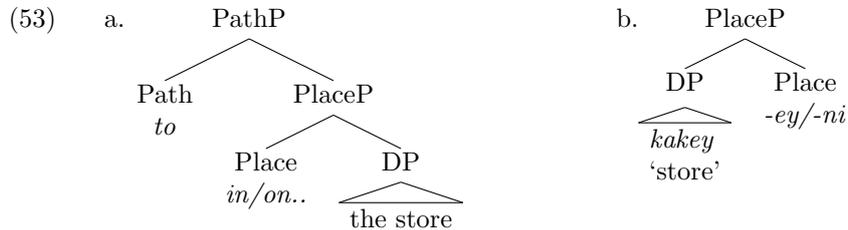
#### 4.2. Absence of telic path P in Spanish-type languages

Based on the assumptions outlined above, I argue that the postpositions *-ey* in Korean, *-ni* in Japanese, and *a* in Romance languages, often translated as ‘to’ in directed motion constructions, are not equivalent to the telic path *to*. They are (static) locative Ps, realizations of a Place head in the decompositional theory of spatial P, as depicted in (53b).<sup>22</sup> On the other hand, English *to* in motion constructions is often argued to be a Path head (e.g., Koopman 2000, Svenonius to appear a), which has a more complex structure, as shown in (53a).

<sup>20</sup>See Svenonius (2006) for finer-grained decomposition of Place into AxPart and Place.

<sup>21</sup>PlaceP here is distinguished from adjunct Locative PPs, which are modifiers of VP (e.g., PP headed by the dynamic locative *-eyse* in Korean).

<sup>22</sup>Also see Tanaka (2002) for a similar argument that analyzes *-ni* as a static locative P, rather than path P.



The different lexical properties of *-ey/-ni* and English *to* can be confirmed by the examples given in (54) through (56), which show that the dynamic, accomplishment preposition *to* cannot be selected by the stative verb *be*, while the postpositions *-ey* and *-ni* can.

- (54) a. \*John is to the store.  
 b. \*Mary put the book to the table.
- (55) a. Inho-ka hakkyo-ey nam-a iss-ta.  
*Inho-NOM school-LOC remain-LINKER be-DC*  
 ‘Inho is at school’  
 b. Chayk-ul chayksang-wi-ey noh-ass-ta.  
*book-ACC desk-surface-LOC put-PAST-DC*  
 ‘I put the book on the desk’ Korean
- (56) a. John-ga niwa-ni iru.  
*John-NOM park-LOC be*  
 ‘John is in the garden’  
 b. John-ga yuka-ni hon-o oita.  
*John-NOM floor-LOC book-ACC put*  
 ‘John put a book on the floor’ Japanese (Tanaka 2002)

It has also been noted that Spanish, French, and Italian lack a preposition equivalent to the telic path *to*. Folli and Ramchand (2005) and Folli (2006), for example, argue that the telic path preposition *to* is unavailable in Italian. Vandeloise (1991) argues that *à* in French, often translated as ‘to,’ is a spatial P that roughly means ‘at/on.’ The following examples confirm the status of these prepositions as a locative P, a realization of Place, in Italian and French, given that they can occur as complements of the stative verb *be*.

- (57) Gianni è a casa di Maria.  
*John is LOC house of Mary*  
 ‘John is at Mary’s house’ Italian
- (58) a. J’ habite à Paris.  
*I live LOC Paris*  
 ‘I live in Paris’

- b. Le point est à l'intersection des deux lignes.  
*the point is LOC the.intersection of two lines*  
 'The point is at the intersection of two lines'
- c. Le curé est à la plage.  
*the priest is LOC the beach*  
 'The priest is at the beach' *French: Vandeloise (1991)*

Spanish *a* appears to differ from its equivalents in French and Italian, since it cannot be a complement of the stative verb 'be' by itself, as seen in (59a). However, notice that Spanish *a* also has a locative use in the context of AxParts (Antonio Fábregas, p.c.), as illustrated in (59b) and (59c).<sup>23</sup>

- (59) a. \*Juan está a la casa.  
*Juan be LOC the house*  
 'John is at home'
- b. El raton está al lado del libro.  
*the mouse is LOC.the side of.the book*  
 'The mouse is beside (next to) the book'
- c. Juan está al fondo de la habitación.  
*Juan is LOC.the end of the room*  
 'Juan is at the end (or bottom) of the room'

