

Case Movement in PPs

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Abstract

In this paper, I outline the Peeling theory of Case (Starke 2005) and apply it to Case phenomena in adpositional phrases. The Peeling theory says that DPs are base generated with a number of Case related functional projections on top of them, and when they move to the left, they strand some of these projections in situ. To test this theory and the specific predictions it makes, I look at phenomena where a single adposition allows its complement to surface in various Cases and phenomena where a single adposition allows for its complement to either precede or follow. In each case that we will look at, we will be interested in what semantic factors govern such alternations and in what way the DP helps bring about the contrast.

1. Introduction: The Peeling theory of Case

The Peeling theory of Case has two ingredients. The first ingredient builds on the general assumption that binary syntactic structure is composed of large number of primitives (features) that appear in a hierarchy predestined by UG, called the functional sequence (*fseq*; see e.g., Cinque 1999, Starke 2004). Specifically, we can think of each DP as dominated by a number of Case-related functional projections that come in a particular universal hierarchy. Let me illustrate with an example that exploits a parallel between spatial adpositions and Case.

In the domain of PPs, it has been often observed (see e.g., van Riemsdijk and Huybregts 2002) that a morpheme expressing directionality (e.g., *from* in English) can co-occur with a morpheme expressing location (e.g., *behind*), yielding (1). The ordering of the morphemes corresponds to the way semantic composition works; that is we first construct the space which is behind the bear, and then add a trajectory which starts in that particular region and ends outside of this region. This may be encoded by proposing a syntactico-semantic hierarchy of Path and Place, sketched in (2):

(1) from behind the bear

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When we look at benefactives in (5a) and (5b), we observe allomorphy between *mo´o* and *ma´a*, where the difference between the *o* version and the *a* version tracks the same alienable/inalienable distinction as the possessor marking:

- (5) *Allomorphy of the benefactive marker*
- a. Na´a nau langa´a e fale mo´o Siale.
 PAST 3PL.INIT *build* ABS DEF *house* BEN.INAL *Siale*
 ‘They built a house for Siale’ (Tongan, Asbury 2006:ex. 36a)
- b. Na´a nau tanaki´a e pa´nga ma´a Siale.
 PAST 3PL.INIT *collect* ABS DEF *money* BEN.AL *Siale*
 ‘They collected some money for Siale’
 (Tongan, Asbury 2006:ex. 36b)

As Asbury proposes, this may be explained if benefactives are built on top of possessives by attaching a preposition; we can take the preposition to be a *mV*, where the final *V* harmonizes with the following vowel. Drawing a parallel to the spatial domain, such observations concerning word order go hand in hand with a possible semantic composition, where possession of a house or money is construed as a state (possibly even some type of location), which the “building” in (5a) or “collecting” in (5b) leads to:⁴

- (6) *The hierarchy of Possessive and Benefactive*: [Ben [Poss [N]]]

Looking beyond Tongan, one can also find languages where these markers are suffixed to the noun in the reverse order. In Czech, for instance, the plural marker for possessors has three major allomorphs, two of which are shown below: *-ů* (for masculines) shown in (7a) and *-í* (for a subset of feminine and neuter nouns) shown in (7b).

- (7) *Czech genitive*
- a. dům m-ých syn-ů
house my-PL.GEN son-PL.GEN
 ‘the house of my sons’ (Czech)
- b. dům m-ých kolegyn-í
house my-PL.GEN colleague-PL.GEN
 ‘the house of my (female) colleagues’ (Czech)

The dative, which can be used in Czech to express benefactives, is built on top of the genitive by suffixing *-m* to the genitive marker:

⁴That the dative case contains the genitive has been argued for by Asbury (2006), Medová (to appear), Medová and Taraldsen (to appear), and Jayaseelan (2007). Each of these analyses takes a slightly different path to the claim, and they also differ from the one taken here.

- (8) *Czech dative*
- a. Petr postavil dům m-ým syn-ů-m.
Peter built house my-PL.DAT son-PL.GEN-DAT
 ‘Petr built a house for my sons’ (Czech)
- b. Petr postavil dům m-ým kolegyn-í-m.
Peter built house my-PL.DAT colleague-PL.GEN-DAT
 ‘Peter built a house for my (female) colleagues’ (Czech)

These facts can be understood in terms of the hierarchy given above in (6), assuming that the noun has moved to the left of the possessive marker, and this constituent has further moved to the left of the benefactive marker. Such observations suggest that what is usually thought of as a syntactically indivisible unit, the dative Case, is built from smaller pieces, which are ordered in a universal syntactic/semantic hierarchy.

Bringing these considerations one step further, the hypothesis to be investigated is that each Case is a unique syntactic structure, where one Case (e.g., genitive) can be understood to be a structural subset of another (e.g., dative). A simple version of a proposal along these lines is depicted in (9a)–(9d), where I have added the structural Cases. A number of researchers have come to the same or similar conclusion; among those who have not been mentioned so far, see e.g., Bittner and Hale (1996) and Bayer et al. (2001).⁵

- (9)
- | | | |
|----|------------|---|
| a. | nominative | [DP] |
| b. | accusative | [K ₁ [DP]] |
| c. | genitive | [K ₂ [K ₁ [DP]]] |
| d. | dative | [K ₃ [K ₂ [K ₁ [DP]]]]] |

The second ingredient of the Peeling theory are specific assumptions concerning the way dPs merge with the predicate and the way they move.⁶ In particular, dPs are assumed to be born as obliques (precisely which Case they come in depends on where in the structure they are introduced). That means that when a dP is merged into the tree, it is dominated by a number of Case projections.

When the dP moves, it always leaves (strands) at least the highest Case projection in situ, and consequently gets structurally “smaller.” Starke (2005) calls such a movement Peeling. When Peeling occurs, the Case of the dP can change, since Case, by assumption, is a spell out of the functional projections that are impoverished by Peeling.

⁵It is conceivable that nominative is not a bare DP, but that it is characterized by a presence of a particular Case projection. Since the choice is irrelevant for the present purposes, I report the view of Bittner and Hale (1996), who propose that nominative is a bare DP.

⁶The notion of dP corresponds to an extended projection of the noun including all the Case related projections. This is distinct from the notion DP, which refers to a particular layer inside dP.

The “Peeling” scenario can be illustrated on the example of pseudo-passives:

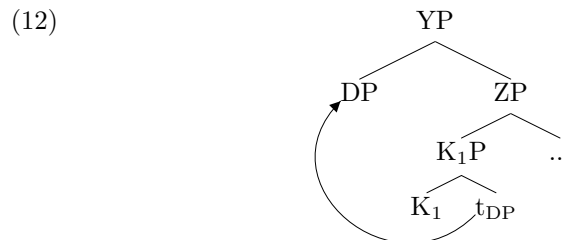
- (10) John₁ was yelled [at t₁].

What happens in pseudo-passives is that a dP that originates as a complement of a preposition strands the preposition in situ, and moves to Spec,TP, where it surfaces as nominative. On standard treatments, a question arises why the dP refuses to check Case inside the PP, freezing for any further movements for Case reasons. Instead, the dP chooses to have its Case checked by raising to Spec,TP, in an apparently non-local fashion.

One way this problematic construction can be treated in the present set-up is to admit that even in passive sentences, the dP is marked accusative inside the PP, on a par with the active sentence. However, with the Spec,TP remaining free, the nominative Case (a DP on the proposal given above) is free to sub-extract from within the accusative, since it is the closest DP. When the DP raises, it strands the accusative Case projection in situ together with the adposition. This leads to the argument’s shift to nominative:

- (11) [_{DP} John]₁ was yelled [_{PP} at [_{K₁} Ø <[_{DP} John]₁>]]

Simple passives can then be thought of in a similar way. I sketch that in (12), a prototypical Peeling derivation:



In (12), the direct object lands in the accusative position as K₁P. Later on, it moves to Spec,TP. When it moves up, it strands the highest Case shell (K₁) in situ, and surfaces as a bare DP, that is as nominative. For more on passivization in this framework, see Taraldsen (2006) and Caha (2006).

2. Case and word order alternations in PPs

In this paper, I address ways in which dPs move (and Peel) in PPs. I will look at examples where a single adposition allows its complement to surface in various Cases, or allows its complement to either follow, or precede it. One pair of examples that illustrates both of these phenomena at once is provided below. The examples (13a) and (13b), taken from Lestrade (2005), come from Finnish, where the adposition *ympäri* ‘around’ assigns either partitive, or genitive, depending on factors that we come back to

later. What can be also observed is that the word order changes too, and that with the partitive case, *ympäri* ‘around’ is a preposition, while with genitive, it acts as a postposition.⁷

- (13) a. Juoks-i-mme ympäri kaupunki-a.
run-PAST-1PL around city-PART
 ‘We were running around in the city’
 (Finnish, Lestrade 2005:ex. 7)
- b. Juoks-i-mme kaupungi-n ympäri.
run-PAST-1PL city-GEN around
 ‘We ran (in a circle) around the city’
 (Finnish, Lestrade 2005:ex. 8)

The Peeling theory allows us to understand this pattern straightforwardly as a movement of the dP from the right of the adposition to its left, whereby the Case changes (by Peeling) from partitive to genitive. This means (under the assumptions advocated here) that the Finnish partitive embeds a genitive inside it, and that when the dP moves from the right of *ympäri* to the left of this adposition, the genitive raises from within the partitive, stranding the “partitive” feature in situ.

Another example can be provided by adpositions which can act either as directional or locative, as signalled by the case marking of the complement. I give here an example from Czech, where instrumental alternates with accusative:

- (14) a. nad /pod /před /za /mezi růž-ema
above under in front of behind among roses-INS.PL
 ‘above/under/in front of/behind/among the roses’
 (coll. Czech, locative)
- b. nad /pod /před /za /mezi růž-e
above under in front of behind among roses-ACC.PL
 ‘above/under/in front of/behind/among the roses’
 (coll. Czech, directional)

Similarly to the Finnish example, I propose that in the directional contexts, the dP complement of each of the adpositions moves to its left, leaves the instrumental case shell in situ, and surfaces as accusative. This again means that the accusative must be embedded inside the instrumental in Czech. Later I will discuss some evidence for this; notice, however, that the marking for accusative (-e) is a subset of the instrumental (-ema). This suggests that the movement from instrumental to accusative can be understood as the stranding of -ma.

⁷Apart from this pattern attested with three other adpositions, Lestrade (2007) also mentions that *ympäri* ‘around’ has a postpositional use with the partitive. I come back to this later.

- (16) NOMINATIVE > ACCUSATIVE / ERGATIVE > GENITIVE > DATIVE > LOCATIVE > ABLATIVE / INSTRUMENTAL > COMITATIVE > others⁹

The hierarchy is to be read as follows: If a language L has a Case X, L also has all cases to the left on the hierarchy. For instance, if L has instrumental, it also has a locative, dative, genitive etc.

Assuming the hierarchy is correct, one way this can be captured is to assume that it directly correlates with degrees of complexity of each particular case:

- (17) [Com [Ins/Abl [Loc [Dat [Gen [Acc/Erg [DP]]]]]]]]

The way the hierarchy comes about is then the following. The first assumption is that the hierarchy is present in the syntax of each language. Then, if a particular language has an instrumental, the marker has to end up suffixed on the Noun. In order to end up as a suffix, the Noun has to move to the left of the Ins head. (This movement happens inside the extended projection of the noun and has nothing to do with the Peeling type of movement.) But when the Noun is able to move to the left of Ins, it can, under standard assumptions, also move to the left of Loc, Dat, Gen, Acc and so on. Notice that once we understand Blake's hierarchy in this way, it presents a first piece of evidence for accusative inside instrumental in Czech.¹⁰

However, Blake's hierarchy is not as neat as one would hope. As pointed out in the literature (e.g., Asbury to appear), the hierarchy is not strictly correct and there does not seem to be a way to make it hold across the board. The problematic fact is that a language may exhibit a "gap" in the hierarchy. What I mean by a gap is that a particular language has a range of Cases, but it lacks one of the Cases that are in between the most marked Case and the least marked Case. Hungarian can be taken as an example: it has instrumental, dative, and a number of spatial Cases, but it does not have genitive. If we were to make genitive more marked than instrumental, we would get wrong results for e.g., German or Ancient Greek, since German and Ancient Greek have genitive (and dative), but they don't have instrumental (the reasoning here is identical to that in Asbury to appear).

Despite the fact that such gaps (however rare they may be) make Blake's hierarchy untenable as a statement about morphological Case, they do not

⁹The order of instrumental and ablative cannot be determined in Slavic, since Slavic languages do have an instrumental, but do not have an ablative. Latin, on the other hand, has the ablative, but does not have the instrumental. Note though that the Latin ablative has also an instrumental function.

¹⁰If a language does not have instrumental, the marking for instrumental is going to be a preposition. So given that English nouns only move to the left of Acc, the marking for cases higher on the hierarchy is going to be prepositional: genitive (*of*), dative (*to*), instrumental (*with*).

disqualify it directly as a source of evidence for the underlying syntactic hierarchy (17), once we understand this hierarchy abstractly. The abstractness here means that what the syntactic hierarchy encodes is not that genitive is literally contained inside the dative, and that there will be no dative Case if the language does not have a genitive. Rather, it says that the case for Possessors (or complements of Nouns) is a structural subset of the Case for Recipients (or indirect objects). And so despite the fact that some languages have gaps in terms of morphological Case (no special marking for genitive), it is not necessary that such languages also have gaps in terms of syntactic Case (no Case marking for possessors). Rather, the language simply does not morphologically distinguish between genitive and an adjacent Case on the hierarchy.

Pending deeper research into the topic, I think it is worth noting that one way of expressing possessors in Hungarian is by marking them with dative case. This can potentially be taken as evidence that Hungarian spells out both the Possessor Case and the Recipient Case in an identical fashion, while keeping the underlying syntactic distinction between the two.

Further, the gap exhibited by Hungarian is different from a situation in which a language would mark instruments by a Case suffix, but possessors by a preposition. That would mean that the Noun is able to move as high as the instrumental, but still not high enough for the genitive to be suffixed. It is only this latter situation that presents a serious challenge to an attempt to understand Blake's hierarchy in terms of syntactic structure.

There are more issues related to Blake's hierarchy (16) that arise if we want to implement (17) in syntax. I illustrate them through the comparison of Czech and German. The first thing to note is that German has nominative, accusative, genitive and dative, and that Czech has all of these plus prepositional and instrumental.¹¹ The logic of Blake's hierarchy dictates that the prepositional, termed locative by Blake, comes on top of the dative (see (16)), which we can translate as follows:

(18) [<Czech Noun> Prep [<German Noun> Dat [....]]]

However, this conclusion may not be correct, even if we find no language that has prepositional, but no dative. The reason is that the use of the prepositional in Czech represents a proper subset of the uses of the German dative. This means that whenever Czech uses a prepositional, this is always translated by a German dative. An example is given below:

¹¹Calling one of the extra Czech Cases "prepositional" diverges from the Czech grammatical tradition, where this Case is termed locative (a usage which is adopted by Blake). I choose to call the Case prepositional (used sometimes for the equivalent Case in Russian), since it can never express a location on its own; it can only mark complements of prepositions.

