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DIRECTIONAL PREPOSITIONS INTO THE SPLIT PROJECTION*

1 INTRODUCTION

This article deals with a construction which involves ambiguity of interpretations between "locational" and "motional" within the Generative Grammar. It will be argued that the ambiguity can be well accounted for by the split PP structure containing substantive P and functional *p* heads. This is quite analogous to the familiar VP-shell structure (cf. Larson 1988, Chomsky 1995, among others). The *v* there functions as a structural accusative-case-assigner (or -valuer) to the complement nominal. The *p*, on the other hand, serves as an inherent-case-licensor of the complement nominal. The relevant inherent case is Accusative, which is well supported by empirical data from many languages. My analysis goes on to other related phenomena such as Auxiliary Selection and Prepositional Resultative Construction, and shows that the proposal here is adequate since the linguistic phenomena follow from it.

This paper is organized as follows. Section 2 overviews the goal-of-motion prepositions and problems about them. Section 3 examines the properties of the ambiguously behaving prepositions and some facts concerning the prepositions of this kind. Section 4 reviews some previous analyses and points out some problems, followed by section 5 where I will propose a new analysis. In section 6, the analysis will be extended to other linguistic phenomena such as Auxiliary Selection and (prepositional) Resultative Construction. Section 7 concludes this paper.

2 PROBLEMS ON PREPOSITIONS

One might ask why I am going to deal with goal-of-motion prepositions and their projections in the syntax. The main motivation with which I begin this study is the

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ambiguity seen in the example given in (1):

(1) The bottle floated under the bridge.

Apparently this sentence seems to have only one possible reading. But the above example contains more than one interpretation, and this ambiguity can be made clear by paraphrasing it as in (2):

(2) a. The bottle was under the bridge floating. (locational[1])
b. The bottle moved to the position under the bridge floating. (motional)

One possible reading is a "locational" one: a certain bottle was in the river and the stative position where the bottle floated was under the bridge. Another interpretation possible with the ambiguous sentence in (1) is a "motional" one: a certain bottle was in the river under the bridge. These two readings with completely different meanings have to be accounted for theoretically. The ambiguity detected in the examples such as in (1) has recently been paid much attention to in the generative literature. To name some, Klipple (1997) adopts LCS analysis of English and French prepositions to account for their different behavior relating to the matrix verbs and prepositions themselves. Folli and Ramchand (2004) assume an unfamiliar projection Rp labeling, as they put it, "the final location, or 'place'" (Folli and Ramchand (2004:8)). According to their claim, the Rp projection is selected by the prepositional head of PP in the syntax. Their analyses will be closely examined in section 4 below.

Most of the "generative analyses" in the past 50 years seem to have regarded prepositional phrases simply as a monolith, abstracting away from the issue of their grammatical status: lexical or functional in nature. However, there are several aspects to prepositions, an example being that some prepositional phrases can function as the subject of a clause, as discussed in detail by Matsubara (2000):

(3) a. [On Tuesday] will be fine. (Matsubara 2000:131)
b. The campaigners planned [until Christmas] in detail. (ibid.:137)
c. They waited until [after midnight]. (ibid.)

If the prepositional phrases are always prepositional in function, they could not occur preverbally in the subject position as in (3a) nor postverbally in the complement position of either verbs or other prepositions as in (3a-b). Nevertheless, they do occur in those syntactic positions, which leads Matsubara to assume that these prepositional phrases may have an additional projection which he identifies as the small p*[2] and to which the substantive P in its complement position head-moves. This head assumedly carries some nominal features, and they serve as a goal of a probe for the probe-goal

[1] The term "locational"is used rather than "locative" because the latter term usually applies to Case terminology, especially in Sanskrit, Slavic, etc. See fn.4 for clarity.

[2] The symbol * indicates ϕ-completeness, i.e. carries a complete set of ϕ-features. ϕ-feature contains specific information about person, number, and gender. So if an arbitrary syntactic category c is ϕ-complete, it shows up as c*. Note that the symbol * followed by a sentence, phrase, or word indicates that the relevant sentence, etc. is not acceptable.

agreement proposed in recent work by Chomsky:

(4) Agree (Chomsky (2001:6)) [to be modified]
   a. Goal as well as probe must be active for Agree to apply.
   b. α must have a complete set of ϕ-features (it must be ϕ-complete) to delete uninterpretable features of the paired matching element β.

If we follow Marantz (1997) in that little functional projections in fact help a certain lexical item become a true syntactic item, that is, the familiar little *v* head actually "verbalize" its complemental root item, for example, then Matsubara needs to reconsider the label *p* since it must have prepositional nature and in principle function as a "prepositionalizer," not a "nominalizer," of a lexical item. One possible alternative is *n* proposed in e.g. Radford (2004). I contrast a partial structure based on Matsubara's analysis with mine for (3) in order to see what is going on here:

(5) a. $[_{TP}\ [_{p*P}\ [_{p*}$ on $[_{PP}\ t$ Tuesday]]] $[_{T}\ \ldots\ ]]$ (Matsubara's analysis)
   b. $[_{TP}\ [_{n*P}\ [_{n*}$ on $[_{PP}\ t$ Tuesday]]] $[_{T}\ \ldots\ ]]$ (my alternative analysis)

Matsubara's analysis is thus not unproblematic, but I will not ldiscuss this further here.

What I am really concerned with in this paper is: "What distinguishes a locational interpretation from a motional one of ambiguous prepositions? What are their cross-linguistic properties?"

3 DIRECTIONAL PREPOSITIONS

As was mentioned in the previous section, some prepositions can be ambiguous in interpretation, which is in fact possible in a restricted range of languages: English, German, Dutch, Chinese, among others. This section first introduces motional prepositions (which I sometimes also call "directional" in this paper) in detail, and in turn examines some syntactic properties that these prepositions have.

The first outstanding point to note is that ambiguous prepositions can co-occur with the same verbs and nevertheless show ambiguity in interpretation. In other words, their interpretational ambiguity is independent of their verbal hosts. Some examples are given below:

(6) a. The bottle floated under the bridge.
   b. We jumped in the lake. (Svenonius 2003:347)
   c. La palla rotolò sotto il tavolo.
      'The ball rolled under the table.' (Italian; Folli and Ramchand 2004:2)

The verbs *float*, *jump* and *rotolare* 'roll' are intrinsically locational as attested in the examples in (7); the prepositions *under*, *in* and *sotto* 'under' are also inherently locational shown by behavior with concrete nominals in (8):

(7) a. The bottle floated. (locational only)
b. We jumped. (locational only)
c. La palla rotolò. (Italian ; locational only)
'The ball rolled'

(8) a. the bottle under the bridge (locational only)
b. the boat in the lake (locational only)
c. la palla sotto il tavolo (Italian ; locational only)
'the ball under the table'

As is clear from examples in (7), the verbs used in those sentences are allowed only when they are locational. This fact indicates that the verbs themselves which participate in the ambiguous construction contain no directional factor. And also the prepositions seen in the above examples must simply be locational as the sentences in (8) show; they again contain no directional factor in themselves. So I will have to assume a certain "additional" syntactic head which solely functions to show "directionality" of the prepositions. A detailed analysis of this directionality-head is proposed in section 5 below.