Having said that all adpositions that have been mistakenly treated as being equivalent to English *to* are Place heads, the question then is how we capture the ungrammaticality of (4), where manner of motion verbs in verb-framed languages (e.g., Spanish, Korean) cannot combine with PPs headed by these Place-denoting adpositions. In the decompositional model adopted here, verbs that contain *resP* in their representation must combine with a state-denoting complement (e.g., location-denoting PlaceP or property-denoting AP) by event complement composition (see Ramchand in press). When combining with a location-denoting PlaceP, the semantics of the *res* head straightforwardly gives rise to the 'goal' interpretation of that location. On the other hand, verbs that only contain *procP* (e.g., *run*, *walk*) in their representation cannot combine directly with PlaceP but take PathP as their complement due to event-argument homomorphism (Krifka 1998), hence the ungrammaticality of (4). It is also argued that directed goal interpretations in Spanish-type languages come from the lexical semantic features of the verbs that these adpositions combine with (e.g., inherently directional verbs (e.g., *go/come*), punctual transition verbs (e.g., *fall*, *get on a vehicle*) (Folli and Ramchand 2005, Ramchand in press, Son 2007a). The current analysis also accounts for the possible combination of manner verbs and atelic path PPs in Spanish, French, and Korean. In the present decompositional model of the verb phrase, there is nothing that prevents manner verbs (*proc*-verbs) from combining with path PPs, if available.

<sup>23</sup>See Fábregas (this volume) for further discussion of Spanish *a* as a Place head.

### 4.3. Presence of telic path prepositions in English-type languages

The purpose of this section is to ensure that Hebrew and Indonesian, which have been shown to allow goal PP constructions, have prepositions equivalent to English *to*. As seen below, the directional P, *ke* ‘to,’ in Indonesian, can be used only as a directional, path P, similar to English telic path *to*, given that it cannot be a complement of stative verbs.

- (60) a. Mary tinggal \*ke/di Paris.  
*Mary stayed to/in Paris*  
 ‘Mary stayed \*to/in Paris’  
 b. Bola itu \*ke/di dalam kotak.  
*ball the to/in inside box*  
 ‘The ball is \*into/inside the box’  
 c. Tika tetap tinggal di/\*ke sekolah.  
*Tika still remain at/ to school*  
 ‘Tika remained at/\*to school’

The two prepositional elements, *el* and *le*, used in Hebrew directed motion constructions behave in a similar fashion, as they cannot be used as complements of a stative verb.

- (61) \*yoni haya {el ha-/ la-}xeder.  
*yoni was ALL the/ DAT.DEF-room*  
 ‘John was to the room’

Frances (2006) suggests, however, that the true allative marker, corresponding to English *to*, is *el*, and *le* is a dative marker. The difference between the two can be seen from a distributional difference of their pronominal forms, as illustrated below.

- (62) ha-xeder<sub>i</sub> še yosef holix {elav/ \*lo<sub>i</sub>} et  
*the-room that Yosef walked ALL.3.M/ DAT.3.M.SG ACC*  
 axiv.  
*brother.his*  
 ‘The room that Joseph walked his brother into’  
 (63) a. ron heziz et ha-sapa {el ha-/ la} mitbax  
*Ron moved ACC the-sofa ALL the/ DAT.DEF kitchen*  
 ‘Ron moved the sofa to the kitchen’  
 b. ron heziz {elav/ \*lo} et ha-sapa.  
*Ron moved ALL.3.M.SG/ DAT.3.M.SG ACC the-sofa*  
 ‘Ron moved the sofa there’

As seen above, only the pronominal form of *el* is grammatical with caused directed motion. Frances (2006), on a relevant note, shows that only the pronominal form of *le* is grammatical when *give*-type ditransitives with possession entailment are involved (see Frances 2006 for examples). The

following example shows that dative *le* also appears in places where a typical dative would appear (e.g., experiencer, possession, benefactive, etc.), providing further support for the status of *le* as dative.<sup>24</sup>

- (64) yeš li ša'on.  
*exist* DAT.1.SG *watch*  
 'I have a watch'

I have shown thus far that Hebrew and Indonesian have prepositions that correspond to accomplishment, telic path *to*, which makes the two languages behave like English and German in expressing directed motion constructions. On the contrary, Korean, Japanese, and Romance languages, which have been previously described as verb-framed languages, all lack adpositions that have the same semantic contribution as that of telic path *to*.

#### 4.4. Hindi-Urdu: *-koo*

Hindi-Urdu seemingly presents a counter-example to the claim that languages of the Spanish type lack a lexical item that expresses telic path, and that the adposition that is often misanalyzed as 'to' is a Place head. Hindi-Urdu is similar to Korean/Japanese and Spanish in disallowing telic path to be encoded in PP. However, the postposition *-koo*, which is the Hindi-Urdu counterpart of Korean *-ey*, Japanese *-ni* and Spanish *a*, does not seem to have a locative use. I argue, however, that *-koo* might have been a spatial locative P, but its locative use is obscured by the presence of other spatial postpositions available in the language.