CASE MOVEMENT IN PPS

- (19) a. v /na krabic-i
in on box-PREP.SG
 ‘in / on the box’ (Czech, locative)
- b. in /an der Kiste
in on the.DAT.SG box
 ‘in/on the box’ (German, locative)

Such a situation rather suggests that Czech morphologically distinguishes two Cases (20a) and (20b), and that German spells both of them as dative.¹² The advantage of this latter hypothesis is that it clearly captures the fact that the Czech prepositional corresponds to a subset of the uses of the German dative.

(20)	Structure	German	Czech
a.	[K ₁ [...]]	dative	??
b.	[K ₂ [K ₁ [...]]]	dative	??

But which of these structures corresponds to the Czech prepositional? And which one corresponds to the Czech dative, that, like the German one, marks Recipients? Blake’s hierarchy itself is not of much use here.

I suggest that we can solve the problem at hand by looking at patterns of systematic syncretism. The idea is the following:¹³

- (21) *Systematic syncretism hypothesis*: Systematic syncretism always targets structurally adjacent Cases.¹⁴

If (21) holds, we can answer the question concerning the relation between prepositional and dative by looking at which of these Cases is syncretic with Cases low on Blake’s hierarchy, and which is syncretic with Cases high on the hierarchy, assuming that the hierarchy is correct in its essentials.

In Czech, it is possible to show that the prepositional Case shows systematic syncretism with genitive (the first, second, and last column in the table below). Following Blake’s hierarchy in taking genitive (Possessor Case) to be structurally smaller than the dative (Recipient Case), this means that the prepositional is smaller than the dative and corresponds to (20a), while the dative corresponds to (20b).

The prepositional is also often syncretic with the dative (third and fourth column). This is in fact expected, since the dative corresponds to (20b), and hence represents the other neighbor of the Czech prepositional.

¹²Interestingly, dative and prepositional are not distinguished in Czech anywhere in the singular, but are distinguished only in plural. Serbian (South Slavic) has eliminated the distinction almost completely (and become identical to German in this respect), with the exception of a few monosyllabic nouns that distinguish dative from prepositional by their stress pattern, see Brown and Alt (2004).

¹³I discuss this idea in detail in the next section.

¹⁴By systematic syncretism, I understand a syncretism that involves more than one affix.

Focusing on the dative, we see that it can be syncretic with the instrumental (last column), suggesting that it is indeed more complex than the prepositional. However, this last syncretism is limited to a single exponent in Czech.¹⁵

(22) *Systematic syncretism of prepositional with genitive and dative*

	we	good, plural	machine	woman	both
nom	my	dobrý	stroj	žen-a	ob-a
acc	NÁ-S	dobrý	stroj	žen-u	ob-a
gen	NÁ-S	DOBRÝ-CH	stroj-e	žen-y	ob-ou
prep	NÁ-S	DOBRÝ-CH	STROJ-I	ŽEN-Ě	ob-ou
dat	ná-m	dobrý-m	STROJ-I	ŽEN-Ě	OB-ĚMA
ins	ná-ma	dobrý-ma	stroj-em	žen-ou	OB-ĚMA

Hence, if we adopt (21) as our guiding principle, the conclusion we reach is that the Czech prepositional Case comes in between the genitive and the dative. And this in turn is in conflict with a simple translation of Blake's hierarchy onto syntactic structure.

The complexities do not stop here. It is moreover the case that the German dative corresponds not only to Czech prepositional and dative, but also to Czech instrumental in some of its instances (23). On the other hand, there are uses of the Czech instrumental (instrument of an action) for which the German dative is not well suited, and it has to come together with a preposition *mit* 'with' (24):

- (23) a. nad most-em
above bridge-INS.SG
 'above the bridge' (Czech, locative)
- b. über der Brücke
above the.DAT.SG bridge
 'above the bridge' (German, locative)
- (24) a. Petr jedl polívku lžíc-í.
Peter ate soup spoon-INS.SG
 'Peter ate the soup with a spoon' (Czech)
- b. Peter hat die Suppe *(mit) einem Löffel gegessen.
Peter has the soup with a.DAT.SG spoon eaten
 'Peter has eaten the soup with a spoon' (German)

The comparison of (23) and (24) suggests that the Czech instrumental corresponds to at least two syntactic structures; a "smaller" one, which corresponds to the German dative in a subset of PPs, and a "bigger" one,

¹⁵The syncretism of dative and instrumental was characteristic for dual which was present in the earlier stages of Slavic languages, as evidenced by Old Church Slavonic. Among the Slavic languages, dual has been preserved in Slovene, together with the systematic syncretism of dative and instrumental. See Börjesson (2006).

CASE MOVEMENT IN PPS

which corresponds to the German *mit + dative*.

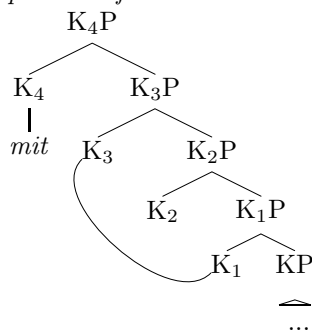
I summarize the observations below:

(25) *Abstract Case and its spell out in Czech and German*

Function	Structure	Ger	Cz
Possessor	KP	gen	gen
Compl. of 'in'	[K ₁ [KP]]	dat	prep
Recipient	[K ₂ [K ₁ [KP]]]	dat	dat
Compl. of 'above'	[K ₃ [K ₂ [K ₁ [KP]]]]	dat	ins
Instrument	[K ₄ [K ₃ [K ₂ [K ₁ [KP]]]]]	dat + <i>mit</i>	ins

This table is reproduced in tree structures below. The German dative spans several projections (K₁–K₃) that correspond to the functions it has. However, once K₄ is added, the dative alone cannot spell out the structure, and hence, *mit* 'with' is inserted under K₄.¹⁶

(26) *Spell-out of abstract Case in German*

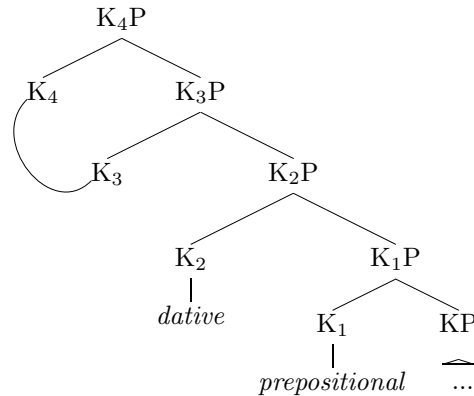


In Czech, K₁P corresponds to the prepositional. K₂P corresponds to the dative. The instrumental marking in Czech is ambiguous, and corresponds to at least two distinct structures: K₃P (complement of 'above'), and K₄P (instrument of an action).¹⁷

¹⁶The following problem arises: how to express the fact that a single morpheme corresponds to multiple heads in the structure? I tackle the question in the next section, where I follow certain proposals in the literature to the end that a single morpheme can spell out a constituent.

¹⁷A question arises: why doesn't the marking for, say, dative and prepositional co-occur in Czech? I try to answer the question in the next section, together with the question that was raised in the preceding footnote. The answer again lies in the proposal that a morpheme can spell out several features. The idea is that the dative exponent in fact spells out both K₂ and K₁, and hence the marking of the prepositional is missing.

(27) Spell out of abstract Case in Czech



Summing up the discussion, we have seen that Blake’s hierarchy is not a surface manifestation of the underlying *fseq* of syntactic Case, because there are mismatches between the syntactic Case hierarchy and the morphological Case hierarchy.

For instance, if a particular Case in one language has a proper subset of functions compared to another Case in a different language, it is difficult (if not impossible) to conclude which one is (syntactically) more complex solely on the grounds of the morphological hierarchy alone. I illustrated this on the example of Czech and German.

Another phenomenon that is problematic for Blake’s hierarchy is the existence of “gaps.” A gap arises if a language simply has no independent morpheme to express a certain function, say a possessor, but instead, it groups possessors with another function, say recipient. Though this is problematic for Blake’s hierarchy as a hierarchy of morphological Case, it does not directly undermine its syntactic implementation.

The reason for these issues is the fact that some morphological Cases (probably even most of them) have multiple functions; such an ambiguity can be understood in terms of ‘spans’ that each morphological Case occupies on the underlying syntactic hierarchy. Moreover, each language seems to cut across the syntactic hierarchy at different places, making the correspondence between two “identical” Cases across languages less than perfect.

Despite all this, we have also seen that Blake’s hierarchy serves as a good first approximation of the underlying *fseq*. However, in order to make the diagnostics more precise, I elaborate more on the proposal that we have already used to probe for the hierarchy of prepositional and dative in Czech: syncretism. But first I sketch the assumptions concerning spell-out that I adopt.

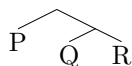
3.2. Morphology: *A-B-A and Subset-Superset Relations

In this work, I assume that phonological exponents are inserted into the structure once the syntactic derivation has been completed (e.g., McCawley 1968, Halle and Marantz 1993). Further, I assume that spell-out targets both terminal and non-terminal nodes (McCawley 1968, Starke 2006, Neeleman and Szendrői 2007), and that lexicalization of syntactic structure is driven by some version of the Superset Principle (Starke 2006, Caha 2007), similar, but in crucial respects different from the Subset Principle of DM (for which see e.g., Halle 1997). The implementation of the Superset Principle I will adopt here goes as follows:

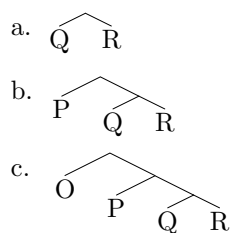
- (28) *Superset Principle*: A phonological exponent is inserted into a node if its lexical entry has a (sub-)constituent that is identical to the node. If there is more than one such item, the one with the fewest features not contained in the node gets inserted.

The idea underlying the Superset Principle is that a lexicon is simply a “garage” of well-formed syntactic structures that are paired with sound and/or meaning, to use a metaphor of Starke (2006). These deposited structures are matched up with the actual syntactic tree that comes out of the syntax under partial identity: the requirement is that part of the lexical entry is identical to the actual syntactic structure that undergoes spell out. Iterative lexical access produces a translation of that syntactic tree onto a phonological representation; the hypothesis is that the Superset Principle is all there is to such a translation. In such a system, the lexicon directly mediates between the module of Syntax and the module of Phonology.

To illustrate how the principle works, consider the scenario below.

- (29) *Lexical entry A*: /a/ \Rightarrow 

- (30) *Syntactic structures*



Assume that (29) is a Lexical entry, a spell-out rule pairing syntactic structure with sound (in slashes). According to the Superset Principle (28), it is allowed to spell out any structure which is identical to the lexical entry, i.e., (30b), or any subconstituent, e.g., (30a). In other words, syntactic structures (30a) and (30b) can be both spelled out using the same lexical

entry — a case of syncretism.

Hence, this mechanism provides one way to approach the empirical fact observed above that one Case marker has multiple functions, each corresponding to a unique syntactic structure; this is because any entry can spell out multiple structures, as long as it represents a match for these structures, as defined in (28).

However, the structure in (30c) cannot be spelled out by the entry (29), since the entry does not match (30c). (It matches only a subset of it.) Two possible scenarios arise, both of which are going to be used as diagnostics for the underlying Case *fseq*. The first possibility is to have a separate lexical entry (31) for the whole chunk (30c):

$$(31) \quad \text{Lexical entry } B: /b/ \Rightarrow \begin{array}{c} \diagup \quad \diagdown \\ \text{O} \quad \quad \quad \diagdown \quad \diagup \\ \quad \quad \quad \text{P} \quad \quad \quad \text{Q} \quad \text{R} \end{array}$$

In such case, the language simply spells out the structures (30a) and (30b) as /a/, while it realizes (30c) as /b/.

This approach provides a possible explanation for why, in most cases, we do not see Case markers stack one on top of the other, despite the fact that individual syntactic Cases are argued here to do so. In our toy example, the structure (30a) is properly contained in (30b), which is in turn properly contained in (30c), but this is opaque at the surface, where none of the markers properly contains the other.

Note that the entry (31) can also (in principle) be used to spell out structures (30a) and (30b), since it represents a superset of these structures. But notice as well that according to the Superset Principle (28), such a situation is ruled out by competition (Elsewhere condition). So given that there is the entry A (29), the entry B (31) will not be allowed to spell out structures (30a) or (30b), because the rule B contains more superfluous features than the rule A.

Given this reasoning, we derive an important property of paradigms based on “nested” structures like (30a), (30b) and (30c). The property is that the structures (30a) and (30c) will never receive an identical spell out /x/, if (30b) is not spelled out by /x/ either. That is because for the structures (30a) and (30c) to receive an identical spell out, something like the spell-out rule (31) has to be assumed. Furthermore, there can be nothing like the rule in (29), otherwise the structures (30a) and (30c) would receive a different spell-out, in contradiction with the initial assumption. But in such case, the rule (31) also spells out the structure (30b), and hence we get /x/ in all three cases.

This property of nested paradigms has been already noted in Bobaljik (2007), who calls such a generalization *A-B-A. That is: in nested structures, it is impossible that a complex structure and a less complex one are spelled out as A, if structures that are in between them in terms of complexity are spelled out as B. This helps us to probe for the underlying *fseq*

of Case: we know that if exactly two cases are syncretic in a language, they have to be adjacent in the hierarchy.

Above, I have called this the Systematic syncretism hypothesis. Now we have derived it from the mechanics of insertion.

- (32) *Systematic syncretism hypothesis*: Systematic syncretism always targets structurally adjacent Cases.

The reason that it is reasonable to require that the syncretism be systematic is that nothing in the theory prevents an accidental homophony; *A-B-A holds of lexical entries, not of phonological material. Hence, it is always better to see more than one exponent exhibiting the same kind of syncretism. In practice, this is sometimes (and maybe even frequently) impossible to achieve, due to the fact that some languages show only a small amount of allomorphy in Case paradigms.