Another interesting fact related to these ambiguous prepositions is the case alternation that is shown by the complement DP of the prepositions. Though this might only be seen in such languages as German, Czech, Latin, it is meaningful to point out the fact the case alternation.

(9) German[3,4]
a. dass Peter **in** dem Zimmer getanzt hat.
that Peter in [the room]-DAT danced has
'… that Peter danced in the room.' (locational)
b. dass Peter **in** das Zimmer getanzt ist.
that Peter in [the room]-ACC danced is
'… that Peter danced into the room.' (motional)

(10) Czech
a. Petr šel **na** hradě.
Petr was-walking in castle-LOC
'Petr was walking in a castle.' (locational)
b. Petr šel **na** hrad.
Petr was-walking in castle-ACC
'Petr was walking to a castle.' (motional)

[3] German definite articles are usually incorporated into the immediately preceding preposition to form *ins* from *in das*, *im* from *in dem*. But in this paper the incorporation is omitted for visibility.

[4] In glossing our examples, the following abbreviations are used:

NOM	Nominative	ABL	ablative
ACC	Accusative	DAT	dative
GEN	genitive	LOC	locative

(11) Latin

a. Sextus **in** hortô ambulat.
Sextus in garden-ABL walks
'Sextus is walkng in the garden.' (locational)

b. Marcus **in** hortum ambulat.
Marcus in garden-ACC walks
'Marcus walks into the garden.' (motional)

The prepositions with locational interpretation govern (or *assign*) an oblique case on (or *to*) their complement DP: dative in German, locative in Czech (and this is also the case with Russian since they both belong to the same linguistic group called *Slavic*), and ablative in Latin. On the other hand, prepositions interpreted as motional are consistently accompanied by Accusative nominals. Though it should be taken into consideration that these languages belong to the Indo-European Family, I will simply assume here that the concept *Accusative* can be extended to other languages than Indo-European. There is an argument with which I claim that the Accusative case is closely related to the directional/motional reading. The examples given below in (12) evidence this point:

(12) a. Omnēs viae Rōmam ducunt. (Latin)
all roads-NOM Rome-ACC lead
'All roads lead to Rome.'

b. Wǒ qù/lái Běijīng. (Mandarin)
I go/come Beijing
'I go/come to Beijing.'

One may doubt that the example in (12) is not adequate since it is not clear that the object nominal *Běijīng* is really the goal of motion denoted by the verb *qù/lái*. But the complement position can be licensed as the goal of motion whereas the stative location is only licensed in the syntactically preverbal position.

(13) Mandarin Chinese

a. Tā zài zhuōzi-shàng tiāo.
he at table-top jump
'He jumped on the table.' (locational)

b. Tā tiāo zài zhuōzi-shàng.
he jump at table-top
'He jumped onto the table.' (motional)

I consider this fact to support my assumption that the postverbal nominal which can be interpreted as the goal of directed motion is an Accusative-bearing DP parallel to the Latin examples.

The third property concerns telicity. The directed-motion prepositions induce a telic interpretation. Telicity ("telic" comes from a Greek word *τέλος* meaning "goal" or "destination") is an aspectual concept related to verbs (sometimes called *Aktionsart* 'art of action'), clauses, etc. If a clause is telic, it has a clear end-point of time; if

another is atelic, it lacks the termination of time. To distinguish both kinds of telicity, there are many well-known diagnostics in the linguistic literature, one of which is the prepositional phrase "in/for XX hours, minutes, seconds, etc." A telic expression is compatible with "in XX" while an atelic one with "for XX."

(14) a. He ate the apple in two minutes/ *for two minutes. (telic)
b. He ate apples for two minutes/ *in two minutes. (atelic)

This diagnostic to distinguish telic and atelic expressions may be cross-linguistically valid since it is appropriate in German as well:

(15) German
a. Er aß den Apfel in zwei Minuten/ *zwei Minuten lang. (telic)
'He ate the apple in two minutes/ *for two minutes.'
b. Er aß zwei Minuten lang/ *in zwei Minuten Äpfel. (atelic)
'He ate apples for two minutes/ *in two minutes.'
(Rapp 1997:82)

Now I turn my attention to ambiguous prepositions. With the telicity test, the expression with locational interpretation is atelic in aspect; that of motional interpretation is telic:

(16) a. The bottle floated for an hour/ *in an hour.
b. The bottle floated under the bridge for an hour/ *in an hour. (loc)
c. The bottle floated under the bridge in an hour/ *for an hour. (mot)

There is thus a clear aspectual contrast between the locational and motional expressions. Since the sentence without any ambiguous prepositional phrases is inherently atelic as in (16a), the telicity detected in (16b-c) should be due to an additional factor of some kind functioning as a "telicizer."

Thus far, I have noted that the ambiguous preposition phrase (PP) (i) is ambiguous between locational and motional interpretations independent of the meanings of the matrix verbs; (ii) requires that the complement DPs bear Accusative case when the PP denotes the directed motion, whereas they bear one of the oblique cases when the PP denotes the stative/locational interpretation; and (iii) is telic in aspect independent of the matrix verbs again. These three special properties lead me to assume that there must be an additional little projection *p* above the substantive lexical category P, and the *p* induces the directed-motion interpretation and telic aspect. It also functions as a case-assigner, or a case-valuer according to the recent work by Chomsky, to complement DPs; it assigns or values them as Accusative case in parallel to the little *v* in the VP-shell analysis, although it is more or less doubtful whether it is structural; I will regard the relevant case as inherent. More detailed analysis is made in section 5.

4 PREVIOUS ANALYSES

4.1 Svenonius (2003/2004a) / Folli and Ramchand (2004)

Svenonius distinguishes the two possible interpretations seen in the ambiguous prepositions in English and Swedish on syntactic structures. He posits that the traditional prepositional projection can be decomposed into Path and Place heads as below:

(17) a. We jumped [$_{\text{PLACE}}$ in the lake]. (locational)
b. We jumped [$_{\text{PATH}}$ in(to) [$_{\text{PLACE}}$ *t* the lake]]. (motional)

(18) Swedish[5]
a. hoppa [$_{\text{PLACE}}$ i [$_{\text{DP}}$ vattnet]] (locational)
jump in water-the
b. hoppa [$_{\text{PATH}}$ in [$_{\text{PLACE}}$ i [$_{\text{DP}}$ vattnet]]] (motional)
jump into in water-the
((17)-(18): Svenonius 2003: 347)

It seems that his analysis correctly deals with the data in English and Swedish. However, there are some problems as to how the syntactic case is licensed on the complement of the PP and directional VP. Consider the examples in (12) again, repeated here as (19):

(19) a. Omnēs viae Rōmam ducunt. (Latin)
all roads-NOM Rome-ACC lead
'All roads lead to Rome.'
b. Wǒ qù/lái Běijīng. (Mandarin)
I go/come Beijing
'I go/come to Beijing.'