Similar to Korean, Japanese and Spanish, Hindi-Urdu disallows the combination of manner verbs with goal PPs in spite of having a large inventory of manner verbs (see Narasimhan 2003). As seen below, manner of motion verbs in Hindi-Urdu cannot combine with goal PPs headed by *-koo*, while inherently directional verbs 'go' and 'come' can combine with the same goal PP. The examples are taken from Narasimhan (2003) with slight modification.

- (65) a. laḍkaa dukaan-koo gayaa/ aayaa.  
*boy store-DAT go/ come-SG.M.PRF*  
 'The boy went/came to the store'  
 b. laḍkaa kamree-mee gayaa/ aayaa.  
*boy room-LOC go/ come-SG.M.PRF*  
 'The boy went/came into the room'

<sup>24</sup>It is unclear, however, why dative *le* gives rise to path semantics in Hebrew while dative *-ni* in Japanese functions as a Place head when occurring in directed motion constructions.

- c. \*laḍkaa dukaan-koo reengaa/ ṭahalaa/ dauḍaa/  
*boy store-DAT crawl/ stroll/ run/*  
 ṭhumakaa.  
*toddle.SG.M.PRF*  
 ‘The boy crawled/strolled/ran/toddled to the store’

The combination of manner verbs and atelic PPs are selectively ok, as seen below.

- (66) a. laḍkaa darvaazee-kii taraf dauḍaa.  
*boy door-GEN direction run.SG.M.PRF*  
 ‘The boy ran towards the door’  
 b. \*saamp darvaazee-kii taraf kulbulaayaa.  
*snake door-GEN direction wriggle.SG.M.PRF*  
 ‘The snake wriggled towards the door’

Based on the examples above, we could argue that the ungrammaticality of (65c) can be explained by treating *-koo* as a Place head, similar to Korean *-ey* and Japanese *-ni*. However, *-koo* does not co-occur with stative predicates and punctual transition (e.g., change of location) verbs, unlike the Korean/Japanese counterparts. Consider the examples below.<sup>25</sup>

- (67) a. \*ritu-nee kitaab-koo meez-koo rakhaa.  
*Ritu-ERG book-ACC table-DAT put-SG.M.PRF*  
 ‘Ritu put the book on the table’ (Narasimhan 2003:152)  
 b. \*John-kaa office is corridor-ke ant-koo hai.  
*John-GEN office this corridor-GEN end-DAT is*  
 ‘Johns office is at the end of this corridor’  
 (Rajesh Bhatt, p.c.)

As seen below, Korean *-ey* and Japanese *-ni* are all compatible with the punctual, change of location verb ‘put’.

<sup>25</sup>The particle *-koo* in Hindi-Urdu can also be used as dative case, similar to Japanese *-ni*, and accusative case for specific interpretation of an object, similar to Spanish *a*. It is unclear whether the use of *-koo* in directed motion is same as dative or it should be analyzed as a spatial postposition distinguished from dative. (Notice, however, that it is often glossed as dative in the literature as seen in the examples above). It is also unclear whether the use of *-koo* as accusative or dative case is a mere instance of homophony or if it is possible to have a unified function. Gillian Ramchand (p.c.) notes that *-koo* is a dative clitic even in directed motion sentences, which might give rise to syntactic behavior different from its equivalents in Korean (*-ey*) and Japanese (*-ni*). I leave open the question of the categorial status of *-koo* in directed motion context and assume that it is a postposition, following Narasimhan (2003) and Ahmed (2006). Even if it turns out that *-koo* is indeed a dative clitic, the generalization being made in this paper still holds since; 1) the ungrammaticality of the sentence where *-koo* is intended to express static location does not present counterexamples to the present work; 2) if *-koo* is indeed a dative clitic, there seems to be no postposition that expresses (telic) path, contra Narasimhan (2003).

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- (68) a. John-i chayk-ul thakca(-wi)-ey noh-ass-ta.  
*John-NOM book-ACC table-surface-LOC put-PAST-DC*  
 ‘John put the book on the table’  
 b. John-wa hon-o teeburu(-no-ue)-ni oi-ta.  
*John-TOP book-ACC table-GEN-surface-LOC put-PAST*  
 ‘John put the book on the table’

Based on the incompatibility of *-koo* with stative/change of location verbs, as seen in (67), Narasimhan (2003) argues that only a directional sense is being lexicalized in the postposition *-koo* when it is used in directed motion constructions. I show, however, that the ungrammaticality of *koo* as a spatial locative P might be due to the existence of other locative postpositions available in the inventory of Hindi-Urdu postpositions.

