Locative-Directional Alternations

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Abstract: This paper investigates three instances of locative-directional (LOC/DIR) alternation. The first involves words like *here* and *there* (henceforth HTW), which are traditionally taken to be adverbs, but which behave distributionally like either locative or directional PPs. I analyse HTW as the phrasal spellout of an abstract set of features expressing direction and location. These features stand in a containment relationship, i.e. directions contain locations. The LOC/DIR alternation is straightforwardly explained as an application of the Superset Principle, by which lexical trees may realize subtrees that they contain. From this it follows that lexical items that realize directions may also realize locations. A second case where a LOC/DIR alternation is observed is that of locative prepositions in combination with motion verbs. Here I claim that size differences in verbs and prepositions explain this phenomenon. The third case involves a LOC/DIR alternation where a locative P may become directional if the complement of P moves. These are analysed in terms of a peeling derivation, which leaves behind an oblique case layer, which transforms a locative P into a directional one.

Keywords: adverbs; prepositions; movement; direction; location

1. Introduction

The topic of this paper is the phenomenon of LOC/DIR alternations, i.e. instances where the same form can express either a locative or a directional meaning. In its simplest form, this is illustrated by the example in (1), where *there* may either refer to a location or a direction.

(1) She danced there$_{\text{DIR/LOC}}$.

This behaviour is shared by other lexical items, of which *here* is the most obvious one. *Where* only has the locative sense, but for convenience, I shall henceforth refer to *here, there*, and *where* as HTW.

A more complex case is that of (2):

(2) (a) She was swimming in$_{\text{LOC}}$ the pool.

(b) She fell in$_{\text{DIR}}$ the pool.

Here we see that the same P (*in*) can either express a location or a direction. This type of LOC/DIR alternation is verb-controlled, i.e. it is dependent on the type of verb that P combines with, as the contrast between (2a) and (2b) makes clear.

The third type of shape that a LOC /DIR alternation can take is movement-controlled, i.e. dependent on the movement of the complement of a locative P to the left. It is illustrated by the Dutch sentences in (3):

(3) (a) Ze zwom in$_{LOC}$ het zwembad
she swam in the pool
"She swam in the pool."

(b) Ze zwom het zwembad in$_{DIR}$
she swam the pool into
"She swam into the pool."

These examples show the same preposition, while the LOC/DIR alternation correlates with prepositional vs postpositional word order, respectively. In what follows, I discuss these three cases of LOC/DIR alternation in turn, and propose a nanosyntactic account for them.

2. LOC/DIR Alternation with HTW

2.1 HTW as Complex Constituents

The classical view on sentence structure in generative grammar is that words attach under terminal nodes. A phrase like *at this place* comprises three words, corresponding with three terminal nodes (P, D, and N, respectively). In contrast, an (alleged) adverb like *here* corresponds with a single terminal (Adv), which is the only word contained in the phrase (AdvP). There are two reasons why this view is unsatisfactory. First, as we shall show below, *here* has the distribution of a PP rather than an adverb. Second, the meaning of *here* is complex: it means the same as the complex phrase *at this place*. The nanosyntactic view on sentence structure (Starke 2009, 2011) offers an interesting alternative to the classical view. Specifically, words in the nanosyntactic lexicon can spell out complex constituents. This solves both issues that are unsatisfactory in the classical approach. The complex meaning of *here* can be accounted for by assuming that *here* spells out a constituent equivalent with 'at this place'. This complex constituent furthermore has the distribution of a locative or directional PP in virtue of the features that is composed of.

Nanosyntax being a late insertion model, its syntax does not operate with words, but with abstract features. What are the features that are realised by HTW? These fall into two distinct sets, corresponding to two parts in the form of HTW. On the one hand, there is a deictic or wh-part (*h-/th-/wh-*), and on the other a locative/directional part (*-ere*). The deictic/wh part (which is responsible for the differences between *here*, *there*, and *where*) is not one that I shall be concerned with it in this paper. I will focus on the *-ere* part, which I take to be the phrasal spellout of an abstract set of features, expressing direction and location and an abstract ontological category PLACE (Baunaz and Lander 2018). The lexical entry for this second part may for now be represented in (3):

(3) [DIR [LOC [PLACE]]] ⇔ *-ere*

I discuss this structure in a more detailed manner below. First, however, I turn to the evidence suggesting that HTW are PPs not adverbs.