To see how this tool works in reality, consider an example from Finnish regarding nominative, accusative, genitive and partitive. As (33) below shows, nominative and accusative must be adjacent, since they are syncretic in the plural. Taking nominative to be the least marked Case (notice the lack of morphological marking in the singular), we reproduce the beginning of Blake’s hierarchy in Finnish: NOM > ACC. Further, accusative and genitive are syncretic in the singular, and hence, they must be adjacent as well, giving rise to NOM > ACC > GEN, again in accordance with Blake. Partitive must then be more complex than genitive.¹⁸

(33) *Finnish nominal case paradigm*

‘house’	singular	plural
Nominative	karhu	KARHU-T
Accusative	KARHU-N	KARHU-T
Genitive	KARHU-N	karh-j-en
Partitive	karhu-a	karh-j-a

Looking outside of Finnish, we can observe that evidence to the same end is available in Russian. Similarly to Finnish, Russian accusative must be adjacent to (the unmarked) nominative, as can be observed from the syncretism of the noun *sneg* ‘snow.’ Furthermore, genitive can be syncretic with the accusative in Russian (this holds for all animates, see e.g., the noun ‘student’ in (34)). This leads us to the ordering NOM > ACC > GEN. Moreover, partitive and genitive are identical for most nouns (see again *stu-*

¹⁸The syntax of objects in Finnish is quite complex, and there are various opinions on what is the marking for accusative, or whether there is an accusative in Finnish to begin with. Apart from the complicated syntax, Finnish accusative has no unique exponent (it is always syncretic with some other Case), which makes the issues even more controversial. Here, I follow the traditional analyses in claiming that Finnish does have an accusative. However, I differ from these analyses in listing only a single ending for the accusative singular (see Kiparsky 2001:§1.3.2 for a recent summary of arguments in favor of such treatment).

dent for an example). However, there are a couple of nouns that do have a partitive case marking distinct from the genitive (*sneg*), in which case the partitive is identical to the dative, leading to NOM > ACC > GEN > PART > DAT:

(34) *Russian nominal paradigm*

	‘snow’	‘student’
Nominative	SNEG	student
Accusative	SNEG	STUDENT-A
Genitive	sneg-a	STUDENT-A
Partitive	SNEG-U	STUDENT-A
Dative	SNEG-U	student-u

Now recall that on the basis of the Finnish alternation, the Peeling theory predicts that genitive is contained inside the partitive. The *A-B-A strategy, if correct, then provides independent evidence to the same end (see Asbury to appear for the same conclusion reached on independent grounds).

Let’s now go back to the original setup and see what other options there are for spelling out the structure (30c). A possibility is that the lexicon of a particular language specifies an additional entry for the feature [O] of (30c). I give the entry in (35).

(35) /c/ ⇒ [O]

With the entries (29) and (35), the syntactic structure (30c) is going to be realized as /c+a/, /a/ spelling out the constituent [P [Q R]], and /c/ spelling out [O]. What we see is that the syntactic subset-superset relationship between structures (30b) and (30c) is reflected by morphology: the exponent /a/ that spells out (30b) is properly contained in /c+a/, which spells out the structure (30c). Hence, looking at containment relations in Case morphology might reveal what the underlying hierarchy is. Consider, for instance, the following partial paradigms of colloquial Czech:

(36) *A subset of colloquial Czech paradigms in plural*

	‘man’	‘chicken’	‘mouse’	‘building’	‘good’ (adj.)
Nom	muž-i	kuřat-a	myš-i	staven-í	dobr-ý
Acc	muž-E	kuřat-A	myš-I	staven-í	dobr-ý
Ins	muž-E-ma	kuřat-A-ma	myš-I-ma	staven-í-ma	dobr-ý-ma

We can see here that the instrumental marker is bi-morphemic, composed of a vowel, which is different for each paradigm given, and a uniform CV marker *-ma*. Further, it is the case that the V between *-ma* and the root is identical to the accusative marker. On the basis of such evidence, we can conclude that, in fact, the structure of accusative is a proper subset of the structure of instrumental (in agreement with the Blake’s hierarchy).

Such evidence also indicates that the Peeling approach that we have applied to the instrumental and accusative alternation in Czech is correct. That is, we have concluded on the basis of Case alternation in PPs that the accusative must be contained inside the instrumental. Here we see that the prediction is confirmed by the transparent morphological make-up of the instrumental in colloquial Czech.¹⁹

3.3. Syntactic asymmetries

There is at least one typological generalization concerning syntax that runs along Blake's hierarchy. The hierarchy concerns agreement, and it says that if a verb in a language L agrees with a Case X on the hierarchy, it also agrees with all the cases to the left of X on the hierarchy (see Bobaljik in press for a thorough discussion).

This can be understood in terms of the implementation in (17). Suppose that agreement involves movement of phi features that are embedded under the Case shells to a position outside of the noun. It then follows that if a Case shell X presents a barrier for phi feature movement, then all Cases that embed X will not agree. On the other hand, if a Case X is accessible for agreement, all Cases contained in it will also be accessible for agreement.²⁰

4. Back to Finnish, and forward to Italian

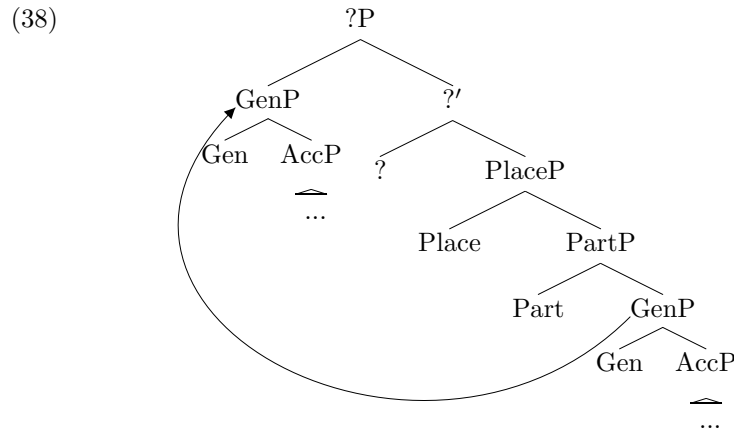
Let me start this section by repeating the data from Finnish PPs that served as an illustration of the Peeling approach.

- (37) a. Juoks-i-mme ympäri kaupunki-a.
run-PAST-1PL around city-PART
 'We were running around in the city'
 (Finnish, Lestrade 2005:ex. 7)
- b. Juoks-i-mme kaupungi-n ympäri.
run-PAST-1PL city-GEN around
 'We ran (in a circle) around the city'
 (Finnish, Lestrade 2005:ex. 8)

¹⁹A question arises why the instrumental is morphologically based on accusative, rather than say, dative, which comes in the hierarchy in between accusative and instrumental. The reason has to do with the movement of the noun in the hierarchy (along the lines of Cinque 2005). So first the noun moves to the left of the accusative, and then the whole constituent moves to the left of the instrumental. At the moment, I have not worked out an answer as to why things happen this way. However, the answer might lie in the lexical specification of *-ma*, as pointed out to me by M. Starke. The idea would be that *-ma* spells out a span that starts on top of the accusative (that is at the genitive), and it cannot be "squeezed up" to attach on top of dative.

²⁰Another generalization that is possibly related to Blake's hierarchy is the hierarchy of relative clause formation (see Bobaljik in press:n. 11). There are still more sources of evidence, which have to do with passivization, reflexivization, case patterns of certain quantifiers, extractions out of particular Cases etc. Due to space limitations, I refer the reader to Bayer et al. 2001 for a summary.

Other prepositions which exhibit this alternation in Finnish are *yli* ‘over,’ *keske-* ‘middle,’ and *lähe-* ‘near.’ The preliminary conclusion we have drawn on the basis of this pair is that the complement of *ympäri* starts out as partitive and when the dP moves to the left, the projection of the genitive subextracts from the partitive and lands to the left of *ympäri*. This is depicted below in (38).



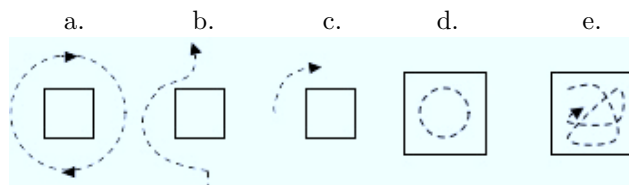
In the preceding section, I have also discussed morphological evidence pointing to the conclusion that partitive indeed embeds the genitive. But what is the landing site?

4.1. Prototypicality in Finnish PPs

Discussing the alternation at hand, Lestrade (2005) observes that the change of case has to do with “prototypicality” of the meaning of the adposition. What Lestrade has in mind is that there are several possible trajectories, each corresponding to *round*, and each diverging more or less from the prototypical meaning of the adposition:

- (39) *Meanings of “round”*
- a. The postman ran round the block.
 - b. The burglar drove round the barrier.
 - c. The steeplechaser ran round the corner.
 - d. The captain sailed round the lake.
 - e. The tourist drove round the city centre.
- (Lestrade 2005:ex. 30)

(40) Trajectories of “round”



According to Lestrade (2005) (who refers to Bouma et al. 2007), only (40a) represents the prototypical meaning of *round*. The statement is based on two properties that combined together give the prototype: Completeness and Constancy. Completeness requires that there be a point in every direction from the centre; Constancy requires that the distance from every point of the path to the centre be constant. According to Lestrade, all of (40b)–(40e) depart somehow from the prototype meaning either in terms of Completeness, or Constancy. Lestrade then continues by noting that the use of genitive in alternating PPs corresponds to the prototypical meaning of the PP, while the partitive uses depart from the prototypical use (40a).²¹

That the “prototypicality” of the genitive (as opposed to the “non-prototypicality” of the partitive) is indeed on the right track, is illustrated further on the preposition *keskellä* ‘middle.’ When this preposition selects for partitive (41a), the location of the object is vague, and the toys do not have to be at the exact middle of the room. However, with the genitive (41b), the location corresponds to the prototypical middle, that is the geometrical centre.

- (41) a. Lelu-t o-vat keskellä lattia-a.
toy-PL.NOM be-PRES.3PL in the middle of floor-PART
 ‘The toys are in the middle of/all over the floor’
 (Finnish, Lestrade 2005:ex. 32)
- b. Lelu-t o-vat lattia-n keskellä.
toy-PL.NOM be-PRES.3PL floor-GEN in the middle of
 ‘The toys are in the middle of (lit. at the centre of) the floor’
 (Finnish, Lestrade 2005:ex. 33)

Another contrast between the genitive and partitive can be observed with the adposition *lähellä* ‘near.’ The examples are given below in (42a)–(42c).

²¹ It is not clear how (40d) differs from the prototype meaning represented by the two properties. Even if the trajectory inside the lake is ideally circular, it does not represent the meaning of the genitive. It then must be that there is another condition that requires the trajectory to be outside of the reference object. I comment on this property of the prototype later on in §5.

In his later work, Lestrade (2007) further notices that the combination of genitive and *ympäri* requires that the trajectory is non-overlapping, i.e., we get one complete circle around the reference object, but no more (and no less) than that. I assume that this is due to the fact that the prototype has a third property (apart from Completeness and Constancy): No-Overlap.

What Lestrade notes about *lähellä* is that the alternation between partitive (42a) and genitive (42b) does not have any easily discernable semantic effect. However, the alternation is limited to concrete nouns only. Abstract nouns (42c) can only take partitive.

- (42) a. Auto on lähellä talo-a.
car.NOM be.SG.PRES near house-PART
 ‘The car is near the house’ (Finnish, Lestrade 2005:ex. 34)
- b. Auto on talo-n lähellä.
car.NOM be.SG.PRES house-GEN near
 ‘The car is near the house’ (Finnish, Lestrade 2005:ex. 35)
- c. Ole-mme lähellä ratkaisu-a.
be-PRES.1PL near solution-PART
 ‘We are close to a solution’ (Finnish, Lestrade 2005:ex. 36)

As before, these facts can be treated along the lines of “prototypicality,” which, however, has no big semantic effect with adpositions like ‘near.’ The contrast between abstract and concrete nouns nevertheless suggests that only the spatial uses of *lähellä* (available only for concrete nouns) are accessible for the prototypical reading. Abstract nouns, which can only appear in an “extended” (non-spatial) use of the P, cannot constitute a “prototype,” and hence must stay in the partitive.²²

²² The last one of the alternating adpositions (*yli* ‘over’) exhibits a pattern that is similar to *lähellä* ‘near,’ but brings in additional complications:

- (i) a. Mies kävelee kukkula-n yli.
man live.PRES.3SG hill-GEN over
 ‘The man lives over the hill’ (Finnish, Lestrade 2006:ex. 13)
- b. Tämä-n auto-n hinta on yli 25 000 euro-a.
this-GEN car-GEN price.NOM be.3.SG.PRES over 25,000 euro-PART
 ‘The price of this car is more than 25,000 euros’
 (Finnish, Lestrade 2005:ex. 38)
- c. Tämä-n auto-n hinta on yli 25 000 euro-n.
this-GEN car-GEN price.NOM be.3.SG.PRES over 25,000 euro-GEN
 ‘The price of this car is more than 25,000 euros’
 (Finnish, Lestrade 2005:ex. 39)

The pattern can be summarized as follows: if the meaning of *yli* ‘over’ is spatial, the genitive has to be used (ia). A more “abstract” meaning of *yli*, ‘exceed,’ allows both partitive (ib) and genitive (ic) (see Lestrade 2006:27 and Lestrade 2005:16). If partitive is used, we simply state that the cost of the car exceeds 25,000 euros. With the genitive, 25,000 euros gains a more prominent position; for instance, it could be that 25,000 euros is what I intend to spend on the car.

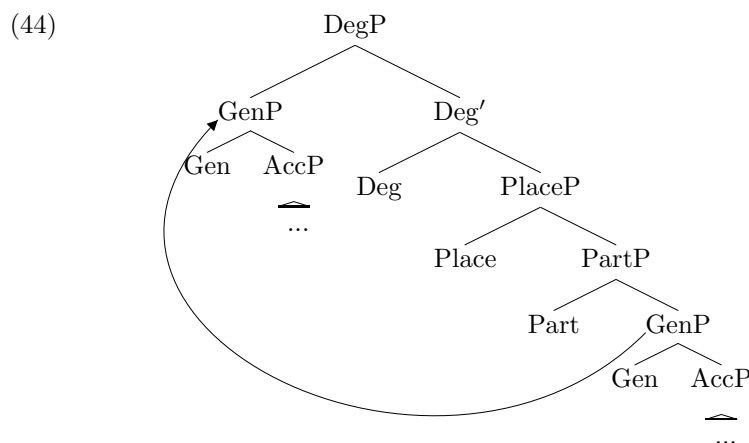
Notice that in (ic), the genitive follows *yli*, while in (ia) *yli* follows the genitive dP. That suggests that there might in fact be two distinct positions for the movement of the genitive; a lower one, which gives rise to the “prominent” reading of the dP, and a higher one, which gives rise to the spatial, i.e., prototypical meaning. The final position of *yli* would be in between these two distinct positions. In the following discussion, I abstract away from these additional complexities.