In Korean and Japanese, static location can be expressed only by *-ey* or *-ni* in combination with various AxPart elements. Hindi-Urdu, however, has postpositions that can express static location, *mee* ‘in’ and *par* ‘at/on.’ Thus, the above examples become grammatical if *-koo* is replaced by one of these locative postpositions, e.g., *par* ‘on/at.’

- (69) a. ritu-nee kitaab-koo meez-par rakhaa.  
*Ritu-ERG book-ACC table-LOC put-SG.M.PRF*  
 ‘Ritu put the book on the table’  
 b. vivek-nee kapḍoo.n-koo pharsh-par sajaayaa.  
*Vivek-ERG clothes-ACC floor-LOC arrange-SG.M.PRF*  
 ‘Vivek arranged the clothes on the floor’  
 (Narasimhan 2003: 152)  
 c. John-kaa office is corridor-ke ant-par hai.  
*John-GEN office this corridor-GEN end-LOC is*  
 ‘John’s office is at the end of this corridor’  
 (Rajesh Bhatt, p.c.)

Thus, we could still maintain the analysis of *-koo* as a Place head; the fact that *-koo* cannot be selected by stative predicates is presumably due to lexical blocking since there are other postpositions available in the language that express static location. It is also worth mentioning that Ahmed (2006) presents evidence that shows *-koo* is a locative P with its historical origin of being a locative form of the noun *kakshA* ‘armpit’ in Sanskrit; he argues that *-koo* is derived from *kakshe* ‘in the armpit.’ Further evidence showing its locative use is given below, taken from Ahmed (2006).<sup>26</sup>

- (70) Spatial Location  
 a. saaman ghaar-koo pohoanch gaaya.  
*luggage home-AT reach go.SG.M.PRF*  
 ‘The luggage reached (at) home’

<sup>26</sup>Notice *-koo* is glossed as a static locative postposition ‘at’ in Ahmed (2006), not dative.

- b. kamra adndar-koo hai.  
*room inside-AT be.SG.M.PRES*  
 ‘The room is (towards) inside’

Although the connection between spatial P and an object marker is unclear at this point, it is also striking to see similarities between Spanish *a* and *-koo* in terms of their additional uses as an object marker for specificity. Spanish *a* can be used as an object marker associated with specificity (Antonio Fábregas, p.c.). We see a similar distribution of *-koo* as an object marker (or accusative case) subject to specific interpretation of the object (e.g., Butt and King 2003, Ahmed 2006). Consider the examples below.

- (71) Hindi-Urdu
- a. anjum-ne saddaf-koo dek<sup>h</sup>a.  
*Anjum.ERG Saddaf-ACC see.SG.M.PRF*  
 ‘Anjum saw Saddam’
- b. nadya-xat 1k<sup>h</sup>(\*-koo) li-ya.  
*Nadya-ERG letter-ACC write-SG.M.PRF*  
 ‘Nadya wrote a letter (completely)’  
 (Non-specific, no presupposition of the existence of the letter)
- (72) Spanish
- a. Juan vio a Pedro.  
*Juan saw A Pedro*  
 ‘Juan saw Pedro’
- b. Juan busca (\*a) una secretaria que habl-e inglés.  
*Juan look.for A one secretary who talks-SUB English*  
 ‘Juan is looking for a secretary who is able to speak English,  
 whoever she is’ (Non-specific) (Antonio Fábregas, p.c.)

Thus, the historical origin of *-koo*, its limited distribution as a locative P, and its additional use as an accusative marker similar to Spanish *a* all seem to lead us to conclude that *-koo* might as well be analyzed as a Place P in directed motion constructions, but its use as a static locative P is obscured by the availability of other static locative postpositions as a result of lexical blocking.

## 5. Conclusion

### 5.1. Summary

Adjectival resultatives and goal PP constructions have often been analyzed as involving the same syntactic and semantic derivation, given that both constructions derive (complex) accomplishment predicates from manner/activity-denoting predicates. Accordingly, the source of cross-linguistic variation in directed motion is often correlated with the source of variability in accepting adjectival resultatives across languages. The two macroparameter

approaches discussed in this paper also predict that there is a strong correlation between the two constructions in their availability, provided that they are subject to the same macroparametric setting. However, I have argued that there is no such strong correlation between the two by demonstrating that counter-examples are found in each direction once detailed investigation of individual languages is carried out; Korean and Japanese do not have goal PP constructions but they nevertheless have adjectival resultative phrases. Hebrew, Indonesian and Czech do not have adjectival resultative phrases, but goal PP constructions are attested in these languages. I also showed that the parameter approach that attributes the nature of variation to the availability of manner conflation in the syntax misses the important observation that manner of motion verbs in verb-framed languages can license directional interpretation with atelic path PPs.