The complement DP is assigned Accusative case and encodes directionality by itself. In the previous section, I mentioned what an important role the Accusative directional DPs play. The Accusative case implies directionality and can be employed in some languages used in Asia. Thus, the Accusative DPs surely take place in the complement position according to the analysis by Svenonius:

(20) [$_{\text{PATH}}$ ø [$_{\text{PLACE}}$ ø [$_{\text{DP}}$ Rōmam / Běijīng]]]

Then how can Accusative case on the goal DPs be licensed? One possible answer is that the covert Path head would value the Accusative. This answer is not acceptable since no covert element can act on any overt syntactic operation. Moreover, the

[5] According to Svenonius (2003), Swedish also disambiguates the locational and motional ones with a stress accent on the preposition, e.g. *i* in the example in (18). But this is beyond the scope of this paper.

reason of the covert (or *empty*, or *null*) head is lacking. Svenonius notes that if no element exists in the head position of Path, then it attracts the P from the head position of Place. So, in the structure in (20), a covert element moves covertly to the covert position. This clearly violates one of the Minimalist spirits that there can be no unmotivated representation in the syntactic structure.

Folli and Ramchand (2004) and Svenonius (2004a) posit a structure slightly similar to that of Svenonius (2003). They assume a result head R, and as they put it, the head encodes 'telos' of the event. Since they want to capture similarity between the resultative construction and the goal-of-motion construction, the structures they propose are alike:

(21) a. $[_{vP}\ v\ [_{VP}\ V\ [_{RP}\ R\ XP]]]$ (resultative)
b. $[_{PP}\ P\ [_{RpP}\ Rp\ DP]]$ (goal of motion)

The Rp head in (21b) is for the final location, or 'place,' as was mentioned in the previous section. These structures explain the examples below (note that the P label stands for Path, not Preposition):

(22) a. John broke the stick in pieces.
b. into the store
(23) a. $[_{vP}$ John break $[_{VP}$ the stick break $[_{RP}$ the stick (broken) $[_{XP}$ in pieces]]]] (resultatives)
b. $[_{PP}$ to $[_{RpP}$ in $[_{DP}$ the store]]] (goal of motion)

PP and RpP in Folli and Ramchand (2004) and Svenonius (2004a) correspond to PathP and PlaceP in Svenonius (2003) respectively. Thus, they are only different in the labels used.

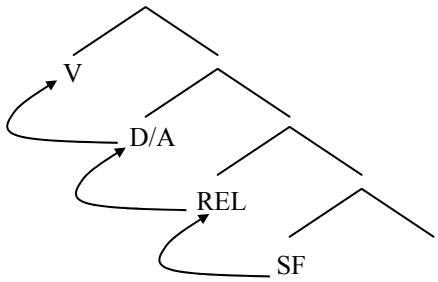
The latter analysis could face the same wall as to how Accusative case is licensed on the Complement DP, especially those examples in (12) or (19). Other than that, no major problem is found on both analyses by Svenonius (2003/2004a) and Folli and Ramchand (2004).

4.2 Klipple (1997)

Klipple (1997) works within the modular theory of grammar, which has three levels of grammar: syntax (LF), Morphological Form (MF), and Lexical Conceptual Structure (LCS) (Klipple 1997: 74). She is a lexicalist and puts more emphasis on lexical items. Lexicalists generally decompose the syntactic lexical categories and lexical items into smaller representations (LCS). She claims, in addition to it, that functional categories can have an LCS representation.

She argues that the category preposition corresponds to three conceptual categories in English: spatial functor (SF), (locative) relation (REL), and direction/aspect (D/A). These three categories are arranged in the following hierarchy:

(24)



SF is [+N] since "when it occurs alone it has a nominal interpretation" (Klipple 1997: 90); examples can be from Mandarin Chinese and Japanese:

(25) a. zài zhuōzi shàng (Mandarin Chinese ; ibid.:78)
AT table ONK
'on the table'

b. hashi -no -shita (-ni) (Japanese)
bridge -GEN -under (-at)
'under the bridge'

Chinese *shàng* and Japanese *shita* can be regarded as SF, because they appear alone as a nominal expression. English *on*/*under* etc. can be used as SF alone, in which case it can be the subject of a clause. In these examples, *zài* and *ni* are used as REL. The other category D/A is exemplified with English particles such as *up*, *away*, and *down* (ibid.:82).

Ambiguous prepositions are realized by "conflating" three immediate categories into one. Take *under* in the clauses like "the bottle floated under the bridge" for example. SF first moves to REL, and in turn REL-SF goes up to D/A to form D/A-REL-SF. It is ambiguous because it involves (D/A-)REL (e.g. *at*, *with*; *down*, *up*), on the one hand, and involves (D/A-)REL-SF (e.g. *into*, *onto*), on the other.

The potential problem to her analysis and also lexicalist ones in general is that the decompositions of items and categories are not well motivated; they are just a description of the facts. If one linguistic phenomenon is dealt with by both lexicalists and syntacticians and their analyses both seem to be on the right track, then it should be necessary to explain which is better and more adequate than the other. Now Klipple lacks this point, although the data she provides are quite useful to our studies.

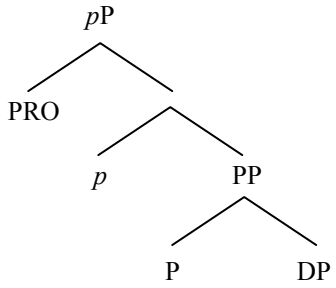
5 An Alternative Analysis

5.1 Proposal

As was mentioned in section 3, the directed-motion PPs must have an additional

functional projection above the substantive category P. This view is closely associated with the VP shell analysis proposed by Larson (1988) and Chomsky (1995), the AP-shell analysis proposed by Bennis (2004) and Hicks (2004); of course, I am not the first to assume the PP-shell analysis: see Matsubara (2000), Svenonius (2004b:222), among others; however, their attention is paid to different topics and so it is definitely meaningful for me to assume the PP-shell analysis over the ambiguous prepositions. To make my proposal secure, I give the tree diagram of the PP shell applied to the directed-motion prepositions.

(26)



For this structure, there are some assumptions. First, the little *p* has an interpretable feature [+dir(ectional)] in it and has some telicity specifications; this assumption is supported by the arguments set out above in section 3. The ambiguous preposition denotes the goal of motion independently of the matrix verb and the preposition itself is also locational, which is naturally accounted for by assuming the additional "directional" projection above the substantive P. Moreover, the concerned preposition induces telicity of the clauses it takes part in. Since neither the matrix verbs nor the prepositions themselves are inherently telic, it follows that the added projection *p* bears telicity-inducing feature, and it is now done by the feature [+dir] when I assume that the relevant feature has a telic nature. These properties of p and v are discussed in more detail in 5.2 and 5.3.