2.2 HTW Are PPs

The argument that HTW behave distributionally like PPs and not adverbs has been made in Burton-Roberts (1991). A schematic overview of the relevant properties is given in Table 1.[1]

[1] The category of the adverbs in Table 2 refers to undisputed adverbs, which are marked morphologically by the suffix *-ly*.

	Adverb	PP	HTW
Substitution	✗	✓	✓
Complement of V	✗	✓	✓
Modifies Adj/Adv	✓	✗	✗
Postmodifies N	✗	✓	✓
Complement of P	✗	✓	✓
Takes PP complement	✗	✓	✓
Takes *right/straight/just*	✗	✓	✓
Locative inversion	✗	✓	✓

Table 1. The distributional properties of adverbs, PPs, and HTW

The table shows that HTW systematically pattern with PPs, not adverbs. For reasons of space, I will not review this evidence in detail, but restrict myself to the conclusions that can be drawn from this distribution. Burton-Roberts (1991, 171) takes HTW to be prepositions, but as we saw earlier, the semantics of HTW is more complex than that of a simple preposition. Aarts (2013) takes HTW to be PPs, but this is still too general category, since not all PPs show the distributional signature of Table 2: prepositional objects pattern quite differently than locative/directional PPs. Katz and Postal (1964) have proposed that HTW derive from an underlying PP-like structure.

(4) here : at this place
there : at that place
where : at what place

Kayne (2005) echoes this idea, suggesting that *here* and *there* are licensed in a structure with silent nouns (to wit, THIS *here* PLACE, THAT *there* PLACE, respectively, with small caps marking nonpronunciation). The proposal I develop below is in this spirit, but I believe there is an important part missing from (4), which is that it only represents the locative sense of HTW, and not the directional sense. In other words, on top of (4), we also have (5).[2]

(5) here : to this place
there : to that place

That is, the conclusion to be drawn from the distributional evidence is that HTW behave like a subclass of the PPs, namely those with a locative or directional meaning. This alternation between locative and directional meanings is a further property that HTW share with PPs.

2.3 Analysis

As we saw above, HTW can potentially refer to either a direction or a location. We also gave a preliminary lexical entry for *-ere* in (3), which is repeated here.

[2] M. Sheehan (p.c.) has drawn my attention to the fact that *where* only has the locative sense. This is also true for the constituents built on *where*, like *somewhere* and *everywhere.* I make abstraction of this fact here and continue to refer to *here* and *there* as HTW.

(6) [DIR [LOC [PLACE]]] ⇔ *-ere*

We now turn to a more detailed discussion of this structure. The idea that directions structurally contain locations (as in (6)) is fairly widespread in the literature on the syntax of prepositions (e.g. Koopman 2000, Holmberg 2002, Van Riemsdijk and Huybregts 2002, Zwarts 2005, Den Dikken 2010b, Cinque 2010, Svenonius 2010, Caha 2010, Pantcheva 2011). More specifically, directional prepositions are more complex than locative ones, i.e. directional prepositions contain locative ones:

(7) P_{DIR} = [DIR [P_{LOC}]]

Given that HTW distribute like locative or directional PPs, it stands to reason that we extend the same kind of containment relation that we see with directional prepositions to HTW, as in (6) above.

This approach furthermore gives us an immediate handle on the LOC/DIR alternations observed with HTW. They are a case of syncretism: the same form expresses two grammatical categories. More specifically, the LOC/DIR alternations with HTW illustrate the working of the Superset Principle (Starke 2009).

(8) Superset Principle
A lexically stored tree L can spell out a syntactic constituent S iff L contains S as a subtree.

The L-tree in (6) can spell out an S-tree to which it is identical (as in the directional sense of HTW), but also the locative subtree that it contains. This gives us the LOC/DIR alternation with HTW as a classical case of Superset Principle logic.

Not all Germanic cognates of HTW show the same LOC/DIR alternation. The Dutch ones, for example, systematically fail to have a directional sense

(3) Ze zwom daar$_{LOC/*DIR}$/daar-heen$_{DIR}$
She swam there/there-to
"She swam there."

In this respect, Dutch HTW resemble English *where*, which also lacks this directional sense. The structure realized by Dutch HTW therefore corresponds to that in (9):

(9) [LOC [PLACE]]

The DIR feature of (6), which is needed for a directional sense, cannot be realized by *daar* 'there', and therefore has to be realized by a separate lexical item, the directionality marker *heen*.