By demonstrating the weakness of the previous macro-parametric approaches, I argued that the syntax of directed motion constructions is universal, and that the cross-linguistic variation arises from 1) different lexical featural properties of the adpositions in question, and 2) the availability of a lexical item responsible for telic path semantics. Under the decompositional model of PP, I argued that the adpositions in verb-framed languages, which are often equated with English *to*, lexicalize a Place head. English *to* and its equivalents in satellite-framed languages differ from these Place adpositions as they lexicalize a Path head. The different lexical featural properties of the adpositions in comparison have been shown to explain why satellite-framed languages can have manner verbs combined with telic path PPs expressed by *to*, while verb-framed languages lack this combinatory possibility; the adpositions available in the latter group are unambiguously Place selected by a *res* head, not Path. Manner of motion verbs do not come with a *res* feature, and thus cannot take PlacePs as their complements. This also explains the possible combination of manner verbs and atelic path PPs in various verb-framed languages.

## 5.2. Some speculations about cross-linguistic variation in resultatives

I have argued in this work that the variability in allowing goal PP constructions across languages is an issue independent of the variability in allowing adjectival resultatives; the availability of goal PP constructions is attributed to the availability of a single lexical item that lexicalizes a Path head with telic interpretation, which is irrelevant for adjectival resultative constructions. The question that immediately arises then is what makes languages vary in allowing adjectival resultative phrases? One could argue that, although goal PP constructions should be handled independently from adjectival resultatives, Beck and Snyder's semantic parameter might still be at work for adjectival resultatives in their availability; so far we have not found languages that have only adjectival resultatives without produc-

tive N-N compounding, although goal PP constructions may be available without it (e.g., Hebrew). However, there are a couple of reasons to doubt the validity of this approach.

First of all, Beck and Snyder's semantic parameter is based crucially on the assumption that adjectival resultatives are analyzed as involving syntactic compounding of two predicates (compounding of *wipe-clean* in *wipe the table clean*, for example). It should be noted, however, that adjectival resultatives are also analyzed as involving a small clause (or a secondary predicational phrase introduced by a resultative adjective) (e.g., Hoekstra 1988, den Dikken 1995, Pesetsky 1995). One of the diagnostics for detecting the presence of a secondary predicate phrase in the syntax of complex predicates is argued to be 'again' modification (e.g., von Stechow 1996); von Stechow (1996) argues, based on German, that scope ambiguity of 'again' between repetitive and restitutive reading is indicative of having complex event structure in the syntax. For instance, the following German example is ambiguous between restitutive and repetitive reading, as in (a) and (b) respectively.

- (73) Sally die Tür wieder öffnete.  
*Sally the door again opened*  
 a. 'Sally opened the door, and the door had been open before'  
 b. 'Sally opened the door, and she had done that before'

The restitutive reading presupposes that there had been an event in which the door was open sometime before, but it is not required that Sally herself caused that event; in fact, it is not necessary that anyone had caused that event. The repetitive reading presupposes that Sally repeated the event of opening the door. Von Stechow (1996) argues that the ambiguity of *wieder* 'again' arises due to two different adjunction sites available for the adverb, i.e., CAUSEP and AP (introduced by the adjective 'open'), defending syntactic decomposition of the verb 'open.' Similarly, adjectival resultatives with 'again' modification are ambiguous between restitutive and repetitive reading, as seen below.

- (74) John wiped the table clean again.  
 a. John wiped the table clean, and the table had been clean sometime before. [restitutive]  
 b. John wiped the table clean, and John had done it sometime before. [repetitive]

The scope ambiguity of 'again' seen above, therefore, suggests that adjectival resultatives do not involve syntactic compounding that forms a complex word unit. Rather, they should be analyzed as having a secondary predicational phrase (i.e., [<sub>AP</sub> the table clean]), to which 'again' can be adjoined for the restitutive interpretation. The decomposed theory of VP adopted in this work, in fact, predicts the scope ambiguity of 'again,' according to

which adjective resultative constructions contain a *res* head, which forms a predicational relation between its subject and complement, the property-denoting AP, i.e., [<sub>resP</sub> [the table *res* [<sub>AP</sub> clean]]].