The second assumption concerns the grammatical cases of the complement DPs. Noted above is the fact that the PP is interpreted as locational iff the complement DPs bear oblique case such as dative, locative, ablative, etc., while interpreted as motional iff the DPs bear Accusative. This fact is realized on the structure proposed in (26) as follows. Following Woolford (2006), I assume that lexical cases are licensed by a proper lexical category and inherent cases by a proper small functional one, both of which are naturally related to a specific θ-role. And I have already assumed that the oblique cases are lexical and the Accusative case is inherent; there must be a distinctive difference as to how they are licensed: the lexical oblique cases are only licensed by P while the inherent Accusative case is licensed by *p*. The latter licensing is quite similar to the inherent-Accusative checking by *v* for examples in (12):

(27) a. $[_{PP}\ P\ [_{DP}\ ]\text{-obl}\ ]$ (licensing of oblique cases)

b. $[_{pP}\ p\ [_{PP}\ P\ [_{DP}\ ]\text{-acc}\ ]]$ (licensing of inherent Accusative by *p*)

c. $[_{vP}\, v\, [_{VP}\, V\, [_{DP}\,]$-acc $]]$ (licensing of inherent Accusative *v*)

As for Indo-European languages, including the Latin cases, this analysis has an interesting consequence: ancient languages have a rich morphological system on cases; cases on nominals or nominal phrases indicate a specific grammatical function, an example of which is the inherent Accusative case; things may be reduced to a simpler form; language is not an exception; nominals gradually lose their rich morphology and need support from a proper preposition. The supporting prepositions must be an Accusative governer since they take over the grammatical function from (inherent-)Accusative-governing verbs.

Within the generative framework, this account can be rewritten as follows: *v* has once been a inherent-Accusative licenser on the complement DP. A rich inflection on the DPs is a reflection of a directed-motion reading as a grammatical functions. With the loss of rich inflection on DPs, the grammatical functions must call for "support" to go on, since otherwise they do not survive in the grammar of a certain language and hence an essential lack in functions of syntax. On this stage of grammar appears a preposition. This preposition serves as an inherent-case assigner to the PP-complement DPs. Here we can see how and why the split PPs are derived historically from the split VPs in Indo-European languages.

The third assumption is the existence of PRO in the goal-of-motion PPs. There is an argument for this assumption: the complex eventuality. Following the Standard Theoretic view of PRO, the control construction is strictly divided from the raising construction by the PRO. This special pronoun follows from the complex eventuality of the construction. A more detailed account will be developed in 5.4.

5.2 The Properties of Verbs

Verbs that participate in the locational-directional ambiguity can arguably be considered to lack directionality, an exception being the directional unaccusative verbs. The directionality lacking verbs take part in a directional clause; its directionality must be induced by other elements than verbs: a functional projection *p* denoting directionality, as mentioned in the previous subsection. In this subsection, I will argue that the verbs which participate in this construction can be classified into three groups: directional-telic (e.g. *arrive*), directional-atelic (e.g. *go*), and non-directional (e.g. *float*, *run*, *walk*) ones.

(28) Classification of verbs (used in the ambiguous preposition construction):

verbs	directional	telic	e.g. *arrive*
		atelic	e.g. *go*
	non-directional	(atelic)	e.g. *float*, *run*, *walk*

The verbs can be classified as directional and non-directional. To see how this works, let's take an adverb *there*. This adverb is arguably locational in nature, since *there* itself is compatible with stative predicates like *be* (29a-b), and *be* cannot take a directional phrase as its complement (29c-d). As in examples in (30), there is a distinct contrast between some encoding a directional interpretation and others encoding a locational one.

(29) a. He is there. (locational)
b. They were happy there at the party. (locational)
c. *He is to the station.
d. *They were into the party.

(30) a. Mary arrived there. (directional)
b. John went there. (directional)
c. The bottle floated there. (locational)
d. They ran there. (locational)

The directional examples in (30a-b) must be accounted for by the directionality of the verbs themselves. Given that the adverb *there* is non-directional and that the entire clause is nonetheless directional, then it follows that the verbs encode directionality. Then a question may arise exactly which encodes the directional interpretation, *v* or V. I propose that it should be *v* that works for encoding of the directionality with the help of the examples below ((31)-(32) are taken from BNC; my emphases):

(31) a. … and they were all infected in the year before arrival to Israel
b. … to encourage people from their point of arrival to their destination.

(32) a. … and its ribs heaved a little still with the exertion of its arrival into this strange new world.
b. … Coleridge's headlong arrival into the lives of William and Dorothy Wordsworth remained for them all a charged and exhilarating memory.

(33) a. *They arrived to Israel.
b. *He arrived into this strange new world.

What these examples show is that the verb *arrive* does not allow directional prepositions such as *to*, *into*, etc. while its nominal counterpart *arrival* does allow them. If I follow Marantz (1997) again in that the syntactic category of a lexical item is determined by the merger of a small functional category. It then follows that the cognate words *arrive* and *arrival* share the same "root," something like √ARRIVE. The root √ARRIVE is converted into a verbal or a nominal counterpart with a functional category *v* or *n* respectively.

(34) a. arrive : [$_{vP}$ [$_{v}$ √ARRIVE-ø] [$_{\sqrt{P}}$ ~~√ARRIVE~~]]

b. arrival : [$_{nP}$ [$_{n}$ √ARRIVE-al] [$_{\sqrt{P}}$ ~~√ARRIVE~~]]

If I assumed that the root √ARRIVE were directional, I would have to admit that its nominal counterpart *arrival* were also directional, contra the facts seen in (30)-(33). So I assume that the verbal projection *v* contains the directional sense.

Nevertheless, I need to discuss the status of this verbal category further. If *v* encodes directionality and this encoding rules out the merger of a directional preposition, then how should the examples below be accounted for?

(35) a. I went to school.
b. She went into the station.
c. *John went at the room.
(intended: John left for a room and as a result he was there)

The verb *go* is assumed above to encode directionality. If it is the case, the prediction should be that examples as in (35a-b) are not accepted and an example like (35c) is only permitted. To solve this problem, I propose a further classification of directionality: a strong and weak directionality (this strength will be identified with telicity below). Under this analysis, *go* can be a weak-directionality verb which is compatible with a directional preposition like *to* or *into* whereas *arrive* must be of a strong directionality, not compatible with another addition of directionality.

Verbs of non-directionality can arguably go with the prepositions encoding directionality such as *to*, *into*, *under*, *behind*, etc. This is a natural consequence that follows from the directionality analysis (*under* and *behind* are intended to refer to the goal of motion denoted by the matrix verbs).

(36) a. The bottle floated {to a shore / into the cave / under the bridge / behind the rock}.
b. The man ran {(in)to the station / under the gate / behind the wall}.

5.3 Telicity and Directionality

In the previous subsection I argued that some verbs which participate in the ambiguous preposition construction are inherently directional. I went on to argue that the directionality can be divided into two major classes: “strong” and “weak”. Weak directionality and non-directionality verbs can take another directional element in their complement; only the strong one cannot. In this subsection I will argue that this strongness analysis can be replaced by the telicity analysis. To be more precise, telic verbs cannot take another goal-of-motion expression while atelics can.

Consider the telicity of the verbs listed in the example in (30) above. As was mentioned in section 3, telicity can be detected by the addition of time adverbials like “in/for XX hours.”