4.2. Movement to Spec,DegP

Departing at this point from Lestrade’s treatment of these cases, I want to argue that the landing site of the genitive is identical to the projection that hosts the PP modifier *right* in English. As an example, consider the sentence in (43):

- (43) We remained right in front of the palace.
 (Svenonius to appear b:ex. 15)

In (43), the expression *right* occurs to the left of the locative PP *in front of the palace*, and yields a prototypical reading of the spatial relation. Svenonius (to appear b) (following previous work on the topic going back to Koopman 2000) proposes that *right* is a head of a separate functional projection, Deg, which takes the locative PP (PlaceP in Svenonius to appear b) as its complement. Bringing this analysis to bear on Finnish, I propose that Finnish has a zero version of the Deg head (meaning ‘right’), which attracts the GenP to its Spec. The movement of the GenP to the Spec,DegP brings about the change in word-order, case, and meaning:



4.3. Italian

A contrast similar to the one in Finnish has been observed for Italian by Tortora (2005) and Tortora (2006). Consider the pair of sentences below:

- (45) a. Gianni era nascosto dietro all' albero.
Gianni was hidden behind A.DEF tree
 (Italian, Tortora 2006:ex. 7a)
- b. Gianni era nascosto dietro l' albero.
Gianni was hidden behind DEF tree
 (Italian, Tortora 2006:ex. 7b)

What we can see is that the complement of the preposition *dietro* ‘behind’ changes its case from an oblique (presumably dative, marked by *a*) to what looks like a structural case, characterized by the lack of *a*. Concentrating now on the meaning difference, Tortora notes that while “(7a) [here (45a)] can refer to an event that takes place in a ‘wider’ space, [...] (7b) [our (45b)] can only refer to an event taking place in a ‘punctual’ space” (Tortora 2006:54).

According to Tortora, the same contrast then underlies the difference between (46a) and (46b). According to her, ‘play’ and ‘run’ are predicates that require an open space, and are thus incompatible with the “punctual” meaning of the prepositional phrase connected to the *a*-less complement.

- (46) a. Vai a giocare/correre dietro a quell'albero.
go.2.SG at play/run behind A that tree
 ‘Go play/run behind that tree’ (Italian, Tortora 2006:ex. 8a)
- b. *Vai a giocare/correre dietro quell'albero.
go.2.SG at play/run behind that tree
 ‘Go play/run behind that tree’ (Italian, Tortora 2006:ex. 8b)

Here, I would like to pursue a line of reasoning which builds on the assumption that the *a*-less PPs denote a prototypical space, that is *dietro quell'albero* under this treatment would be similar to the English phrase *right behind the tree*.²³ This assumption gets further support from another pair of Tortora’s examples. Compare (47a) with (47b), examples that Tortora attributes to Penello (p.c.).

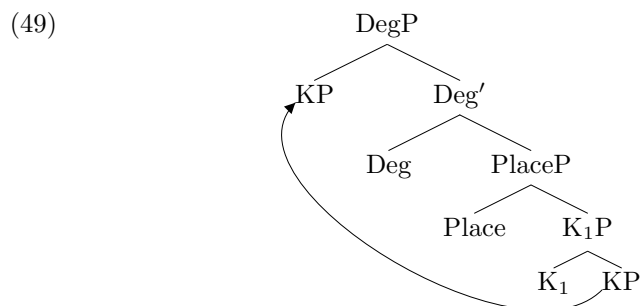
- (47) a. Ho messo la tovaglia sopra al tavolo.
have.1.SG put the tablecloth over A.DEF table
 (The tablecloth is spread out over the table)
 (Italian, Tortora 2006:ex. 16a)
- b. Ho messo la tovaglia sopra il tavolo.
have.1SG put the tablecloth over DEF table
 (The tablecloth is folded up on the table)
 (Italian, Tortora 2006:ex. 16b)

The examples again differ in whether the dP following the adposition *sopra* ‘over’ is followed by a purely functional adposition *a* or not. The subtle meaning difference has to do with whether the tablecloth is spread over the table (47a), or whether it is folded up and lying on top of the table (47b). Curiously, Tortora notes that such a difference seems to correspond to the difference in English between (48a) and (48b) (see more on this in Tortora 2006:59).

²³In this respect, consider the odd #*Go and play/run right behind the tree*.

- (48) a. The tablecloth is on the table. (Tortora 2006:n. 4)
 b. The tablecloth is right on the table. (Tortora 2006:n. 4)

If the parallel between Italian and English turns out to be on the right track, the Italian pattern is then explainable along the same lines that were applied to the Finnish case above. That is, what I propose is that in Italian, prepositions like *dietro* or *sopra* take a K_1P complement (abstracting away from the exact Case) headed by *a*. However, if later on a degree head with the semantics of ‘right’ is added, a KP sub-extracts from within the K_1P , leaves the *a* behind (by Peeling), and surfaces without the *a* in the Spec of DegP. Unlike in Finnish, this is followed by a subsequent movement of the adposition, as a result of which the prepositional order is restored.



Further, Italian bears on its sleeve what had to be indirectly adduced for Finnish, namely that the process involves “shrinking” of the dP in question, since in Italian the phrase *a quell'albero* is obviously a morphological superset of *quell'albero* ‘the tree.’²⁴

4.4. How much variation is there?

The analysis of Finnish and Italian proposed here raises the question of why is it the case that in Finnish, it is GenP that moves to Spec, DegP, while in Italian, there is no marking corresponding to genitive, and we get a bare dP. Put more broadly, the question is whether languages can vary in what Case feature they attract to the specifier of a particular projection.

In the optimal case, one would hope that there is no variation at this point, and that there is some connection between a particular Case (Deg-Case) and the Deg head, such that of all possible cases, it is the Deg-Case that ends up in the specifier of Deg. Despite the fact that the contrast between Italian (bare dP) and Finnish (genitive) seems to lead to the opposite conclusion, I suggest an analysis that allows us to entertain the stronger position.

In principle, there are (at least) two ways to encode the contrast between Italian and Finnish. The first option is that both Italian and Finnish attract

²⁴A question arises why the stranded *a* does not surface in the base position. I tackle that issue in the next section.

an identical Deg-Case to Spec,DegP, but they differ in terms of how much material the Deg-Case carries along when it moves to Spec,DegP. In more concrete terms the Deg-Case could correspond both in Finnish and Italian to Object-Case in syntactic terms, or accusative in morphological terms. In Finnish, however, the Deg-Case would pied-pipe the projection of the genitive along when moving to Spec,DegP.

The second option is that Italian and Finnish do not differ in the material pied-piped, but in how the Deg-Case gets spelled out: as a preposition-less dP in Italian (similarly to Object-Case), and as a genitive (Possessor-Case) in Finnish. In other words, if the underlying abstract hierarchy is Object-Case > Deg-Case > Possessor-Case, Italian and Finnish differ in where they put the boundary between accusative and genitive morphology. Italian spells out the Deg-Case using the same pieces as the Object-Case, while Finnish spells out the Deg-Case with the same pieces as the Possessor-Case — recall here that accusative (corresponding to the Object-Case in a prototypical situation) and genitive (the Possessor-Case in prototypical situation) are neighbors on Blake’s hierarchy.

In what follows, I put forth an argument in favor of the second option, based on the contrast between Italian full dPs and pronouns in the construction at hand. But first, let me introduce additional data from Italian discussed by Tortora (2005:311–313):

- (50) a. Vai dietro al postino (che è appena passato).
go.2.SG behind A.DEF postman that is just passed
 ‘Go after the postman, he just passed by’
 (Italian, Tortora 2005:ex.12a)
- b. Vai dietro il postino.
go2.SG behind DEF postman
 ‘Go behind the postman’ (Italian, Tortora 2005:ex.12b)

In (50), we can see that the alternation between the PPs with and without *a* gives rise to different meanings. While (50a) can mean that one should follow the postman (the ‘follow’ reading forced by the clause ‘who just passed by’), (50b) does not have this reading and it has to be understood in the way that the place which is right behind should be reached. (The example Tortora gives is a situation of a picture-taking event, where one is supposed to stand directly behind ‘the postman.’) Tortora (2005) explains the unavailability of the ‘follow’ meaning for (50b) from the fact that the *a*-less PPs denote a punctual space (corresponding to the expression *right behind* under the present treatment). This punctual space is incompatible with the ‘follow’ interpretation, under the assumption that the ‘follow’ reading involves a “widening” space.

An identical meaning contrast obtains in (51a) and (51b), where we replace the ‘postman’ by a pronoun. The pronoun, however, does not surface as a bare *lui* in (51b), as one might expect. Instead, it is preceded by a

grammatical adposition *di*, which, in Italian, is also used to mark genitive (which is exemplified by (52)).

- (51) a. Corri dietro a lui.
run.2.SG behind A him
 ‘Run after him’ (Italian, Tortora 2005:ex. 15a)
- b. Corri dietro di lui.
run.2.SG behind DI him
 ‘Run to the place behind him’ (Italian, Tortora 2005:ex. 15b)
- (52) la macchina di mia sorella
the car DI my sister
 ‘the car of my sister’ (Italian)

This can be interpreted as follows. Both in Finnish and Italian, an identical constituent moves to Spec,DegP: a projection of a Deg-Case. In Finnish, this projection is spelled out as genitive. In Italian, there are two options. If the Deg-Case embeds a full dP, it gets spelled out as a part of this dP (or as a zero). If it dominates a pronoun, it has to be spelled out by *di*, a genitive-like morpheme.

4.5. Doubly Filled Nothing

Summing up the section, we can note that both Finnish and Italian are subject to a process in which the complement of a preposition changes from a more marked (or complex) Case to a less marked one, giving rise to a prototypical interpretation of the PP in question. It was observed for both Finnish and Italian that the process has a semantic effect similar to adding the English Deg head *right* to a prepositional phrase. Hence, it was proposed that the dP complement moves to the Spec,DegP in syntax and changes its Case by peeling off some of the shells it was born with. In Finnish, the raising step is preserved on the surface, while in Italian it is obscured by a subsequent movement of the adposition.

Before we move on to the issue of stranded Peels and the way they get spelled out, let me briefly discuss another issue that arises. Namely, are languages with an overt Deg head (like English *right*) also subject to the Deg-CaseP movement?

This seems problematic, since adding *right* to the structure of PPs does not lead to a Case change in any language I am aware of. Hence the answer I propose is no; movement of the Deg-CaseP only occurs when Deg is present, but receives no overt manifestation. This is reminiscent of the Doubly filled COMP filter: if the head of the phrase is overt, its Specifier must remain empty. This leads me to adopt (53) as a general condition on the distribution of overt material in phrase structure. See Starke’s work for a system where (53) does not have to be stated as a separate condition.

- (53) *Doubly Filled Nothing* (Starke 2004:253): No projection can have

both its head-terminal and its specifier present at the same time.

(53) predicts that if Italian had an overt expression meaning ‘right,’ the PP following it would have to take the complement with *a*. This prediction is borne out:

- (54) a. Sono arrivato proprio dietro a quell’albero.
be.1.SG arrived right behind A that tree
 ‘I have arrived right behind that tree’ (Italian)
- b. ??Sono arrivato proprio dietro quell’albero.
be.1.SG arrived right behind that tree
 ‘I have arrived right behind that tree’ (Italian)

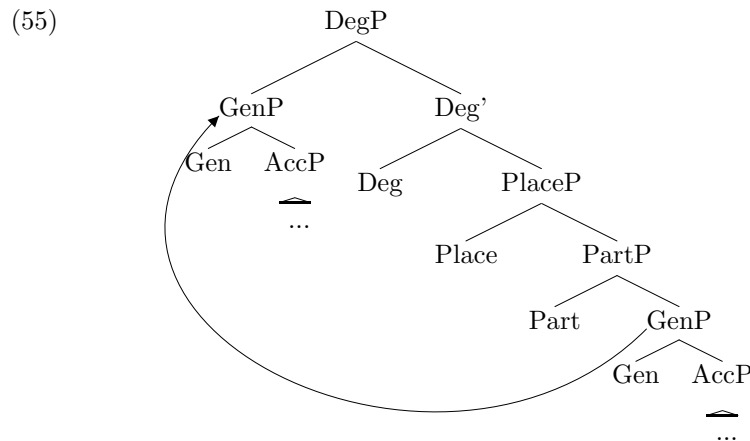
In (54a), the Deg head hosts an overt exponent *proprio* ‘right,’ and the complement of the adposition *dietro* ‘behind’ appears with *a*. As (54b) shows, this is in fact the only possibility, the *a*-less complement giving rise to sharp degradation.

This follows from the Doubly Filled Nothing generalization. In both (54a) and (54b), the Deg head is overt, and hence, there can be no movement to Spec,DegP. With movement to Spec,DegP blocked, there is no way for the complement of the adposition to surface as a bare dP.

Let’s now turn to the issue of stranded Peels.

5. Spell out of Peels, PartP movement and the complete pattern of *ympäri*

A question arises concerning what happens to the PartP projection stranded by movement of the GenP in (44), repeated here as (55).



Following ideas of Starke (2005) I am going to defend the claim that the Case layers stranded by movement are spelled out as parts of other items, in this case specifically the Place adposition. This solution, however, requires

If there is more than one such item, the one containing the fewest features not contained in the node gets inserted.

- (59) *Match*: A constituent matches a node iff it is identical to the node, ignoring
- (i) nodes that have undergone movement
 - (ii) nodes that have undergone spell-out

Adding this condition on “matching” has the effect that the displaced or spelled out TP in (56) is ignored when it comes to judging the identity of the entry (57) and the RP node in (56). Consequently, (57) becomes identical to RP in (56), and hence (57) is now allowed to spell out the features R and S.²⁷

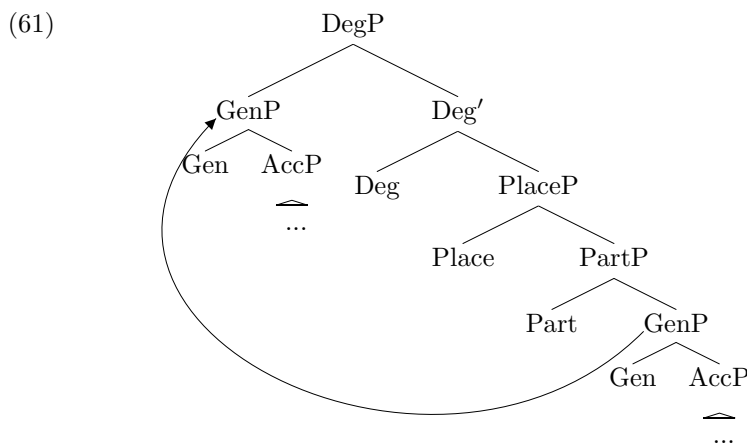
5.2. The proposal: its advantages and problems

With this background in mind, we can approach the problem of the stranded Part. The proposal is that it is the adposition *ympäri* which spells out the Peel. This leads to the following entry:

- (60) */ympäri/* ⇒PlaceP
- $$\begin{array}{c}
 \diagup \quad \diagdown \\
 \text{Place} \quad \text{PartP} \\
 \quad \quad | \\
 \quad \quad \text{Part}
 \end{array}$$

Now given the tree that we have for Finnish (61), the entry for *ympäri* (60) is allowed to spell out the PlaceP which includes the stranded Part feature. That is because if the displaced GenP is ignored, the entry for *ympäri* exactly matches the PlaceP node.