The macroparameter approach is also compromised by the fact that a typology of adjectival resultatives is not just a two-way split, one with adjectival resultatives and one without them. Rather, closer examination of adjectival resultatives across languages reveals that there are more than two kinds of languages; among languages that have adjectival resultatives, some languages allow adjectival resultatives only with special marking on the resultative adjectives (e.g., Korean/Japanese), as opposed to English and German where no overt marking is required. If we take Washio's (1997) typology of resultatives into consideration, languages also split into several different kinds, one that allows strong, weak, and spurious resultatives (e.g., English and German), one that allows only weak and spurious resultatives (e.g., Japanese and perhaps Italian), one that allows only spurious resultatives (e.g., Spanish), etc.<sup>27</sup> If we include PP-resultatives (e.g., *break the box into pieces*), which has been disregarded in Snyder's work, the degree of variation becomes even greater; it turns out that languages that do not allow adjectival resultatives allow PP-resultatives (e.g., 'paint the wall in-red') (e.g., Hebrew, Spanish), and there is also some degree of variation among these languages. Thus, a finer-grained taxonomy of resultative types suggests that macroparametric approaches, which posit only a small set of parametric settings for linguistic variation, cannot account for the full range of variation we encounter; the nature of cross-linguistic variation must be seen from a microparametric perspective (à la Borer 1984). Perhaps, the point of the cross-linguistic variation in resultatives lies in different featural properties of a functional lexical item (e.g., *res* with null and overt variants) and its combinatorial possibilities (e.g., *res* taking AP and PP, or *res* taking only PP, etc.). I leave this issue for future research.<sup>28</sup>

### References

- Ahmed, Tafseer. 2006. Spatial, temporal, and structural uses of Urdu *ko*. A paper presented at the Workshop on Case and Aspect in South Asian languages, University of Konstanz.
- Aske, Jon. 1989. Path predicates in English and Spanish: A closer look. In *Proceedings of the Fifteenth Annual Meeting of the Berkeley Linguistics Society*, edited by Kira Hall, Michael Meacham, and Richard Shapiro, pp. 1–14. Berkeley Linguistics Society, Berkeley, Ca.
- Beavers, John. 2007a. On the nature of goal markers and event delimiters: Evidence from Japanese. Ms. Georgetown University.
- Beavers, John. 2007b. Predicting argument realization from oblique marker semantics. Ms. Georgetown University.

<sup>27</sup>See footnote 8.

<sup>28</sup>See Son and Svenonius (in preparation).

- Beavers, John, Beth Levin, and Tham Shiao Wei. 2004. A morphosyntactic basis for variation in the encoding of motion events. Paper presented at the conference on Diversity and Universals in Language: Consequences of Variation, Stanford University.
- Beck, Sigrid and William Snyder. 2001. Complex predicates and goal PPs: Evidence for a semantic parameter. In *Proceedings of the 25th Annual Boston University Conference on Language Development*, edited by Anna H.-J. Do, Laura Dominguez, and Aimee Johansen, vol. 1, pp. 114–122. Cascadilla Press, Somerville, Ma.
- Bennett, Jonathan. 1988. *Events and their Names*. Clarendon Press, Oxford.
- Borer, Hagit. 1984. *Parametric Syntax: Case Studies in Semitic and Romance Languages*. Foris, Dordrecht.
- Borer, Hagit. 1994. The projection of arguments. In *Functional Projections*, edited by Elena E. Benedicto and Jeffrey T. Runner, University of Massachusetts Occasional Papers, pp. 19–47. GLSA, Amherst, Ma.
- Butt, Miriam and Tracy King. 2003. Case systems: Beyond structural distinctions. In *New Perspectives on Case Theory*, edited by Ellen Brandner and Heike Zinsmeister, pp. 53–87. CSLI, Stanford.
- Chae, Heerak. 2000. Complex versus adjuncts (in Korean). *Studies in Modern Grammar* 19: 69–85.
- den Dikken, Marcel. 1995. *Particles: On the Syntax of Verb-particle, Triadic, and Causative Constructions*. Oxford University Press, New York.
- Fábregas, Antonio. this volume. The exhaustive lexicalization principle. In *Tromsø Working Papers on Language and Linguistics: Nordlyd 34.2*, Special issue on Space, Motion, and Result, edited by Monika Bašić, Marina Pantcheva, Minjeong Son, and Peter Svenonius, pp. 165–199. University of Tromsø, Tromsø. Available at <http://www.ub.uit.no/baser/nordlyd/>.
- Folli, Raffaella. 2006. A-phrases in Italian. Paper presented at the conference on Syntax and Semantics of Spatial P, UiL OTS/Utrecht University.
- Folli, Raffaella and Heidi Harley. 2006. On the licensing of causatives of directed motion: Waltzing Matilda all over. *Studia Linguistica* 60 2: 1–35.
- Folli, Raffaella and Gillian Ramchand. 2005. Prepositions and results in Italian and English: Analysis from event decomposition. In *Perspectives on Aspect*, edited by Henk Verkuyl, Henriette de Swart, and Angeliek van Hout, pp. 81–105. Springer, Dordrecht.
- Frances, Itamar. 2006. Possessors, goals, and the classification of ditransitive predicates: Evidence from Hebrew. In *Empirical issues in Syntax and Semantics 6*, edited by Olivier Bonami and Patricia Cabredo Hofherr, pp. 137–154. C SSP, available at <http://www.cssp.cnrs.fr/eiss6>.