(37) a. John arrived {in an hour/ *for an hour}. (telic)
b. John went {for an hour/ *in an hour}. (atelic)

c. The bottle floated {for an hour/ *in an hour}. (atelic)
d. John ran {for an hour/ *in an hour}. (atelic)

What these examples indicate is that only the strong verbs like *arrive* are inherently telic and others are all atelic in nature. The statement that "telicity allows no addition of more telicity" can replace the previous summary that "strong directionality permits no more addition of directionality." And as is well known, the telicity constraint is the very conclusion which Tenny (1994) already reached more than 10 years ago.

(38) *Aspectual Interface Hypothesis*

> The universal principles of mapping between thematic structure and syntactic argument structure are governed by aspectual properties relating to measuring-out. Constraints on the aspectual properties associated with direct internal arguments, indirect internal arguments, and external arguments in syntactic structure constrains the kinds of event participants that can occupy these positions. Only the aspectual part of thematic structure is visible to the syntax. (Tenny 1994: 2)

Now, following her, I analyze the telicity of these verbs with addition of "telicizing" prepositional phrases, that is, the goal-of-motion PPs (cf. (16)).

(39) a. *John arrived (in)to the station {in an hour/ for an hour}. (telic+telic)
b. John went (in)to the station {in an hour/ *for an hour}. (telic)
c. The bottle floated (in)to the cave {in an hour/ *for an hour}. (telic)
d. John ran (in)to the station {in an hour/ *for an hour}. (telic)

These examples can mean that the goal-of-motion PPs are properly "telicizing" atelic predicates, except for the example in (39) in that the "telicizer" can no more "telicize" an already telic predicate. So it is now plausible to assume that the goal-of-motion PPs and strong directionality verbs like *arrive* are both telic in character. The following table clearly shows former strong/weak distinctions with binary features: [±dir(ectional)] and [±tel(ic)].

(40)

	[+tel]	[-tel]
[+dir]	Directional, strong (e.g. *arrive*) [+*t*-dir]	Directional, weak (e.g. *go*) [+*a*-dir]
[-dir]	not discussed in this paper	Non-directional (e.g. *float*, *run*)

5.4 PRO and the Head Movement of P to p

My proposal in 5.1 has assumed PRO in Spec, *p*. Under the Minimalist Program, no element assumedly can survive without a proper evidence or reason. Thus, I now have to reason why PRO exists and why the implicit pronoun needs to exist in the syntax. The evidence comes, as I have mentioned in the last part of 5.1, from the complex eventuality.

What is crucial to my argument is that the ambiguous preposition construction can be paraphrased by means of a "resultative" infinitive clause. Consider some examples:

(41) a. The bottle floated under the bridge.
b. The boy ran into the station.
c. The girls went to the ground.

(42) a. The bottle floated to be under the bridge.
b. The boy ran to be in the station.
c. The girls went to be at the ground.

Following the consensus in the generative framework, the *to*-infinitive clauses have an independent pronominal subject identified with PRO. If this is the case, then the "resultative" clauses in the examples in (42) can be represented as follows:

(43) a. [$_{vP}$ float-*v* [$_{VP}$ the bottle ~~float~~ [$_{TP}$ PRO T [$_{VP}$ be [$_{PP}$ under the bridge]]]]]
b. [$_{vP}$ the boy run-*v* [$_{VP}$ ~~run~~ [$_{TP}$ PRO T [$_{VP}$ be [$_{PP}$ in the station]]]]]
c. [$_{vP}$ go-*v* [$_{VP}$ the girls ~~go~~ [$_{TP}$ PRO T [$_{VP}$ be [$_{PP}$ at the ground]]]]]

Given the parallelism between the goal-of-motion *p*Ps and the "resultative" TPs, I have no alternative analysis but to regard them as a subevent of the matrix clauses. Moreover, no truly motional prepositions such as *into*, *to*, *onto* take place in the PP projection in TPs for both the examples.

(44) a. *The bottle floated to be into the cave.
b. *The boy ran to be to the station.
c. *The girls went to be onto the ground.

This fact supports the claim which I (and some previous studies as well) propose that a locational P occurs in the head position of the PP, whereafter the P head-moves to an immediately upper head position *p*. It is quite well known that the little *v* moves upward to V in order to obtain the correct word-order; a similar analysis may go to the little *p*, since the concerned functional category moves head-to-head up to P with a different reason: motionalization; every preposition base-generates as a locational one and they can be motional in character if they are attracted by goal-of-motion *p*.

(45) a. $[_{vP}\ v\text{-V}\ [_{VP}\ \text{~~V~~}\ [\ldots]\ ]]$

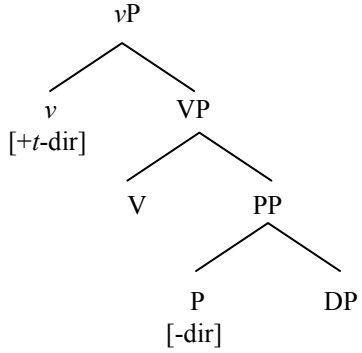
b. $[_{pP}\ p\text{-P}\ [_{PP}\ \text{~~P~~}\ [\ldots]\ ]]$ (PRO omitted)

In this subsection, I have discussed the *raison d'être* of PRO and the motivation of head-movement of P to *p*.

5.5 Section Summary

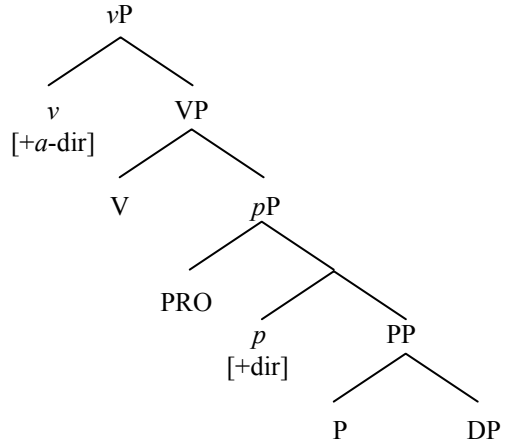
My proposal can be diagrammed below. Telic-directional verbs are directional only on the small *v*. Moreover, the directionality on *v* is, or must be, telic in aspectual nature. Following Tenny (1994:2), no more telic elements can be added to an already telic expression (Given the directionality on the *p* is telic):

(46) Telic-directional verbs



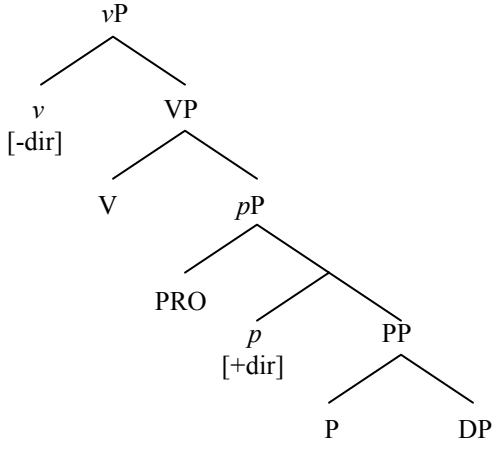
Atelic-directional verbs are directional on the small *v*, and can also allow another addition of directional PPs (which are telic). These two directional syntactic objects do not conflict with each other for the aspectual sake, since they are telic for one (*p*) and atelic for the other (*v*). PRO exists in spec-*p* to indicate that the PPs of ambiguous interpretations involve a complex eventuality:

(47) Atelic-directional verbs



Non-directional verbs encode no directionality on *v*. It immediately follows that, if it is assured that the directionality on the concerned verbs (mainly including unergative verbs and some of unaccusatives), the telic directional PPs can freely be selected in the complement of V. PRO again exists here in the spec-*p*:

(48) Non-directional verbs (atelic)



6 THEORETICAL CONSEQUENCES

I have argued thus far that the goal-of-motion construction can be analyzed by means of PP-shell structure. This proposal actually has some interesting theoretical consequences. I will develop here just two of them closely related to the construction: auxiliary-selection and resultative construction.