²⁷As proposed by M. Starke, it is possible to avoid the disjunction in (59) and reduce the condition on Matching to (i) only. In such a case, we would have to require that the TP moves out of RP, if RP is to be spelled out by (57). Such a proposal opens up the possibility of motivating certain movements (that in the prototypical case fall under the head-movement type of displacement) at “PF,” by the requirement that certain features get spelled out together as a constituent.



The proposal not only allows us to get rid of the offending Peel, but it also has the following advantages. First, it allows us to lexically distinguish between adpositions that allow for the genitive-partitive alternation (like *ympäri* ‘around’), and adpositions that don’t (like *pitkin* ‘along/all over’ which takes partitive only). The distinction is, under the assumptions concerning spell-out sketched above, encoded by specifying the alternating *ympäri* ‘around’ as able to spell out both [Place] and [Part], while the non-alternating *pitkin* is specified only as [Place]. Such a specification of the non-alternating adpositions leaves no option for the stranded [Part] in (61) to get spelled out together with the adposition, and hence the GenP must stay in situ, if Place is to be lexicalized by the non-alternating adposition in question.²⁸

The second advantage is the following. If we look again at the Italian data repeated below in (62) for convenience, an interesting problem (noted in Tortora 2005:n. 11) arises.

- (62) a. Gianni era nascosto dietro all’ albero.
Gianni was hidden behind A-DEF tree
 (Italian, Tortora 2006:ex. 7a)
- b. Gianni era nascosto dietro l’ albero.
Gianni was hidden behind DEF tree
 (Italian, Tortora 2006:ex. 7b)

Note first that the denotation of the PP containing the *a* is a superset of the denotation of the *a*-less PP. In other words, while *dietro all’ albero* denotes the whole space behind the tree, *dietro l’ albero* denotes only a subset of it, namely the subset which is prototypical. Curiously, instead of adding a morpheme that would express this restriction (in analogy to the English

²⁸This presupposes that all projections must receive a spell-out. See also Ramchand (2007) and her Exhaustive lexicalization principle for the same assumption. See also Fábregas (this volume) for a defense of the same proposal.

right) we in fact lose a morpheme, the *a*.

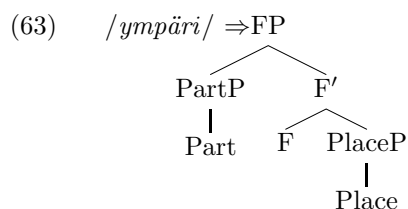
The problem disappears under the current proposal, since losing material does not correspond to losing content: in fact, we add the same Deg feature as in English, where, unlike in Italian, it receives a direct spell out with no dP movement required.

Apart from these advantages, we also get the following problem. If *ympäri* (as a representative of the class of alternating adpositions) is allowed to spell out the features [Part] and [Place], why does it only do that when GenP extracts out of PartP? In other words, what excludes a scenario, where GenP is spelled out in the base-position by a noun in genitive, and the features Part and Place are spelled out as *ympäri*?

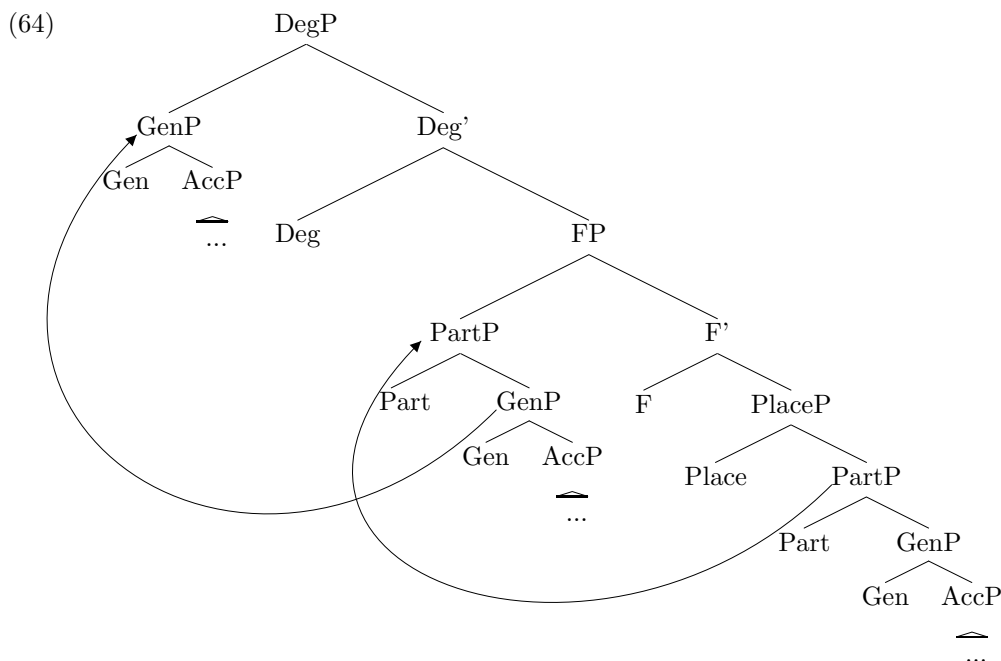
What such a scenario amounts to is the adposition *ympäri* ‘around’ selecting a genitive, without there being a Deg head on top. But empirically, the Deg head is necessary in order for the genitive to surface, contrary to what we now predict. Suppose we fix this somehow and allow *ympäri* to spell out Part only if the Deg head is present. That would still leave us with another problem: the genitive complement would be allowed to surface in its base position, that is to the right of *ympäri*, contrary to the facts.

5.3. PartP movement

The solution to the second problem must be that the Part feature cannot be spelled out if the dP complement of the adposition does not undergo movement to the left of *ympäri*. One way to achieve this is to require that the Part feature itself must be spelled out in a position which is to the left of the adposition — i.e., in Spec,FP in (63). As I show later, this will also solve our first problem of why the Deg head is necessary for the genitive to occur.



This means that before the GenP sub-extracts from inside the partitive to move to Spec,DegP, we have to make the PartP move to the left of Place — to Spec,FP (I discuss its possible identity later). The derivation is depicted below. The proposal has also an empirical bite to it, since (nothing else said) we end up predicting that partitives can surface to the left of *ympäri*. I come to that towards the end of this section.



We can verify that the entry (63) matches the FP constituent in (64). As required by Match, we ignore PartP in the base position, and GenP in Spec,FP, since both have moved. Once this is done, (63) is identical to the FP in (64).

This said, we have a solution to both problems. First, the genitive will never surface to the right of *ympäri*, since the Part feature will only be spelled out if the dP moves to the left of Place. Second, there has to be a Deg head for the genitive to surface, since there is no way for *ympäri* to spell out the [Part] feature, unless the genitive subextracts from the displaced PartP to Spec,DegP. If the GenP did not move from PartP, the entry for *ympäri* would not match the FP; consequently, *ympäri* would not spell out the Part feature, which is necessary for the genitive to surface.

Further, we now predict that the adposition *ympäri* can take a partitive complement either to its right (in the base position) or to its left (in Spec,FP), since nothing prevents the PartP from moving to the Spec,FP and staying there, with no further movement of the GenP to Spec,DegP.

This prediction is borne out in Finnish, and *ympäri* can in fact occur with the partitive both on its left and on its right. Genitive, however, can only occur to the left of *ympäri*:²⁹

²⁹Recall that with *yli* 'over,' the pattern is slightly different. In n. 22, we have seen that *yli* also allows a genitive dP on its right. However, the reading of such a configuration is not truly "prototypical," but rather the dP gains a prominent position. See n. 22 for a possible account of this pattern.

- (65) *The complete pattern of ympäri ‘around’*
- a. ympäri talo-a
round house-PART
 ‘around in the house’ (Finnish, Lestrade 2007:ex. 5a)
 - b. talo-a ympäri
house-PART round
 ‘(several times OR not completely) around the house’
 (Finnish, Lestrade 2007:ex. 5b)
 - c. *ympäri talo-n
round house-GEN
 (Finnish, Lestrade 2007:ex. 5c)
 - d. talo-n ympäri
house-GEN round
 ‘(once) around the house’ (Finnish, Lestrade 2007:ex. 5d)

Hence, postulating the movement of the partitive to the left of *ympäri* not only solves the two technical problems that we face, but also correctly predicts the asymmetry of the pattern in (65): partitive can either follow or precede *ympäri*, while genitive has to precede.

Looking at the translations, we can observe that the movement of the PartP to Spec,FP has a semantic effect, since the reading ‘around in the city’ is unavailable in (65b). This meaning shift can be formulated as a requirement that the trajectory of movement must be outside of the reference object. This requirement gives almost the right meaning, since ‘several times around’ and ‘not completely around’ are both trajectories which are outside of the reference object (‘house’). However, the trajectory corresponding to (65d) (‘once around’) is also outside of the reference object, but it is not in the denotation of (65b). Hence, a further (negative) requirement connected to the meaning of (65b) must be that the denotation does not correspond to the prototype (65d) (see also (40) and n. 21).

I propose that it is only the positive specification of the meaning shift (trajectory must be outside) that is the contribution of F. The negative requirement is then probably connected to the fact that the prototype can be explicitly expressed (by putting the dP into genitive). In the absence of such marking, the speaker infers that the denotation does not include the prototype.³⁰

There is a prediction to test here. The way we have set up our syntax and the spell-out system so far requires that if a dP moves to Spec, DegP, it has to stop by in Spec, FP; otherwise, there is no way for *ympäri* to spell out the Part feature. Combined with the particular semantics of F (the trajectory must be outside of the reference object), this leads to the prediction that the meaning of the PP with genitive can only include prototypical trajectories that are outside of the reference object. This is

³⁰This line of reasoning has been investigated in more detail by M. Starke in his ongoing work, on which the reasoning in this paragraph builds.

indeed correct; the denotation of the prototype does not include trajectories that are perfectly round and non-overlapping, if they are not outside of the reference object (see n. 21 and (40)). This requirement can now be seen as the result of the proposal that the dP always has to pass through Spec,FP on its way to Spec, DegP.

In the next section, I try to state the semantics of F in more general terms. I suggest that F is a syntactic manifestation of the so-called frame of reference, and that specifically, it signals that the frame of reference, or perspective, is that of the speaker, as opposed to the perspective of the reference object.

5.4. Frames of reference

To see what F is, we need to look at more data. Lestrade (2006:27) gives three more examples with partitive either preceding or following an adposition. Two of the adpositions are *kohti* ‘towards’ and *ennen* ‘before,’ for which there seems to be no clear difference. Neither of these adpositions allows alternation in Case, but only in word order. For case-alternating *lähellä* ‘close,’ Lestrade (2006) notes that there is a difference between literal (66b) and more abstract (66a) interpretation:

- (66) a. Tämä aihe on minu-a lähellä.
this topic is me-PART close
 ‘This topic is close to me’ (Finnish, Lestrade 2006:ex. 18)
- b. #Tämä aihe on lähellä minu-a.
this topic is close me-PART
 ‘This topic is spatially close to me’
 (Finnish, Lestrade 2006:ex. 19)

At first blush, it seems that the presence of F in (66a) allows a non-spatial reading. However, this is not entirely correct. In order to see that, recall further the pattern in (42), repeated here as (67).

- (67) a. Auto on lähellä talo-a.
car.NOM be.SG.PRES near house-PART
 ‘The car is near the house’ (Finnish, Lestrade 2005:ex. 34)
- b. Auto on talo-n lähellä.
car.NOM be.SG.PRES house-GEN near
 ‘The car is near the house’ (Finnish, Lestrade 2005:ex. 35)
- c. Ole-mme lähellä ratkaisu-a.
be-PRES.1PL near solution-PART
 ‘We are close to a solution’ (Finnish, Lestrade 2005:ex. 36)

What (67) was originally intended to show is that *lähellä* allows either partitive or genitive under a spatial reading, but that it takes only the partitive when it expresses abstract relations. Interestingly, in (67c) it is

possible to use the partitive with *prepositional lähellä* even in the abstract meaning (unlike in (66b)).

The difference between (67c) and (66b) is that in (67c) the complement of the adposition itself is abstract, while in (66b) the complement is a concrete entity, and only the whole relation between the subject of the sentence and the object of the adposition is abstract.

I summarize the data below:

(68) *Pattern of spatial vs. abstract interpretation of partitive*

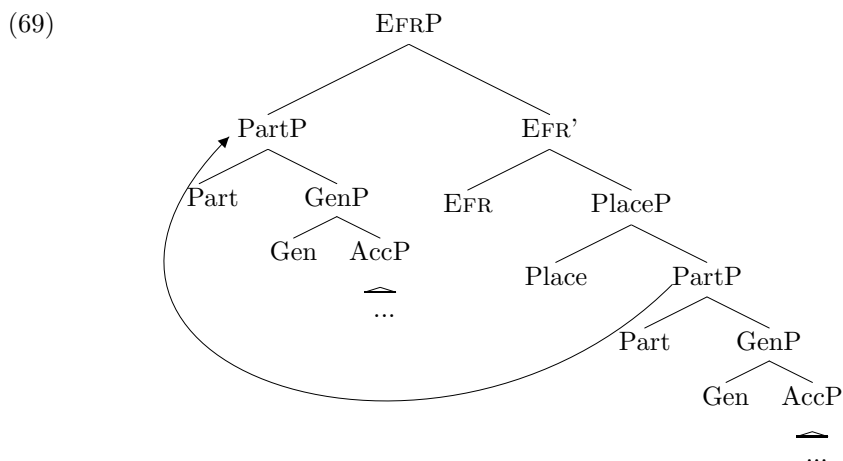
	Case/Word order	Reading	Example(s)
a.	P > Abstract Noun in Partitive	Abstract reading	(67c)
b.	P > Concrete Noun in Partitive	Spatial reading	(67a), (66b)
c.	Concrete Noun in Partitive > P	Both	(66a), (65b)

What I think is a correct characterization of the data is that each noun, abstract or concrete, comes with its own “spatial characteristics” which are concrete for concrete nouns, and abstract for abstract nouns. When an adposition in Finnish precedes a noun in partitive, the resulting meaning inherits the spatial characteristics of the object: it is abstract for abstract nouns (68a), and concrete for concrete nouns (68b). Following the terminology in the literature, I refer to this “inheritance” of spatial characteristics as “intrinsic frame of reference.”

If the resulting PP does not inherit the spatial characteristics of the noun, this is called the “extrinsic frame of reference.” The extrinsic frame of reference arises in Finnish as a result of the movement to Spec,FP (68c). In the extrinsic frame of reference, both options are available, since the complement of the adposition no longer decides what the reading is. I adopt the proposal in Rooryck and Vanden Wyngaerd (this volume) and claim that instead, it is the Speaker who decides about the reading. This leads to the availability of both options.

This leads directly to the hypothesis that F is the syntactic representation of the extrinsic frame of reference, EFR for short.³¹

³¹Recall from the preceding section that with *ympäri*, the contribution of EFR was formulated as a requirement that the trajectory be outside of the reference object. This can perhaps be explained by saying that the extrinsic frame not only leads to the fact that the axes of the object are ignored, but also to the fact that the internal structure of the object is opaque, the object itself being point-like.