Let us next consider the internal make-up of HTW a bit more closely. At the bottom of the feature tree stands the feature PLACE. This is a shorthand for what is presumably an internally complex node in itself, i.e. and ontological category similar to THING, PERSON, and others, which stand in a containment relation, as proposed by Baunaz and Lander (2018). As far as LOC and DIR are concerned, it has been suggested by Caha (2017) that allative case is composed of DAT and LOC. Allative case expresses directions in languages that use case rather than prepositions. Applying this idea to the internal structure of HTW, this means that (6) has to be updated as in (10):

(10) [$_{ALL}$ DAT [$_{LOC}$ LOC [PLACE]]] ⇔ *-ere*

Evidence suggesting that such a decomposition of allative case is correct comes from Waris (Papuan), where ALL is visibly composed of DAT and LOC (data taken from Caha 2017).

(11) (a) Him-ba buku ka-**m** vrahoi. [DAT]
het-TOP book I-DAT gave
"He just gave me a book."

(b) Ovla deuv-**ra** ka-**ina** dihel-v. [LOC]
knife house-LOC I-LOC exist-PRS
"The knife is at my house."

(c) Deuv-**ra-m** Luk-**in-am** ka-va ga-v. [ALL]
house-LOC-DAT Luke-LOC I-TOP go-PRS
"I go to Luke's house."

In (a), we see the dative marker *-m*; (b) shows two different locative markers, one for animates (*-ina*) and one for inanimates (*-ra*). The allative marking in (c) shows the dative marker stacking on top of the (animacy-sensitive) locative markers. The structure of the allative case marked form *Lukinam* is shown in (12).

(12) [$_{ALL}$ [$_{DAT}$ m] [$_{LOC}$ ina [$_{NP}$ Luke]]

Here the different features of the structure are lexicalized separately, in a manner that we shall not discuss the technical details of here (see Caha 2017). The important point in this context is that in HTW, there is a single exponent realizing the entire structure, as shown in (10).

3. Verb-controlled LOC/DIR Alternation

3.1 Size Differences in P

Certain types of prepositions only have a locative meaning (e.g. *in*, or French *à*), whereas others are directional. The examples below (from Déchaine et al. 1995) use these prepositions in nominal postmodifiers, since in combination with certain types of verbs locative prepositions may take on a directional sense, as we shall see below.

(13) (a) a train in$_{LOC}$/to$_{DIR}$ Paris [English]

(b) un train à$_{LOC}$/vers$_{DIR}$ Paris [French]

(b) een trein in$_{LOC}$/naar$_{DIR}$ Paris [Dutch]

Taking directions to be more complex than locations, we give this a nanosyntactic implementation in terms of phrasal spellout by assuming that the difference between locative and directional Ps is one of size. This is shown schematically in Table 2.

DIR	LOC	PLACE
	in	Paris
to		Paris

Table 2. Directional P is bigger than locative P

Directional Ps realize a structure that contains the structure realized by locative Ps. Taking our earlier decomposition of the allative case as consisting of DAT and LOC, and extending it to directional (i.e. allative) prepositions, we can state the following:

(14) P_{DIR} = [DAT [P_{LOC}]]

A question raised by this analysis is why purely locative Ps sometimes have an apparent motion sense.

(15) (a) She went/came/fell/jumped in_{DIR} the water. [English]

(b) Ce train va $à_{DIR}$ Paris. [French]
'This train goes to Paris.'

The answer is that the motion sense is contributed by the verb. This is confirmed by the fact that not all motion verbs can do this. Stative verbs like *be* never occur with strictly locative Ps to give them a directional sense. The same is true of the so-called manner-of-motion (MOM) verbs like *dance*. The verbs that do have this capability are the verbs of directed motion, or motion verbs for short (see also Talmy 1975, 1985 on path-framed vs satellite-framed languages; also Levin 1993, Levin and Rappaport Hovav 1995, Ramchand 2008, Beavers et al. 2010, Den Dikken 2010a). Assuming the different verbs to realize different sets of features, we analyse their relationships as a size difference: verbs of directed motion are more complex than (i.e. contain) manner of motion verbs, which in turn are more complex than stative verbs, as shown in Table 3.

<table>
<tr><td>STATE</td><td>PROC</td><td>DAT</td></tr>
<tr><td>be</td><td></td><td></td></tr>
<tr><td colspan="2">dance</td><td></td></tr>
<tr><td colspan="3">go</td></tr>
</table>

Table 3. Containment relations in different verb types

Analogous to our earlier equation on directional prepositions, we therefore have (16).