6.1 Auxiliary Selection

Auxiliary selection (henceforth *AS*) shows up only in a restricted range of languages and only when the tense is *perfect*. This phenomenon has been considered to be a dependable diagnosis for unaccusativity. Some of the possible languages are German, Italian, Dutch, and maybe Old Japanese (Washio (1997)), only two languages of which are given below as the examples since it is sufficient to narrow the attention to German and Italian for understanding what is going on in the AS:

(49) German
a. Kurt hat/ *ist den ganzen Tag gearbeitet.
Kurt has/ is the whole day worked
b. Der Zug ist/ *hat spät angekommen.
The train is/ has late arrived

(50) Italian
a. I delegati hanno parlato/ *sono parlati tutto il giorno.
the delegates have talked/ are talked the whole day
b. Paolo è venuto/ *ha venuto all'appuntamento.
Paolo is come/ has come to.the meeting
(Sorace 2004: 256-257)

Unergative verbs *arbeiten* 'work' or *parlare* 'talk' select for their perfect auxiliary the correspondings of *have*. Note that this is also the case with many of the transitive verbs. On the other hand, unaccusative verbs such as *ankommen* 'arrive' and *venire* 'come' select the correspondings of *be* for their auxiliary representing the perfect tense. This phenomenon can be observed, more interestingly now, if unergative verbs are accompanied by a goal-of-motion PP.

(51) German
a. John hat stundenlang auf dem Tisch getanzt.
John has for-hours on the table danced
b. John ist in zwei Sekunden ins Zimmer getanzt.
John is in two seconds into-the room danced
(Randall et al. 2004: 335)

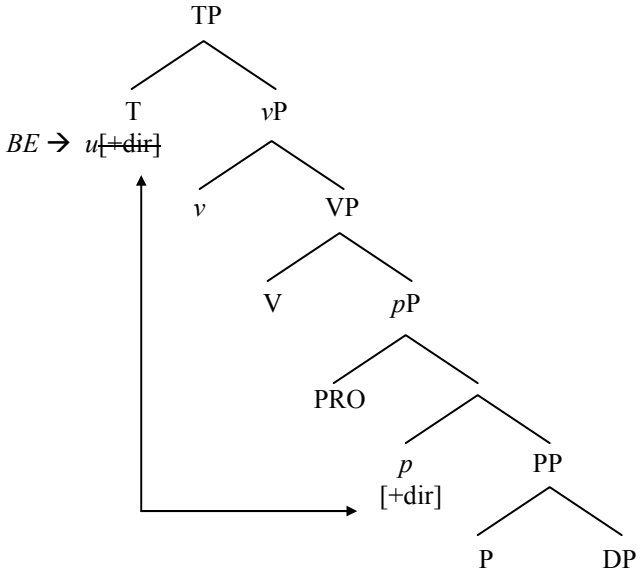
(52) Dutch
a. Jan heeft gelopen.
John has walked
b. Jan is naar Amsterdam gelopen.
John is to Amsterdam walked
(Lieber and Baayen 1997: 807-808)

After considering such examples, who could say the changes of auxiliary in the perfect tense are dependent on the properties of the verbs themselves? Lexicalists would claim that the addition of prepositions of directed motion gives rise to some modification on the lexical information; but I claim, on the contrary, that the auxiliary selection is a reflection of the "syntactic unaccusativity," for if it were a lexical matter,

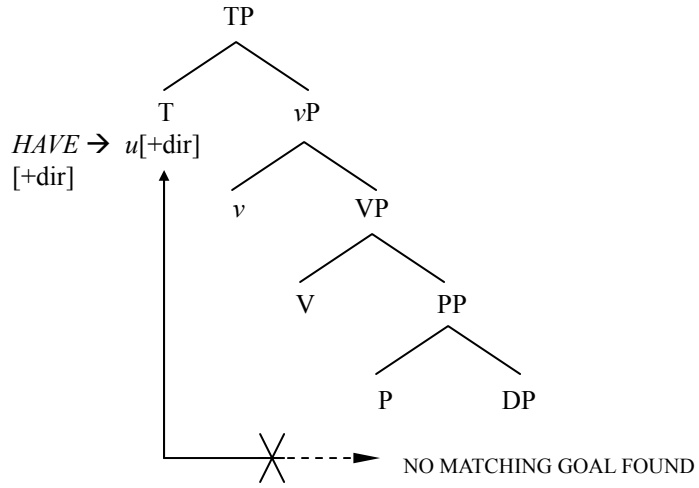
the lexicon would contain a vast quantity of lexical items. Given the Minimalist Program that requires that the knowledge which children acquire and the syntactic computation which covertly connects phonetic and semantic information be as simple as possible, an explosional increase of lexical information can be a heavy burden on children.

My proposal is then that the lexical items that participate in the locational-motional ambiguity never undergo a change of their lexical information a bit. What is crucial to the AS is the properties of the tensed T; it enters into the syntactic derivation with the uninterpretable [+dir]; since it is uninterpretable at LF, it needs some "checker" to delete it; if it finds one, the feature [+dir] deletes on T (afterward *be* merges) while it finds none, an auxiliary *have* (which I assume has an interpretable [+dir] feature) merges to the T to delete the uninterpretable feature. Consider the example for non-directional verbs already given in this paper above:

(53) a. Non-directional verbs (goal of motion)



b. Non-directional verbs (location)



(53) employs the probe-goal agreement system proposed by Chomsky (already given in (4) above). As is clear from the definition described in (4), Chomsky seems to restrict the scope of (un-)interpretable features to ϕ-features. But my claim is that the (un-)interpretable features which enter into the probe-goal agreement relationship can be extended to the [+dir] features (since otherwise my theory loses its ground).

(54) *Agree* [modified]
- a. Goal as well as probe must be active for Agree to apply.
- b. α must have features to delete uninterpretable features of the paired matching element β.
- c. The paired features that both α and β have may be either [+dir] or a complete set of ϕ-features.

The derivation proceeds to the point where T merges and TP projects; T carries an uninterpretable [+dir] feature (as well as a complete set of ϕ-features to agree with a Nominative subject candidate) which requires another matching interpretable [+dir]. It fortunately finds one on *p*, successfully deletes the uninterpretable [+dir] and undergoes the *be* insertion into T if it is used as the perfect tense.