- Hale, Kenneth and Samuel Jay Keyser. 1993. On argument structure and the lexical expression of syntactic relations. In *The View from Building 20: Essays in Linguistics in Honor of Sylvain Bromberger*, edited by Kenneth Hale and Samuel Jay Keyser, no. 24 in Current Studies in Linguistics, pp. 53–109. MIT Press, Cambridge, Ma.
- Hoekstra, Teun. 1988. Small clause results. *Lingua* 74 2-3: 101–139.
- Hoekstra, Teun and René Mulder. 1990. Unergatives as copular verbs. *Linguistic Review* 7: 1–79.
- Jackendoff, Ray. 1983. *Semantics and Cognition*. MIT Press, Cambridge, Ma.
- Kim, Young-Taek. 2007. A contrastive study of resultative constructions in Korean and Japanese: From the perspective of historical and cognitive linguistics. In *Japanese/Korean Linguistics 15*, edited by Hanaoka McGloin Naomi and Junko Mori, pp. 381–392. CSLI, Stanford.
- Koopman, Hilda. 2000. Prepositions, postpositions, circumpositions, and particles. In *The Syntax of Specifiers and Heads*, edited by Hilda Koopman, pp. 204–260. Routledge, London.
- Kratzer, Angelika. 1996. Severing the external argument from the verb. In *Phrase Structure and the Lexicon*, edited by Johann Rooryck and Laurie Zaring, pp. 109–137. Kluwer, Dordrecht.
- Kratzer, Angelika. 2005. Building resultatives. In *Event Arguments in Syntax, Semantics, and Discourse*, edited by Claudia Maienborn und Angelika Wöllstein-Leisten, pp. 177–212. Tübingen, Niemeyer.
- Krifka, Manfred. 1998. The origins of telicity. In *Events and Grammar*, edited by Susan Rothstein, pp. 197–235. Kluwer, Dordrecht.
- Levin, Beth and Malka Rappaport Hovav. 1995. *Unaccusativity: At the Syntax-Lexical Semantics Interface*. MIT Press, Cambridge, Ma.
- Mateu, Jaume and Germma Rigau. 2001. A syntactic approach to illusive event type-shiftings. Technical report, Universitat Autònoma de Barcelona, Bellaterra. GGT research report 01-3.
- Mateu, Jaume and Germma Rigau. 2002. A minimalist account of conflation processes: Parametric variation at the lexicon-syntax interface. In *Theoretical Approaches to Universals*, edited by Artemis Alexiadou, pp. 211–236. John Benjamins, Amsterdam.
- McIntyre, Andrew. 2004. Event paths, conflation, argument structure, and VP shells. *Linguistics* 42.3: 523–571.
- Narasimhan, Bhuvana. 2003. Motion events and the lexicon: A case study of Hindi. *Lingua* 113: 123–160.
- Pesetsky, David. 1995. *Zero Syntax: Experiencers and Cascades*. MIT Press, Cambridge, Ma.
- Ramchand, Gillian. in press. *Verb Meaning and the Lexicon: A First Phase Syntax*. Cambridge University Press. Available at <http://ling.auf.net/lingBuzz/000307>.
- van Riemsdijk, Henk and Riny Huybregts. 2002. Location and lo-