The proposal that frame of reference is syntactically encoded is not unprecedented. Rooryck and Vanden Wyngaerd (this volume) observe that the distinction between an anaphor and a pronoun inside a spatial PP in English corresponds to the difference between intrinsic and extrinsic frame of reference, respectively:

- (70) a. They placed their guns, as they looked at it, in front of themselves/*them.
 b. They placed their guns, as I looked at it, in front of *them-selves/them.
 (Rooryck and Vanden Wyngaerd this volume:exs. 9a–9b)

In (70a), the parenthetical reveals that the frame of reference (the perspective taken) is intrinsic (since the object of the preposition is co-referential with the center of the perspective, set by the parenthetical). This means that when we judge where is front and where back, we take the perspective of the object which is the complement of the adposition. The reading we get is that the Agents placed their guns to their front side. In such case, the anaphor is required, and the pronoun is bad.

In (70b), the perspective taken is that of the speaker (revealed by the parenthetical). The frame of reference is then extrinsic, since now it is the speaker who decides where front and back is. Front, in such case, is that side of the object which is closer to the speaker. The reading we get then, is that the Agents placed their guns in such a way that the guns end up between the Agents and the speaker. In this case, the anaphor is bad, and the pronoun required.

Rooryck and Vanden Wyngaerd (this volume) implement their observations by having the frame of reference encoded in syntax in the form of a projection they label AxPart (originally from Svenonius 2006), which differs for its value. With intrinsic frame of reference, the value is provided by

the operation Agree that holds between the AxPart and the complement of the adposition. In this way, the object of the adposition provides the relevant spatial axes for the semantic evaluation of the structure.

With the extrinsic frame of reference, the value for AxPart is provided via binding by the Speaker, represented syntactically higher up in the tree. In this latter case, the relevant axes are thus provided by the Speaker's perspective.

The way the value of the AxPart projection is provided is also the reason for the binding asymmetries. Namely, if the AxPart is bound by the Speaker, this turns the PP into a domain opaque for binding. As a consequence, an anaphor is no longer licensed in the extrinsic frame of reference, and the pronoun is required. If the AxPart is valued by the object of the adposition (intrinsic frame of reference), the extended PP is transparent for binding.

Interestingly for our Finnish case, Rooryck and Vanden Wyngaerd (this volume) note that with English *close*, the intrinsic and extrinsic frame of reference influence the degree of abstraction in which the adposition *close* can be interpreted:

- (71) a. Mary kept her childhood dolls close to her. (=proximity/vicinity)
 b. Mary kept her childhood dolls close to herself. (=against her body)
 (Rooryck and Vanden Wyngaerd this volume:exs. 11a–11b)

In (71a) we are dealing with the extrinsic frame of reference, as indicated by the use of the pronoun. In this case, the location of the dolls is interpreted rather loosely with respect to the position of Mary, the object of the adposition. For instance, the dolls can be in her apartment even though Mary herself is outside of it, when (71a) is uttered.

With intrinsic frame of reference (71b), however, the location is spatial in a strict sense, and the dolls have to be located close to Mary's body, which provides the relevant frame of reference.

This is parallel to the Finnish facts. Specifically, (71a) is parallel to (72a) (extrinsic frame, loose interpretation), and (71b) is parallel to (72b) (intrinsic frame, strict spatial interpretation):

- (72) a. Tämä aihe on minu-a lähellä.
this topic is me-PART close
 'This topic is close to me' (Finnish, Lestrade 2006:ex. 18)
 b. #Tämä aihe on lähellä minu-a.
this topic is close me-PART
 'This topic is spatially close to me'
 (Finnish, Lestrade 2006:ex. 19)

This parallel then suggests that our hypothesis concerning Finnish is on the right track, since the extrinsic/intrinsic frame of reference distinction

gives rise to almost identical interpretational differences across languages. Further, it seems necessary to encode this distinction in terms of a syntactic projection, which is relevant for the positioning of partitives in Finnish, and for the domain of binding conditions in English.³²

6. Directionals and Locatives

Another rich source of Case data is alternations between locative and directional uses of a single adposition, signalled by a Case change of the complement. Here, I repeat the example wherein Czech locative adpositions take instrumental, but once the dP shifts to accusative, the PP is interpreted as directional.

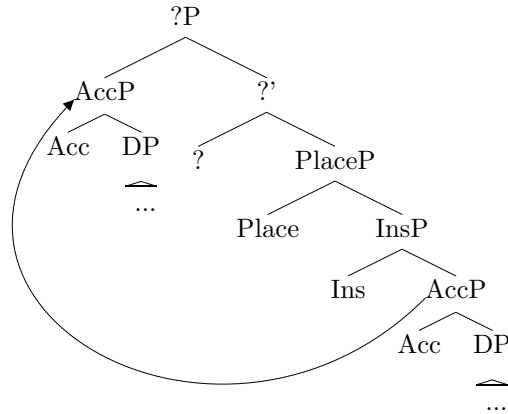
- (73) a. nad /pod /před /za /mezi růž-ema
above under in front of behind among roses-INS.PL
 ‘above/under/in front of/behind/among the roses’
 (coll. Czech, locative)
- b. nad /pod /před /za /mezi růž-e
above under in front of behind among roses-ACC.PL
 ‘above/under/in front of/behind/among the roses’
 (coll. Czech, locative)

Under the Peeling theory defended here, the complement of the Czech prepositions under discussion begins its life in the instrumental case, which contains the accusative inside. In directional contexts, the accusative subextracts from within the instrumental and raises to a Specifier of the projection dominating Place. This is depicted below. Further, the adposition must undergo movement to a position higher than ?P.

³²Though the proposal here is very close to the one in Rooryck and Vanden Wyngaerd (this volume), there are a couple of differences in implementation. Perhaps the largest one is that I assume that the intrinsic frame of reference comes for free, and does not need to be represented in the syntax. It is only the extrinsic frame of reference which has to be marked by the presence of the head that I label EFR.

Like the proposal in Rooryck and Vanden Wyngaerd (this volume), the proposal here would tie the English binding asymmetries to the presence of the EFR. The presence of this projection would block binding of the anaphor, while its absence would allow it, and hence force it, given that the distribution of anaphors and pronouns is (in the ideal case) complementary.

(74)



The AccP in Spec,?P is spelled out as accusative, while the PlaceP (with the stranded instrumental head) is spelled out as one of the alternating adpositions.

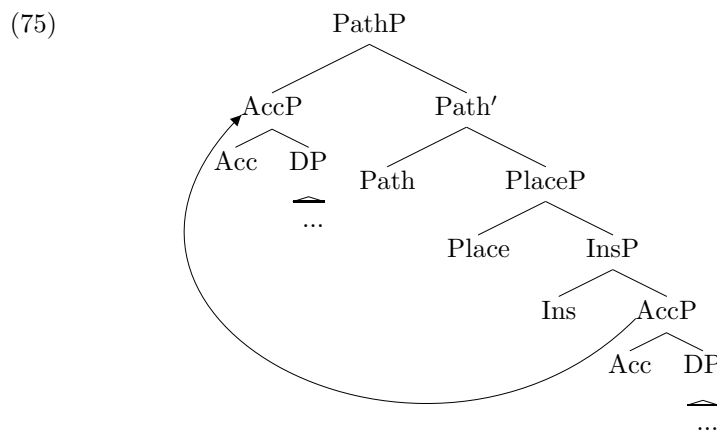
The picture is simplified in several respects. First, it is necessary to move the InsP first to the left of Place, and only then subextract the AccP, for reasons discussed in the preceding section. Second, there are various Case features intervening between the instrumental and the accusative, which must get spelled out with the adposition (when stranded). I omit these additional complications for the ease of discussion.

I now turn to the question of where the dP moves. Obviously, the landing site must have to do with the fact that after the movement, the PP becomes directional, instead of locative. Hence, following much of the literature on the topic (going back to Jackendoff 1983), I claim that locative PPs are rendered directional by virtue of being embedded under a syntactic projection of a directional head, Path. Put simplistically, the Path head delivers a trajectory (of movement) that spatially intersects with the denotation of PlaceP in at least one of its points. If the final point of the trajectory coincides with one of the points in the denotation of the PlaceP, we get a goal interpretation. Semantically, things work similarly for other types of directional adpositions. For more details concerning the semantic composition in PPs (close to the ones assumed here) see e.g., Kracht (2002), Zwarts (2005b) or Svenonius (to appear a).³³

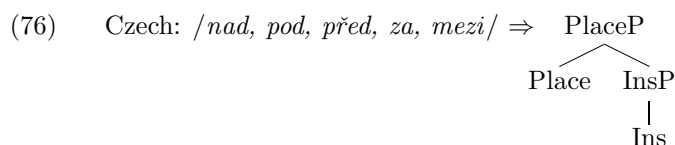
Since the Path head is the locus of directional interpretation, I propose that the Spec of PathP serves as a landing site for the AccP movement. In this way, we achieve a unification of the Case change with the semantic motivation for it: directionality.

³³The Path head can embed a whole stretch of projections dominating Place, among them the Deg head discussed in §4 (see e.g., den Dikken to appear for a detailed investigation of various possibilities).

CASE MOVEMENT IN PPS



The Case projection (or projections) stranded by movement gets spelled out together with the alternating adposition:



A similar story can be told for other Slavic languages. Serbian (South Slavic) has exactly the same alternation between instrumental and accusative as Czech (West Slavic), and the alternation occurs with exactly the same adpositions. However, Russian (East Slavic) has a slightly different pattern. It has the same range of adpositions that assign instrumental as Czech and Serbian (see (77a)), but only a subset of them (*za* ‘behind’ and *pod* ‘under’) allow the complement of the adposition to change to accusative, giving rise to a directional interpretation; compare (73b) with (77b).

- (77) a. nad /pod /pered /za /meždu na-mi
above under in front of behind among we-INS
 ‘above/under/in front of/behind/among us’
 (Russian, locative)
- b. *nad /pod /*pered /za /*meždu na-s
above under in front of behind among we-ACC
 ‘above/under/in front of/behind/among us’
 (Russian, directional)

Apparently, whether or not a given adposition allows its complement to become an accusative is a lexical property of each adposition. Under the present treatment, this dichotomy among Place adpositions can be stated in terms of whether they are able to support (i.e., spell out) the Case shells

that have been stranded by the movement of the dP (78), or whether they are unable to do that (79). If the adposition cannot spell out the Peel(s), the dP cannot move out, and hence, the PP cannot be rendered directional by such a movement.

- (78) Russian: /*pod, za*/ ⇒
- $$\begin{array}{c}
 \text{PlaceP} \\
 \swarrow \quad \searrow \\
 \text{Place} \quad \text{InsP} \\
 \quad \quad \quad | \\
 \quad \quad \quad \text{Ins}
 \end{array}$$

- (79) Russian /*pered, nad, meždu*/ ⇒ Place

Looking outside of Slavic, we observe that some more languages have a similar alternation. I give data from Latin and German.

In Latin, the adpositions *in* ‘in,’ *sub* ‘under,’ and more rarely *super* ‘above,’ alternate between ablative and accusative, yielding locative and directional interpretation respectively.³⁴

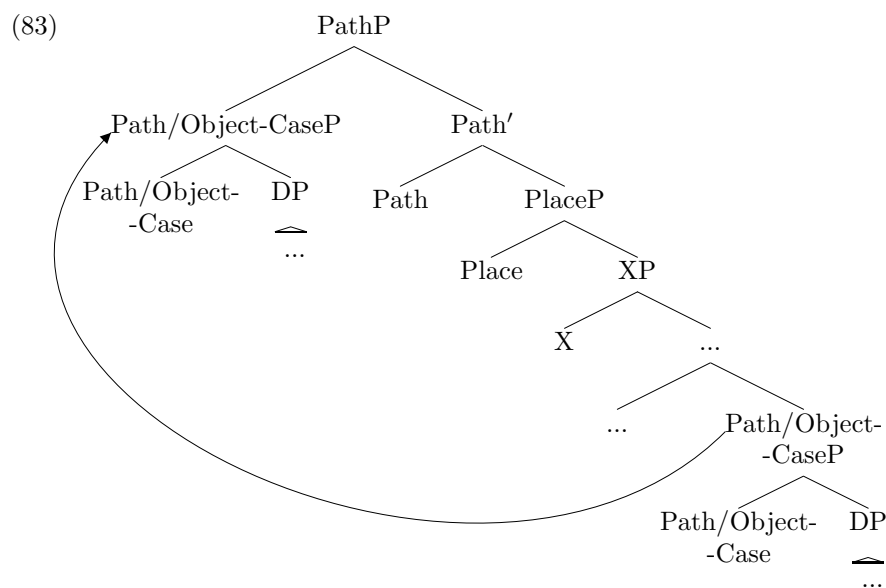
- (80) a. In silv-is abditi late-ba-nt.
in wood-ABL.PL hidden lie-PAST.IMPERF-3.PL
 ‘They were lying hidden in the woods’
 (Latin, Hale and Buck 1903:433)
- b. cum in castr-a contede-re-nt
when into camp-ACC.SG hurry-SUBJ.PAST.IMPERF-3PL
 ‘when hurrying into the camp’
 (Latin, Hale and Buck 1903:381)
- (81) a. sub mont-e consedit
under mountain-ABL.SG encamped
 ‘encamped under the mountain’
 (Latin, Hale and Buck 1903:433)
- b. Sub nostr-am aci-em success-eru-nt.
under our-ACC.SG line-ACC.SG come up-PERF.IND-3.PL
 ‘They came up under our line’
 (Latin, Hale and Buck 1903:381)

In German, the locative use of adpositions like *unter* ‘under’ requires dative (82a), while the directional use requires accusative (82b).

- (82) a. Er ist unter der Brücke.
he is under the.DAT bridge
 ‘He is under the bridge’ (German)
- b. Er warf den Ball unter die Brücke.
he threw the ball under the.ACC bridge
 ‘He threw the ball under the bridge’ (German)

³⁴All Latin examples come originally from Caesar’s *de Bello Gallico*.

The generalization is that in all languages discussed, the directional Case is accusative; i.e., it is morphologically identical to the case of the prototypical direct object. Under the present theory, this means that the constituent which raises to Spec,PathP — let me call it a Path-Case — is identical in all languages, and moreover, it is either identical, or very similar to the Object-Case in the respective language. The stronger version of the proposal, where Path-Case is identical to Object-Case, is depicted in (83).³⁵



(83) encodes the proposal that the Path/Object-Case, neighboring to the bare DP (i.e., nominative), subextracts from within a different Case, X, and lands in Spec,PathP, yielding a directional interpretation of the PP.