On the other hand, if there is no matching [+dir] feature to agree with that on T as in (53), a new element is called for as the last resort, namely *have* with an interpretable [+dir]. This item serves to check the uninterpretable [+dir] on T, which deletes, and *have* itself stays there, resisting the insertion of *be*. The rules concerning this phenomenon can be formalized as follows:

(55) *Auxiliary Insertion Rules*
- a. Rule 1: *BE* is inserted into the ~~[+dir]~~.
- b. Rule 2: Unchecked [+dir] calls for *HAVE* with [+dir] (as the "last resort")

Transitive clauses, with some exceptional cases such as German intransitives with Dative objects and French reflexive sentences put aside for now, always select have for their perfect auxiliary, even with a directional PP added. This case is accounted for by means of Phase-Impenetrability Condition (PIC) since the transitive *v** assumedly forms a strong phase into whose domain no syntactic operations can access from outside. The "domain" is by definition the complement c-commanded by the phase head H:

(56) *Phase-Impenetrability Condition*
In phase α with head H, the domain of H is not accessible to operations outside α, only H and its edge are accessible to such operations.
(Chomsky 2000: 108, 2001: 13)

Now consider a German instance:

(57) a. Er hat den Tisch an die Wand geschoben.
he has the desk by [the wall]-ACC pushed
'He pushed the desk to the wall.'
b. $[_{TP}\ T_{[+dir]}\ [_{v*P}\ v^*\ [\ Ph1]]]$, where $Ph1 = [_{VP}\ V\ [_{pP}\ p_{[+dir]}\ [_{PP}\ \ldots\ ]]]$
(linear order irrelevant)

Note that the verb *schieben* 'push' is non-directional in character, so it is not the case that the [+dir] agrees with the matching feature on T to obtain *be*-insertion. Or it might well be needed to say that no transitive verbs encode [+dir] on *v** since it has already been ϕ-complete. This is left open for future research (including the extent of the ϕ-completeness in unergative verbs).

Another point to note is why auxiliary selection is not available for present-day English. If the relevant selection depends on the feature-agreement, on which the insertion of the proper perfect auxiliary is realized, then something may seem to have happened either to the [+dir] features or the insertion rules, or both. However, as was mentioned in section 5, the directionality on the intransitive verbs is still available to present-day English; the responsibility goes to the insertion rules.

(58) a. ac … ic eom hider cumen (Old English)
but … I am hither come
b. * I am come home (Present-day English)

The power of the perfect BE may have been weakened probably by the effect of Norman French. The perfect BE is now not ready in the lexicon of a standard use of contemporary English. This can account for the loss of perfective auxiliary selection in present-day English.

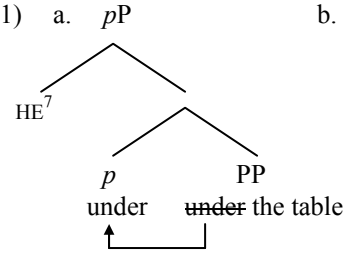
6.2 Prepositional Resultative Construction

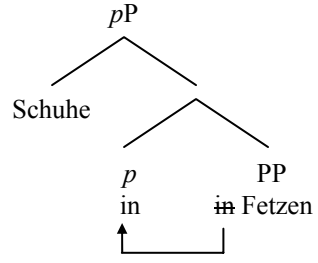
Another theoretical consequence that follows from the analysis given in this paper is a proper account of the structures of the prepositional resultative constructions and their syntactic derivations. The prepositional resultative constructions involve examples given below:[6]

(59) a. She drank him under the table. (Boas 2003: 7)
b. Terry swept the leaves into a pile.
(Rappaport Hovav and Levin 1998: 98)

(60) German
a. Sie tanzte ihre Schuhe in Fetzen.
she danced her shoes in scrap-ACC
b. Sie schlug die Vase in Stücke.
she broke (by hitting) the vase in pieces-ACC
(Rapp 1997: 97)

6.2.1 Unergatives I start my analysis with the resultative constructions formed with intransitive (unergative) verbs in (59) and (60). These can be subsumed in the ambiguous preposition constructions because the resultative phrase is clearly prepositional and the complement nominals of the prepositions are assigned Accusative case. So the possible structures are the ones below:

(61) a. 

b. 

What is crucial in these structures is that (i) the resultant takes place in spec-p and (ii) there is a change-of-state relationship between the element in spec-*p* and that in *p*-complement. For (i), it seems sufficient to note that the relevant elements like HE in (61a) and *(ihre) Schuhe* in (61b) are not the object subcategorized for by the matrix verb. This is assured when the result phrase is taken away: *She drank him / *Sie tanzte ihre Schuhe. And this is probably why some previous studies such as Hoekstra

[6] More varieties of preposition can be included in the resultative phrase such as *out of* and *to*. Since this paper argues that the "ambiguous" prepositions like *in*/*into* can be dealt with by means of the split PP structures, other prepositions are deliberately omitted. Nevertheless, that does not mean that my theory can offer no explanation for the *out-of* type of resultatives (e.g. They laughed the boy *out of* the room); the mechanisms seem to be shared by both types of preposition and future research will reveal it.

[7] The small capital font indicates that HE is neutral with regard to the syntactic cases such as Nominative, Accusative, etc. It should be neutral here because the case is determined in the later step of the derivation.

(1988) assumed a small-clause structure for the resultative constructions. However, the small-clause structure is not so highly motivated with regard to syntactic categories. There is no head in the "true" small clause. Later, Bowers (1993/2002) posits a rather different small clause headed crucially by the Pr(edication). With this new structure, he proposes that the resultative constructions involve the PrP structure in their verbal complement position. Folli and Ramchand (2004) take over Bowers' proposal in a quite different look: the traditional small clause is replaced by R(esult) Phrase [RP] which encodes the 'telos' of the whole complex event (see 4.1 for more detailed review).

For (ii), what matters is that the *p*P represents the subevent of the whole event represented by the TP. Thus, the PP in the complement of the head *p* is predicated of the subeventual subject in spec-*p* in the change-of-the-state relationship. This relation is encoded by the small functional category *p* that heads the resultative phrase.

These two properties (i) and (ii) are closely related to the definition of the resultative construction (or maybe its subclass which involves both prepositional resultative phrase and unergative matrix predicate). The formulation goes as follows for unergative resultative construction:

(62) Directional *p*P may be selected by unergative Vs

Let us now turn to the syntactic case assigned to the object in spec-*p*. As the examples in (61) indicate, the syntactic case assigned to the object of the result is (structural) Accusative. This is made clear if the objects undergo passivization. This passivizing operation is considered to involve a structural change and so the case on the object is altered from Accusative to Nominative when it gets to the subject position.

(63) a. He was drunk under the table (by her).
b. Ihre Schuhe wurde (von ihr) in Fetzen getanzt.
her shoes-NOM were (by her) in scrap-ACC danced

As it is available that the active-clause objects in (59) and (60) move to the subject position to be assigned Nominative in (63), the Accusative on the former objects in the active clauses must be structural. So the licensing of the case has to be made in the same way transitive the Accusative is licensed, a possibility being dependent on the probe-goal theory of agreement in (4).