(16) V_{DIR} = [DAT [V_{MOM}]]

Verbs of directed motion (*go, jump, fly*) can realize DAT (Fabregas 2007, Caha 2010). This is what allows a purely locative preposition to appear to have a directional sense: DAT is spelled out by the verb. This is shown schematically in Table 4.

STATE	PROC	DAT	LOC	PLACE	
be			in	Paris	(locative)
dance			in	the room	(locative)
go			in	the room	(directional)

Table 4. The realization of DAT by motion verbs

Manner of motion verbs (*dance, walk, run*) are unable to spell out DAT, so that with these verbs, *in* can only have a locative sense.

(17) (a) She danced in$_{LOC}$ the room.

(b) She danced (in)to$_{DIR}$ the room.

Neither the verb nor *in* can realize DAT, and a directional P is needed to realize a directional sense. This is shown in Table 5.

STATE	PROC	DAT	LOC	PLACE	
dance			in	the park	(locative)
dance		to		the park	(directional)

Table 5. The realization of DAT by *to*

Some verbs allow both a directed motion reading and a manner of motion reading. For example, *fall, jump*, and *fly* (but not *come* or *go*) can occur with both a directional or locative PP with *in*.

(18) (a) She fell [in the water]$_{DIR}$.

(b) She fell [in the bathroom]$_{LOC}$.

(19) (a) The children jumped [in the water]$_{DIR}$.

(b) The children were jumping [in the water]$_{LOC}$.

This situation is summarized in Table 6.

	DIRECTED MOTION	MANNER OF MOTION
go, come	✓	✗
dance, walk, run	✗	✓
fall, jump, fly	✓	✓

Table 6. Types of motion verbs in English

Observe that there is a single functional sequence involved in the expression of a motion or location sentence, as on the top line of Table 4. The idea of phrasal spellout implies that words spell out parts (or spans) of this functional sequence. As before, we gloss over the technicalities of exactly how this happens for reasons of space. The relevant point is that a verb of directed motion is bigger than a manner-of-motion verb, i.e. it can realise a larger span of features. That is how the LOC/DIR alternation arises with strictly locative P: the verb realises the DAT.

At this point, we return to our earlier findings on HTW. Recall that HTW distribute like PPs, not adverbs. In view of the distinction between locative and directional Ps, a first question to ask is whether HTW more resemble locative Ps (like *in*), or directional ones (like *to*). As we already pointed out above, HTW can in fact have both a locative and a directional sense. The locative sense of HTW appears with stative verbs, as in (20)(a), and manner of motion verbs (see (20)(b)), but also with directional verbs (20)(c):

(20) (a) The pharmacy is there$_{LOC}$.

(b) She danced$_{MOM}$ there$_{LOC/DIR}$.

(b) She came$_{DIR}$ here$_{LOC}$ yesterday.

The directional sense of HTW can only conclusively be inferred from the possibility of a directional interpretation in (20)(b). This sentence involves the manner of motion verb *dance*, which we know independently cannot realize DAT (see (17) above). Therefore, it must be the case that DAT is realized by HTW. Although (20)(c) has a directional meaning, it does not show that HTW is directional: as we saw earlier (see the examples in (15)), a strictly locative P may combine with a motion verb to yield a directional reading. Table 7 shows the size tradeoff between the verb and *there*.

STATE	PROC	DAT	LOC	PLACE	
be			there		(locative)
dance			there		(locative)
dance		there			(directional)
go			there		(directional)

Table 7. Size tradeoffs with HTW

In the bottom two lines of the table we see a tradeoff between the features spelled out by the verb and those spelled out by *there*. A manner-of-motion verb like *dance* cannot on its own express directed motion, i.e. it cannot realize the feature DAT, but since *there* can, the directional sense can be present when both combine (as shown in (3) above). A motion verb like *go* can realize DAT, so that DAT is not realized by *there*, which is a possibility that must be assumed independently, given that *there* can have a purely locative sense.

The behavior of Dutch HTW gives us a reason to further refine the structure in Table 7. Recall that we observed that Dutch HTW only have a locative, not a directional sense. We now expect Dutch HTW to combine with motion verbs like *gaan* 'go', but this prediction is not borne out.

(21) Ze ging *daar/daar-heen
she went there/there-to
"She went there."

This suggests that the functional sequence is richer than we have assumed so far, in particular that there is an additional feature between DAT and LOC, as shown in Table 8.