Compared to the previous study of the Finnish and Italian alternation, a recurring pattern emerges: there is a designated Case projection, here a Path-Case, that gets attracted to a Spec of the relevant projection, here Spec,PathP. As we will see in detail in the next section, the movement to Spec,PathP is in complementary distribution with an overt Path head; an instance of the Doubly Filled Nothing.³⁶

³⁵It is probable that the Cases are different. However, with no indication of which one would be the more complex one, I leave the issue for future research.

³⁶I believe that also the locative Case is identical across the languages, and corresponds to a Case which comes in between the Instrument-Case and the Recipient-Case. As for the first statement, the complement of adpositions like *under* is identical to the Instrument-Case in Latin and the three Slavic languages discussed. In German, it is identical to the Recipient-Case.

7. Zooming in on the movement step: comparing German and Dutch

The directional-locative alternation in Czech, Latin or German has no apparent connection to movement, since the adpositions in these constructions always precede the complement. Still, the Peeling theory leads us to expect that the movement to Spec,PathP does occur. But is there any evidence for the movement?

In order to provide it, I compare the core of the adpositional systems of German and Dutch. I show that there is a systematic relationship between the distribution of dative in German PPs, and the order $P > dP$ in Dutch PPs. There is also a systematic correspondence between the German accusative and the order $dP > P$ in Dutch. (These two statements are in fact equivalent, given that the core German adpositions assign only dative and accusative.)

The present theory captures this parallel clearly, since the accusative in German PPs arises as a result of the dP complement moving to the left of an adposition.

7.1. German and Dutch locative and goal adpositions

Let us start with German. As we have seen, German has a class of prepositions that are able to appear with complements that are either dative, or accusative. An example is provided below:

- (84) a. Alex tanzte in dem Zimmer.
Alex danced in the.DAT room
 ‘Alex danced in the room’ (German, Zwarts 2006:2a)
- b. Alex tanzte in das Zimmer.
Alex danced in the.ACC room
 ‘Alex danced into the room’ (German, Zwarts 2006:2b)

The interpretation of (84a) is locative, while (84b) gets a “goal” interpretation, i.e., the ‘room’ is interpreted as the goal of the motion expressed by the predicate.

The alternation has been analyzed in terms of the Peeling theory in the preceding section. The idea was that (i) the accusative is contained inside the dative in German, and that (ii) the accusative raises from within the dative to Spec,PathP, which is followed by movement of the adpositions to a yet higher position.

However, not every goal adposition in German assigns accusative, as shown below:

- (85) Er rannte zu-m Park.
He ran to-the.DAT Park
 ‘He ran to the park’ (German, Zwarts 2005a:ex. 6b)

CASE MOVEMENT IN PPS

In the next paragraphs, I want to take a closer look at “exceptional” examples like (85), since these might reveal a deeper regularity in the system. (I will keep referring to directional adpositions that assign dative as exceptional. I label them exceptional because they are directional semantically, but they pattern with locative adpositions in terms of Case assignment.) In order to see which goal adpositions assign dative and which assign accusative, let me give here a representative list of German locative and goal adpositions. The table is extracted from a similar one in Zwarts (2005a).³⁷

(86) *Table of German spatial adpositions*

	Dative	Accusative
locative adpositions	an ‘on (hanging)’ auf ‘on (standing)’ bei ‘near’ gegenüber ‘opposite’ hinter ‘behind’ in ‘in’ neben ‘beside’ über ‘over, above’ unter ‘under’ vor ‘in front of’ zwischen ‘between’	-
directional adpositions	nach ‘to’ zu ‘to’ entgegen ‘against’	an ‘onto’ auf ‘onto’ <i>gegen</i> ‘against’ hinter ‘(to) behind’ in ‘into’ neben ‘(to) beside’ über ‘over’ unter ‘(to) under’ vor ‘(to) in front of’ zwischen ‘(to) between’

The dominant pattern is the following: adpositions that assign dative are locative, and adpositions that assign accusative are directional. In the table, I put the minority class of exceptional directional adpositions that assign dative in bold. Some of the directional adpositions in the table are also in italics: these have no locative counterpart, and I call them “strictly directional.”

³⁷The table does not represent an exhaustive list, but it is a representative sample. Basically, the list contains adpositions that are (i) spatial, and (ii) morphologically simple, though there are some exceptions both ways. See Zwarts’ work for the criteria of selection, and see the appendix of his paper for a more exhaustive list.

CASE MOVEMENT IN PPS

German.

Looking further at ways in which Dutch expresses goal readings, we find a class of PPs where the dP follows the P rather than preceding it. I will call these adpositions exceptional, since they are directional in their interpretation, but pattern with locative adpositions in terms of word order. An example is given below:

- (89) a. Jan liep/rende naar het bos.
Jan walked/ran to the woods
 (Dutch, den Dikken to appear:ex. 11b)
- b. *Jan liep/rende het bos naar.
Jan walked/ran the woods to
 (Dutch, den Dikken to appear:ex. 11b)

As we did in the case of German, we want to know whether we can make a generalization as for which goal adpositions precede the dP, and which follow.

Below, I give a table of Dutch adpositions based on the appendix of Helmantel (2002). The data do not represent the full inventory of Dutch as presented in the work cited, but only a representative sample of the inventory.³⁹

(90) *Dutch spatial adpositions*

	prepositions	postpositions
locative adpositions	aan 'on' achter 'behind' bij 'near' boven 'above' in 'in' na 'after' naast 'next to' onder 'under' op 'on' te 'at' tegen 'against' tussen 'between' voor 'in front of'	
Goal adpositions	naar 'to' tot 'until'	in 'in' onder 'under' op 'on'

The general tendency is that prepositions are locative, and postpositions directional. The exceptional class of goal *prepositions* is in bold, and strictly

³⁹As before for German, I have taken adpositions that are (i) spatial, and (ii) morphologically undecomposable. Helmantel notes that *onder* 'under' in the postpositional use is restricted only to certain dialects of Dutch.

directional adpositions in italics. We see that the two classes are coextensive; strictly directional adpositions are prepositions.

The description thus lines up with German: if we want to state which goal adpositions are exceptional, we need to invoke the notion of strictly directional adposition (91). Below the Dutch generalization, I put the one we have observed for German (92):

- (91) *Prepositions in goal PPs*: If the complement of a goal adposition follows the adposition, the adposition is strictly directional.
- (92) *Dative in goal PPs*: If the complement of a goal adposition bears dative, the adposition is strictly directional.

The two statements are identical, modulo the notions of “dative” (German) vs. “follows the adposition” (Dutch).

Recall that the present theory sees the accusative as a result of movement, and the dative as a lack of movement; hence it allows us to unify the statements under one:

- (93) *Movement in goal PPs*: If the complement of a goal adposition does not move to Spec,PathP, the adposition is strictly directional.

In the next section, I show that similar facts hold for source PPs.

7.2. Source adpositions in German and Dutch

As a general tendency, source adpositions assign dative in German, and show up as prepositions in Dutch.

- (94) a. Er rannte aus dem Park.
he ran out the.DAT park
 ‘He ran out of the park’ (German, Zwarts 2005a:ex. 6a)
- b. Van welke brug ben jij gelopen?
from which bridge are you walk
 ‘Which bridge have you walked from?’
 (Dutch, Gehrke 2005:ex. 30)

We can also observe that some source adpositions behave like prototypical goal adpositions. For example, Dutch *af* ‘off’ follows its complement, suggesting that the dP has moved across this adposition, presumably to Spec,PathP:

- (95) Henk skiede de berg af.
Henk skied the mountain off
 ‘Henk skied down the mountain’
 (Dutch, Helmantel 2002:ch. 2, ex. 33)

The overall pattern is thus the same as with goal adpositions: some source adpositions pattern with prototypical goal adpositions, some pattern with

prototypical locative adpositions. Again, we would like to see which adpositions belong to these groups, and whether some generalization is available. Specifically, we are interested whether the conclusion about goal PPs (see (93)) carries over to source PPs.

What I believe to be an exhaustive list of source adpositions for the languages is given below; the German list is taken from Zwarts (2005a), the Dutch from Helmantel (2002).

(96) *Source adpositions in German*

	dative	accusative
	<i>aus</i> 'out of'	
	<i>von</i> 'from'	

(97) *Source adpositions in Dutch*

	prepositions	postpositions
	<i>van</i> 'from/of'	<i>af</i> 'off'
		<i>uit</i> 'out'

Notice that in (96), strictly directional adpositions (*italics*) are coextensive with adpositions assigning dative; however, Dutch has strictly directional *postpositions* *af* and *uit*, exemplified in (97). This is consistent with the general observation that strictly directional adpositions are a superset of the exceptional adpositions (i.e., directional adpositions that pattern with locatives). This allows us to carry over (93) to source PPs, and hence generalize it as follows:

(98) *Movement in directional PPs*: If the complement of a directional adposition does not move to Spec,PathP, the adposition is strictly directional.

I skip the discussion of Route adpositions, but a similar pattern obtains there as well. Instead, I move directly to providing a rationale for (98).

7.3. Doubly Filled Nothing

Why do some strictly directional adpositions pattern with locative adpositions in terms of Case and word order? As a first step, we need to have a way to encode that an adposition is strictly directional. One way to encode it is to make sure that such adpositions always spell out the Path head. The simplest way to get that result is to say that they spell out the Path head alone:

(99) /strictly directional adposition/ ⇒ Path

With (99) in place, it is easy to see why the adpositions are strictly directional: they can be inserted only if the Path head is present.

If this specification is coupled with the Peeling approach, the question takes the following form: why does nothing move to Spec,PathP, if the Path

head receives a spell-out? The answer to this question is in fact already in place ((100) is repeated from (53)):

- (100) *Doubly Filled Nothing* (Starke 2004:253): No projection can have both its head-terminal and its specifier present at the same time.

The explanation then goes as follows: Ps that lexicalize Path do not allow a dP in Spec,PathP, which forces the complement of the adposition to stay in situ. This straightforwardly yields the prepositional order in Dutch. Under the assumption that accusative in German PPs arises as a result of movement to Spec,PathP, we also explain why the complements of strictly directional adpositions are marked dative.⁴⁰

Coming back to the entry (99), we also predict that these adpositions will be able to embed a locative PP, and make it directional. This holds across the board for Dutch *tot* ‘to/till’ and *van*, and it also holds for German *von* and at least some combinations of *nach* ‘to,’ as shown in (101a)–(102b).⁴¹

- (101) *Strictly directional goal adpositions combine with locative PPs*
- a. Hij is tot achter de grens gereden.
he is till behind the border driven
 ‘He has driven up to the place behind the border’ (Dutch)
- b. ... dann läuft bei mir ein Schmerz vo-m linken
... then ran at me.DAT a pain from-the.DAT left
 Auge [nach hinter dem linken Ohr].
eye to behind the.DAT left ear
 ‘... then I have a pain going from my left eye behind my left ear’
 (German, Google)
- (102) *Strictly directional source adpositions combine with locative PPs*
- a. van boven de grote rivieren
from above the big rivers
 ‘from north of the big rivers’
 (Dutch, Helmantel 2002:ch.2:42)
- b. von unter dem Haus
from under the.DAT house
 ‘from under the house’ (German, Zwarts 2005a:10)

In (101a), the Path head *tot* takes a locative PP *achter de grens* as a complement, yielding a goal interpretation. Since Path is lexicalized by the strictly directional adposition *tot*, there is no raising to Spec,PathP and the

⁴⁰Nothing else said, strictly directional adpositions like *gegen* ‘against’ or *af* ‘off’ become a problem, since, being strictly directional, they should both occupy Path. This said, it apparently follows that they cannot assign accusative, nor follow the dP. I provide a story for *gegen* and *af* in §7.4.

⁴¹Examples of this phenomenon are ungrammatical for German *zu* and also Dutch *naar*. I will return to this issue in §7.4

dP ends up following the Place head *achter*.

The story is identical for (101b); *nach* occupies Path, embedding a locative PP *hinter dem linken Ohr*. With Path taken, movement to its Spec is impossible. This leads to the dative marking of the dP, since it is forced to stay in situ.

The explanation is then the same as for (102a) and (102b); here too the source adpositions occupy Path, and block the movement of the complement of Place to Spec,PathP. The prepositional order in Dutch and the dative in German are thus expected under the theory presented so far.

Before we move on to some problematic cases, let me sum up the discussion. We have seen that the order $P > dP$ in Dutch corresponds to dative in German; and that conversely, the order $dP > P$ in Dutch corresponds to German accusative. This correspondance is explained if German dPs must undergo movement to Spec,PathP, as predicted by the Peeling theory.

I have also devoted some attention to directional adpositions that pattern with locative adpositions; i.e., directional adpositions which precede the dP in Dutch, and which assign dative in German. Empirically, all of these adpositions are strictly directional, that is they have no locative use.

To account for this, I have proposed that the strictly directional adpositions are inserted under Path. Such a proposal encodes their strict directionality, and coupled with the Doubly Filled Nothing, it predicts that they cannot host a dP in their Spec. This consequence automatically yields the conspiracy between strict directionality and “prepositionality” in Dutch: given that the dP cannot move to Spec,PathP, it has to follow the adposition. Once we further adopt the proposal that dPs in German have to raise to Spec,PathP to surface in the accusative, we also explain the conspiracy of strict directionality and dative in German.

The predictions go further. The proposal that strictly directional adpositions spell out the Path head leads to the prediction that they will combine with locative PPs. We have seen that at least some of the strictly directional adpositions bear out the prediction; I have illustrated this for Dutch *tot* and German *nach* (both ‘to’), and also for Dutch *van* and German *von* (both ‘from’).

However, we have also encountered some problems. For instance, German *zu* ‘to’ does not combine with locative PPs, though it is strictly directional on a par with *nach*, which is able to do so. Moreover, there are strictly directional adpositions that do pattern with directional and not locative adpositions; for instance, Dutch *af* ‘off’ is a postposition, and German *gegen* ‘against’ assigns accusative.

7.4. Competition for insertion

In the next sections, I address these problems in turn. The answer will have a common core: there are more ways for an adposition to be strictly directional than those we have encountered so far.

Specifically, I will argue that some strictly directional adpositions spell out additional projections apart from Path. This, however, is going to open up a possibility that they end up not being strictly directional, since apart from Path, they are now allowed to be inserted under various other nodes (given the mechanics of insertion adopted here). I am going to suggest that this does not happen for an independent reason: competition among lexical items.

As a consequence, strict directionality is not going to have a unique source in the theory. This, however, reflects the nature of the facts: some strictly directional adpositions pattern with locative adpositions in terms of Case or word order, some do not. And even within these classes, there are further subdivisions.

7.4.1. *Zu, bei* and *nach* in competition

Consider the data below.

- (103) a. *Er geht in dem /den Laden zu.
 he walks in the.DAT the.ACC store to
 b. *Er geht zu in dem /den Laden.
 he walks to in the.DAT the.ACC store
 c. *Er geht in zu dem /den Laden.
 he walks in to the.DAT the.ACC store
 ‘He walks into the store’ (German, Noonan 2007:exs. 12a–c)

Why is it that *zu* does not combine with locative PPs, as would be expected if it spelled out only Path? The answer will lie in the proposal that *zu* has the lexical entry (104), and that apart from the Path feature TO, it also spells out the Place head AT. Hence, *zu* in fact means something like TO AT.