- cality. In *Progress in Grammar: Articles at the 20th Anniversary of the Comparison of Grammatical Models Group in Tilburg*, edited by Marc van Oostendorp and Elena Anagnostopoulou, pp. 1–23. Meertens Instituut, Amsterdam. [www.meertens.knaw.nl/books/progressingrammar/](http://www.meertens.knaw.nl/books/progressingrammar/).
- Slobin, Dan I. and Nini Hoiting. 1994. Reference to movement in spoken and signed languages: Typological considerations. In *Proceedings of the Twentieth Annual Meeting of the Berkeley Linguistics Society*, edited by Susanne Gahl, Andy Dolbey, and Christopher Johnlinker, pp. 487–505. Berkeley Linguistics Society, Berkeley, Ca.
- Snyder, William. 1995. *Language Acquisition and Language Variation: The Role of Morphology*. Ph.D. thesis, MIT.
- Snyder, William. 2001. On the nature of syntactic variation: Evidence from complex predicates and complex word-formation. *Language* 77.2: 324–342.
- Snyder, William. 2005. Motion predicates and the compounding parameter: A new approach. Paper presented in the Linguistics Colloquium Series, University of Maryland.
- Snyder, William, Sarah Felber, Bosook Kang, and Diane Lillo-Martin. 2001. Path phrases and compounds in the acquisition of English. Paper presented at the 26th Boston University Conference on Language Development, Boston.
- Snyder, William and Diane Lillo-Martin. 2005. Motion predicates and the compounding parameter. *Nanzan Linguistics* 2: 103–5.
- Son, Minjeong. 2006. Directed motion and non-predicative PathP in Korean. In *Tromsø Working Papers on Language & Linguistics, Nordlyd 33:2: Special issue on Adpositions*, edited by Peter Svenonius, pp. 176–199. University of Tromsø, Tromsø. Available at [www.ub.uit.no/munin/nordlyd/](http://www.ub.uit.no/munin/nordlyd/).
- Son, Minjeong. 2007a. Event (de-)composition of directed motion in Korean and English. Ms. University of Tromsø.
- Son, Minjeong. 2007b. Japanese *-e* versus *-ni*: Their syntax and semantics. Ms. University of Tromsø.
- Son, Minjeong and Peter Cole. in press. An event-based account of *-kan* constructions in Standard Indonesian. *Language* 84.1.
- Son, Minjeong and Peter Svenonius. in preparation. Microparameters of cross-linguistic variation: Directed motion and resultatives. University of Tromsø.
- von Stechow, Arnim. 1996. The different readings of *wieder* ‘again’: A structural account. *Journal of Semantics* 13: 87–138.
- Stringer, David. 2002. Predication of path in French and Japanese. In *Durham Working Papers in Linguistics*, edited by Stepanie Pourcel Heather Marsden and Melinda Whong-Barr, vol. 8, pp. 153–166. University of Durham, UK.
- Svenonius, Peter. 2006. The emergence of axial parts. In *Tromsø*

- Working Papers on Language & Linguistics, Nordlyd 33:1: Special issue on Adpositions*, edited by Peter Svenonius and Marina Pantcheva, pp. 49–77. University of Tromsø, Tromsø. Available at [www.ub.uit.no/munin/nordlyd/](http://www.ub.uit.no/munin/nordlyd/).
- Svenonius, Peter. to appear a. Spatial P in English. In *The Cartography of Syntactic Structure, vol.6*, edited by Guglielmo Cinque and Luigi Rizzi. Oxford University Press, Oxford. Available at <http://ling.auf.net/lingBuzz/000001>.
- Takamine, Kaori. this volume. Resultative predicates in Japanese. In *Tromsø Working Papers on Language and Linguistics: Nordlyd 34.2*, Special issue on Space, Motion, and Result, edited by Monika Bašić, Marina Pantcheva, Minjeong Son, and Peter Svenonius, pp. 102–125. University of Tromsø, Tromsø. Available at <http://www.ub.uit.no/baser/nordlyd/>.
- Talmy, Leonard. 1975. Semantics and syntax of motion. In *Syntax and Semantics*, edited by J.P. Kimball, vol. 4, pp. 181–238. Academic press, New York.
- Talmy, Leonard. 1985. Lexicalization patterns: Semantic structure in lexical forms. In *Language Typology and Syntactic Description, I: Clause Structure*, edited by Timothy Shopen, pp. 57–149. Cambridge University Press, Cambridge.
- Talmy, Leonard. 2000. *Toward a Cognitive Semantics: Typology and Process in Concept Structuring*, vol. II. MIT Press, Cambridge, Ma.
- Tanaka, Eri. 2002. Event composition and a Path in Japanese. In *Proceedings of the 31st Western Conference on Linguistics*, pp. 282–293. California State University, Fresno.
- Tanaka, Eri. 2007. Cross-domain paths. Paper presented at the Workshop on The Syntax and Semantics of Measurability, University of Tromsø, Tromsø, Norway.
- Tungseth, Mai. 2006. *Verbal Prepositions in Norwegian: Paths, Places, and Possession*. Ph.D. thesis, University of Tromsø.
- Vandeloise, Claude. 1991. *Spatial Prepositions: A Case Study from French*. The University of Chicago Press, Chicago.
- Vendler, Zenon. 1967. *Linguistics in Philosophy*. Cornell University Press, Ithaca, N.Y.
- Washio, Ryuichi. 1997. Resultatives, compositionality and language variation. *Journal of East Asian Linguistics* 6: 1–49.
- Zubizarreta, Maria Luisa and Eunjeong Oh. 2007. *On the Syntactic Composition of Manner and Motion*. MIT Press, Cambridge, Ma.
- Zwarts, Joost. 2005. Prepositional aspect and the algebra of paths. *Linguistics and Philosophy* 28: 739–779.
- Zwarts, Joost and Yoad Winter. 2000. Vector space semantics: A model-theoretic analysis of locative prepositions. *Journal of Logic, Language, and Information* 9: 169–211.