The objects in spec-*p* move to spec-V (if the clause is resultative). Addition of intensifiers like *right* or *straight* makes it clear that the movement does take place here. This fact tells us that every resultative object at least moves from spec-*p* to spec-V, since the intensifier is said to adjoin basically to PPs (*p*Ps here) and to VPs.

(64) a. She drank him right under the table.
b. *She drank right him under the table.

The moved element acquires a status as an argument of the matrix V; it can move on to the subject position (spec-T) if passivized (or it may be the case that the moved element stops by at spec-*v** to avoid PIC in (56)).

(65) [$_{TP}$ he T [$_{v*P}$ [$_{v*}$ drink-*en*] [$_{VP}$ HE ~~V~~ [$_{pP}$ HE under the table]]]]

6.2.2 Transitives Above is my analysis accounting for the unergative prepositional resultative construction. now let us turn to the transitive resultative construction. There is a crucial difference between unergative and transitive resultative constructions: the base-generation of the objects. While objects occur in spec-*p* for unergative resultatives, they take place in spec-V as an argument of the matrix verbs for transitive resultatives. In spec-*p* appears PRO coindexed with the direct-object antecedent in spec-V.

(66) [$_{v*P}$ *v** [$_{VP}$ Obj$_i$ V [$_{pP}$ PRO$_i$ *p* [PP …]]]]

Thus the transitive resultative construction appears similar to the directed-motion prepositional construction. See 5.3 for the detailed derivation.

(67) a. [$_{vP}$ *v*-float [$_{VP}$ the bottle ~~V~~ [$_{pP}$ PRO *p*-under [$_{PP}$ ~~P~~ the bridge]]]]
b. [$_{v*P}$ Terry *v**-sweep [$_{VP}$ the leaves$_i$ ~~V~~ [$_{pP}$ PRO$_i$ in-to [$_{PP}$ ~~P~~ a pile]]]]

6.2.3 Japanese My proposal thus far consistently deals with the "availability" of the ambiguous prepositions, which can be analyzed by means of split PP. Here, I make a brief suggestion as to why Japanese do not allow the ambiguous prepositional construction and unergative (and some transitive) resultative construction, exemplified below:

(68) Resultatives in Japanese
a. *Taro-ga Jiro-o teeburu-no-shita-ni inshu-shita.
Taro-NOM Jiro-ACC table-GEN-under-NI drink-PAST
'Taro drank Jiro under the table.'
b. *Hanako-ga ochiba-o yama-ni haita.
Hanako-NOM leaves-ACC pile-NI sweep-PAST
'Hanako swept the leaves into a pile.'

I suggest that the Japanese prepositions are in most cases non-directional (telic, strictly speaking). This non-directionality is in fact reflected in the unavailability of prepositional resultative constructions in Japanese. Consider some examples concerning the preposition *ni* 'in/at'.

(69) a. Taro-ga gakkoo-ni iru.
Taro-NOM school-*NI* is
'Taro is in school.'
b. Taro-ga gakkoo-ni iku.
Taro-NOM school-*NI* go
'Taro goes to school.'

These examples can *prima facie* be a counter-example to my suggestion, since *ni* (glossed tentatively as *NI*) in (69a) obviously corresponds to English *in* whereas that in (69b) to English *to*, but a more closer examination is needed here. The apparently directional *ni* in (69b) is just "helped" by the directional verb *iku* 'go.' This helpee-status of *ni* is assured by the following examples, where a non-directional verb *hataraku* 'work' does not license the preposition *ni* as directional without any support of directionality:

(70) a. *Hanako-ga Tokyo-ni hataraku.[8] (int: H goes to T to work)
Hanako-NOM Tokyo-*NI* work
b. Hanako-ga Tokyo-ni hataraki-ni-iku.
Hanako-NOM Tokyo-*NI* work-to-go
'Hanako goes to work in Tokyo.'

These examples lead to the conclusion that Japanese preposition *ni* does not occur in *p* head in *p*P which is inherently directional. Thus *ni* is not compatible with the resultative constructions discussed above.

Another possibility is a preposition *e*. This preposition is non-locative in nature as the examples below point out:

(71) a. *Taro-ga gakkoo-e iru.
Taro-NOM school-*E* is
b. *Taro-ga Tokyo-e hataraku.
Taro-NOM Tokyo-*E* work
c. Taro-ga gakkoo-e iku.
Taro-NOM school-*E* go
'Taro leaves for school.'
d. Taro-ga Tokyo-e hataraki-ni-iku.
Taro-NOM Tokyo-*E* work-to-go
'Taro leaves for Tokyo to work.'

As glossed, the preposition *e* 'for' is directional but atelic. This characteristic is supported by the following facts:

(72) a. eakon-wo 28°C-{ni/*e} settei-suru
air.conditioner-ACC 28°C-*NI*/*E* setting-make
'set the air conditioner to 28°C'
b. ikisaki-o Osaka-{ni/*e} kimeru
destination-ACC Osaka-*NI*/*E* decide
'decide on Osaka for the destination'

Clearly the verbs *settei-suru* and *kimeru* are achievemental and involve the resulting state. The unavailability of *e* is simply accounted for by its atelic "half-way" nature. As I mentioned in 5.1, the *p* head is inherently telic and thus compatible with the

[8] This example is possible if interpreted as truly locative, but it sounds a little old-fashioned.

resultative constructions. Now that we see Japanese prepositions generally lack *p*P projection, it is easily explained why the resultative constructions, which actually involve *p*P, are not possible in Japanese: this language permits no *p*Ps to occur.

7 Conclusion

This paper has offered a cross-linguistic view of ambiguous prepositional constructions and a cross-constructional account regarding split PP structures, my major proposal.

I outlined the prepositions in general from the viewpoint of syntax in section 2. Contrary to the fact that prepositions have been dealt with by a simple syntactic structure, there is a strong need to posit a more complex structure: one instance is the PP-subject/object and another is the directionality containing PPs. I put more emphasis on the latter. In section 3, I introduced the core properties of ambiguous prepositions. The construction where the relevant prepositions take part has many problems, to which much more proposals have been submitted, but not yet solved completely. Thus I proposed a new syntactic analysis, from which various consequences can follow. These consequences were discussed in section 6.

Since the topic I have discussed thus far is highly lexical in that the ambiguity seen in the interpretation depends on word-internal properties, many lexicalists have been studied on the ambiguity puzzle by means of lexically decomposed representation. Nevertheless I do not follow them. I made a syntactic explanation.

The Minimalist Program aims at the goal that reduces the complexity of lexical information and obtains a simpler syntax. The lexicalist analyses go against this view. They do not so much (or never) consider that derivational economy.

My account of the ambiguous prepositions puts more emphasis on syntax than lexical information and seems to work quite well. Moreover, my account can also extend to other relevant constructions. Thus, it must be meaningful to the generative theory.

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