- (104) /zu/ ⇒
$$\begin{array}{c} \text{PathP} \\ \diagup \quad \diagdown \\ \text{Path} \quad \text{PlaceP} \\ | \quad | \\ \text{TO} \quad \text{Place} \\ | \\ \text{AT} \end{array}$$

If we now somehow force *zu* to always spell both of these heads, we encode that (i) it is strictly directional (since it always spells out Path) and that (ii) it is in complementary distribution with locative prepositions (since it always spells out Place).

I start with the question whether *zu* can be strictly directional, if it has the entry (104). At first blush, the answer is no. It should always be possible for such an adposition to be inserted only under Place, and act as a locative adposition. However, suppose that there is another adposition with

exactly the same conceptual content as far as the Place head is concerned (i.e., AT), and which is specified only for the feature Place (105). I want to defend the idea that *bei* ‘at’ is such an adposition.

$$(105) \quad /bei/ \Rightarrow \text{Place} \\ \quad \quad \quad \quad \quad \quad \quad | \\ \quad \quad \quad \quad \quad \quad \quad \text{AT}$$

In this case, when it comes to insertion under the Place node only, *zu* ‘TO AT’ is in competition with *bei* ‘AT.’ And since *bei* is only specified for Place, it is better suited for the locative use and it wins. As a result, *zu* will never surface in locative contexts.

This approach has a consequence that concerns the adposition *bei*. By making *bei* specified only for Place (in order to win in competition with *zu*), we predict that *bei* is strictly locative. This is in fact the case, and the situation can be generalized to other cases. Namely, certain directional adpositions are strictly directional not because they lexicalize only Path; they can also be strictly directional because they lose in competition for insertion in locative contexts. However, the prediction is that they must lose to a strictly locative counterpart.

This proposal comes close to the one made by Noonan (2007). What Noonan proposes is that *bei* and *zu* both represent an abstract element AT, and they occupy the same projection P-loc (which is comparable to our Place). In her proposal, the abstract AT is pronounced as *bei*, if no directional element is added. However, AT gets pronounced as *zu*, if it is selected by Path.⁴²

Obviously, the first thing such a proposal captures is the relation between *bei* ‘at’ and *zu* ‘to,’ namely that one is the directional version of the other:

- (106) a. Wir sind bei Martin /ihm.
we are at Martin him.DAT
 ‘We are at Martin’s/his place’ (German)
- b. Wir gehen zu Martin /ihm.
We go to Martin him.DAT
 ‘We’re going to Martin’s/his place’
 (German, Noonan 2007:ex. 9b)

As additional support for this type of analysis, Noonan observes that *zu* used to have a locative use in older stages of German (107), a use which

⁴²What I see as a drawback of Noonan’s implementation of the proposal is that in cases where *zu* appears on its own, she has to postulate a zero Path head. Clearly, this head cannot be available across the board. That would lead to a situation where every locative PP would have a homophonous directional counterpart formed by the attachment of this zero Path head, which is not the case. So the licensing of the zero Path must be somehow tied specifically to the lexical entry of *zu*, as opposed to other Place heads. The proposal that lets *zu* spell out both Path and Place gives this result immediately.

still survives in contemporary German as a part of an an idiom *zu Hause* ‘at home,’ as in (108).

- (107) zu Berlin, zu Göttingen, zu Paris ...
 ‘in Berlin, in Göttingen, in Paris’
 (German, archaic, Noonan 2007:ex. 7)

- (108) Sie ist zu Hause.
she is zu house
 ‘She is at home’ (German, Noonan 2007:ex. 8)

Taking the proposal concerning *bei* to be on the right track, we have now derived the fact that *zu* always has to spell out Path, and hence, it behaves like a strictly directional adposition.

Let me now turn back again to the fact that *zu* is in complementary distribution with locative adpositions:

- (109) a. *Er geht in dem /den Laden zu.
he walks in the.DAT the.ACC store to
 b. *Er geht zu in dem /den Laden.
he walks to in the.DAT the.ACC store
 c. *Er geht in zu dem /den Laden.
he walks in to the.DAT the.ACC store
 ‘He walks into the store’
 (all German, Noonan 2007:ex. 12a–c)

Under Noonan’s proposal, this is expected, since *zu* occupies only Place and directly competes for insertion with other locative adpositions. Now while it is true that on our proposal, *zu* also occupies the Place head and thus overlaps with the specification of locative adpositions like *in*, this does not yet lead necessarily to complementary distribution. The reason for that is that it should still be possible for *zu* to spell out only the Path feature, since every terminal is a subset of the lexical specification of *zu*.

However, there might be additional reasons for why *zu* cannot go to Path alone, but always has to spell out both Path and Place, and hence, cannot combine with locative PPs. One of the reasons can be that when *zu* wants to go under Path alone, there is a competitor that is specified only for Path meaning TO, and wins in competition. I propose that the German *nach* is such an adposition:

- (110) /nach/ ⇒ Path
 |
 TO

With such an entry, *nach* is happy to embed locative PPs as we have seen above (I repeat the data in (111)), and it also prevents *zu* from doing that.⁴³

- (111) ... dann läuft bei mir ein Schmerz vo-m linken
 ... then ran at me.DAT a pain from-the.DAT left
 Auge [nach hinter dem linken Ohr].
 eye to behind the.DAT left ear
 ‘... then I have a pain going from my left eye behind my left ear’
 (German, Google)

Summing up the discussion surrounding *zu*, I have argued that it spells out both Path and Place, and that it actually means ‘TO AT.’ However, *zu* cannot spell out only AT, since it loses a competition with *bei*. It furthermore cannot spell out TO alone, since here it loses to *nach*. The result is a strictly directional adposition that does not embed locative PPs, and assigns dative to its complement.

Let me now turn to the problem of Dutch *af* ‘off,’ which is strictly directional, but it follows the dP complement. The reason that is problematic is that if *af* lexicalizes Path (being a strictly directional adposition), it should be impossible for it to host a dP in the Spec,PathP.

7.4.2. *Af* and *aan* in competition

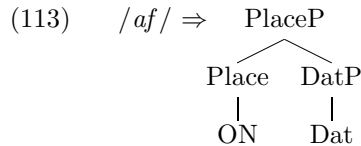
As an example, consider the data in (112). The first question that needs to be answered is whether the dP in these examples moves to Spec,PathP, or whether the movement of the dP across *af* targets a higher projection.

- (112) Henk skiede de berg af.
 Henk skied the mountain off
 ‘Henk skied down the mountain’
 (Dutch, Helmantel 2002:ch. 2, ex. 33)

In this respect, recall from §7.1 Helmantel’s observation that dPs in Spec,PathP (her Spec,DIRP) have a particular interpretation. Namely, some ordering defined on their properties defines the trajectory of movement. Since in (112), the ‘mountain’ is ordered in terms of elevation, such that every point of the trajectory is lower than the preceding one, I am going to investigate the possibility that the dP does move to Spec,PathP. In what follows, I will investigate if our system allows the existence of strictly directional adpositions with DP in Spec,PathP (the situation of *af*).

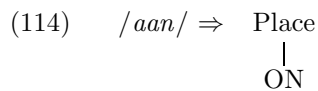
The first thing to note is that if the analysis that takes the dP to have moved to Spec,PathP is on the right track, the entry for *af* has to be able to support the stranded peel:

⁴³An alternative would be to require in addition that the lowest feature of the lexical entry has to always be matched up by a syntactic feature. This approach is taken in Abels and Muriungi (to appear).



The entry encodes that *af* is going to act as a postposition, but nothing else said, it also predicts that it will act as a preposition meaning ‘ON,’ which does not happen.

To rule out such a possibility, I propose that the Dutch adposition *aan* ‘on’ is specified only for the Place feature (114), and since it is a better match in the locative contexts, it restricts the use of *af* to directional contexts only.



Again, such a solution entails that *aan* is strictly locative, which is the case.

In the next section, I turn to *gegen* ‘against,’ which is strictly directional and assigns accusative.

7.4.3. *Gegen*

The reason such behavior is problematic is the following. If *gegen* spells out Path, there does not seem to be a way for an accusative to surface. Despite appearances, I argue that exactly this happens. But before we get there, I want to raise a question whether *gegen* is in fact strictly directional, since this will soon become important. In this respect, consider the data below:

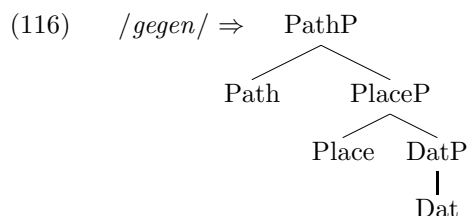
- (115) a. Ein Bild auf einer Kiste lehnt an der /*die
a picture on a box leans on the.DAT the.ACC
 Wand in Frau Diehrs Raum.
wall in Ms Diehr's room
 ‘A picture on a box leans against the wall in Ms Diehr’s room’
 (German)
- b. (?)Ein Bild auf einer Kiste lehnt gegen die Wand in
a picture on a box leans against the.ACC wall in
 Frau Diehrs Raum.
Ms Diehr's room
 ‘A picture on a box leans against the wall in Ms Diehr’s room’
 (German, Google; judgment from Martin Krämer, p.c.)

In (115a), we can see that the stative predicate *lehnen* ‘lean’ requires a locative PP in German, and disallows a directional PP. This is shown by the availability of the dative (i.e., locative) Case following the alternating adposition *an* ‘on,’ and the unavailability of the accusative (i.e., directional)

Case. In such an environment, *gegen* is surprisingly not out, and gives rise only to a mild degradation. This then means that *gegen* ‘against’ is in fact ambiguous between a locative and a directional reading.

On the one hand, this allows us to drop the question of how a strictly directional adposition assigns accusative. On the other, it seems to lead even deeper into trouble: how is it possible that a locative use of *gegen* assigns the accusative case?^{44,45}

The solution to the challenges posed by *gegen* is to admit something which is already an open possibility of the system developed so far. Namely, the possibility that an adposition can eat away from the Case hierarchy without any movement of its complement:



With the entry (116), *gegen* is allowed to spell out only the features [Dat] and [Place], yielding a locative reading with an accusative complement. However, it can also spell out all of Path, Place, and Dat, leading to a directional reading with an accusative complement. In this case, however, there is no movement of the complement to Spec,PathP.

Gegen thus differs from the alternating adpositions. Recall here from §5 that the alternating adpositions must in fact spell out the Case layers of the dP in a displaced position, unlike *gegen*, which spells them out in situ. This difference in the lexical entry corresponds to the empirical difference: *gegen* always selects for an accusative complement, whereas the alternating adpositions select for dative, and allow accusative only if the dP raises.

If we were to generalize this scenario, it might prove useful in encoding Case selection in locative PPs. Given that each adposition is in principle allowed to eat away from the Case-feature stack each dP has, there can be variation in terms of how much of it each adposition spells out. The case an

⁴⁴In certain cases, a locative reading is available also for directional adpositions, as in *Across a meadow a band is playing excerpts from H.M.S. Pinafore* (from Svenonius to appear b:ex. 43). Svenonius cites Cresswell for the observation that these uses can be generally paraphrased as *at the end of a journey*, in this case ‘at the end of a journey across the meadow.’ However, this is different from the example presented here, which is an ordinary locative use.

⁴⁵The situation where a locative adposition patterns together with directional adpositions, is, admittedly, rare both within and across languages. I know of only one other instance of a locative adposition that assigns accusative. The case in point is Serbian *uz*, which carries the spatial meaning of English *by*. Recall that Serbian patterns like Czech or Russian in other respects, and it distinguishes between a Case for locative PPs (instrumental) and a Case for directional PPs (accusative).

adposition selects would then be the complement set of the Case features that the adposition itself spells out.

8. Conclusion

In this paper, I argued for two related claims. The first one is that the category of Case decomposes into a number of separate syntactic projections which come in a universal syntactic/semantic hierarchy. Second, I have followed Starke (2005) in claiming that dPs are born as obliques, and they move by Peeling. These claims have been tested against the empirical domain of Case marking and Case shifting in adpositional phrases.

Specifically, I have observed that Finnish and Italian are subject to a “prototypicality” alternation, where a dP shifts from an oblique Case to a different case; partitive in Finnish, and accusative/genitive in Italian. I have argued that the processes in the two languages are identical, and involve movement of a Deg-Case to Spec,DegP. This in turn leads to a hypothesis that languages do not vary in terms of the constituent targeted by a specific type of Case movement.

Further, I have looked at Case alternations that yield locative or directional readings of an adpositional phrase. The proposal was that the projection of the Path-Case sub-extracts from within the complement of the locative adposition and moves to Spec,PathP. Within each language looked at, the Path-Case was identical to the Case for direct object, which supports the hypothesis formulated above. Furthermore, in both situations we have observed that the Doubly Filled Nothing Generalization of Starke (2004) (and previous work) is at work, since the Case change occurs only if there is no independent morpheme bringing in the semantic import connected to the Case shift.

In the last section, I have compared the adpositional systems of Dutch and German, concluding that the order $P > dP$ in Dutch corresponds to the dative Case in German, and that the order $dP > P$ in Dutch corresponds to accusative in German. This was taken as evidence in favor of a movement account of the Case alternation. Further, I invoked the Doubly Filled Nothing Generalization and provided an explanation for why strictly directional adpositions pattern with locative adpositions in terms of Case and word order, rather than with prototypical directional adpositions.

If this line of inquiry proves to be on the right track, various issues arise. For instance, the distinction between structural and oblique Case starts to become less and less sharp. There are two reasons. First, raising to structural Case can have semantic effects (as with directional adpositions), and second, oblique Case can be taken to be a reflex of a designated structural position, namely the position *in situ*.

Further, the conjecture that dPs can only receive one Case seems to be at odds with the present theory. Though pseudo-passive and other constructions discussed here suggest that the conjecture is probably too

strong, much more needs to be said about constructions where it seems to be at work. I only note here that the present work suggests how to derive the effects of such a conjecture where this seems necessary; namely, I have argued that Case movement is blocked in cases where the stranded Case layer receives no spell-out.

Perhaps even more controversially, the idea of dPs needing to be Case-licensed by a particular Case-licensor fits rather loosely within the present approach, where dPs bear Case from the very beginning. Interestingly, there is a phenomenon which suggests that the present account might not be too far off the mark. The phenomenon is that of so-called Default Case, i.e., Case-licensing without a(n apparent) Case-licensor. As for the observation that a particular Case is bound to a particular position, the present theory encodes this by stipulating a link between a particular layer of the Case stack (a Deg-Case, for instance) and a particular syntactic/semantic feature (Deg) in an extended projection of a category that the dP is embedded in (P).

Needless to say, I leave these issues for future inquiry.

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