STATE	PROC	DAT	X	LOC	PLACE	
dance		there				(directional)
go			there			(directional)
dans		heen		daar		(directional)
ga			heen	daar		(directional)

Table 8. HTW in English and Dutch

Since we know that Dutch HTW can realize a location, it must minimally realize LOC and the feature PLACE below it. At the same time HTW is too small to realize a direction,

even in the presence of a motion verb, which we have assumed can realize DAT. Assuming there to be a feature between DAT and LOC (indicated by X in Table 8) will have the desired effect. Since neither the verb nor HTW can realize X, the directionality marker *heen* is needed to realize this feature. This conclusion agrees well with many proposals in the literature for a fine-grained structure for adpositional phrases (see Cinque 2010 for an overview).

3.2 Locative and Directional Verbs in Dutch

In this section we discuss Dutch motion verbs, which provide some interesting confirmation for the treatment of semantic verb class in terms of differences in size. Dutch has the same distinction between directed motion verbs and manner of motion verbs as English, but it shows an additional property that is absent in English, namely auxiliary selection in the prefect that is sensitive to this difference. Taking the difference between HAVE and BE to be one of size, it becomes possible to see auxiliary selection as a matter of matching the size of the main verb with that of the auxiliary. Specifically, the smaller verb (manner of motion) takes the bigger auxiliary (HAVE), and vice versa: the larger verb (directed motion) takes the smaller auxiliary (BE).

Table 9 shows how Dutch has the same verb classes as in English. Some verbs only express directed motion, others only manner of motion, and a third class is ambiguous between the two readings.

	DIRECTED MOTION	MANNER OF MOTION
gaan, komen	✓	✗
dansen, wandelen	✗	✓
springen, vliegen	✓	✓

Table 9. Types of motion verbs in Dutch

If we now look at the choice of the auxiliary in the perfect tenses, we see that the directional or locative meaning of the main verb correlates perfectly with auxiliary choice. This is shown in Table 10.

	BE	HAVE
gaan, komen	✓	✗
dansen, wandelen	✗	✓
springen, vliegen	✓	✓

Table 10. Auxiliary selection with motion and manner of motion verbs

I shall not here illustrate these three classes of verbs in full detail, but instead show the core of the two patterns with an alternating verb like *vliegen* ‘fly’, which takes *zijn* ‘be’ in the directed motion sense, and *hebben* 'have' in the manner of motion sense (Hoekstra 1984).

(22) (a) Het vliegtuig is naar$_{DIR}$ Bratislava gevlogen.
the airplane is to Bratislava flown
“The plane has flown to Bratislava.”

(b) Het vliegtuig heeft op$_{LOC}$ grote hoogte gevlogen.
the airplane has at big altitude flown

"The plane has flown at high altitude."

Just as there is a HAVE/BE alternation in the perfect tense, there is also a HAVE/BE alternation in the expression of possession. The argument that is HAVE is bigger or more complex than BE has been made by a number of authors (e.g. Freeze 1992, Kayne 1993, Hoekstra 1994, Hoekstra 1995). Formulated as an equation, it looks as in (23):

(23) HAVE = P + BE

That is, HAVE is a bigger version of BE, including the structure of BE plus something extra, which is of a prepositional nature. The HAVE/BE alternation in the expression of possession correlates with a different case pattern: the expression of possession with BE typically involves dative case, whereas a classical nominative-accusative pattern is found with HAVE.

(24) (a) Mihi est liber. [Latin]
me.DAT is book.NOM

(b) Mám knihu. [Czech]
I.have book.ACC
"I have a book."

Given that dative case is bigger than accusative case (Caha 2009), one can explain this alternation in terms of a size tradeoff: the bigger case (dative) goes with the smaller verb (BE), and the smaller case (accusative) combines with the bigger verb (HAVE). This is depicted in Table 11.

BE	DAT	ACC
est	mihi	
	mám	knihu

Table 11. Size tradeoff in the expression of possession

We now update (23) as in (25), where DAT is the feature (or set of features) that sets the dative apart from the accusative:

(25) HAVE = DAT + BE

Looking at the HAVE/BE difference is more technical terms, we can relate them derivationally in terms of a peeling movement (Caha 2009). The idea is that the dative moves and becomes a less complex case (like nominative or accusative) by leaving behind a dative 'peel'. This peel is visible in the realization of another lexical item. In this case, the dative possessor moves and becomes a nominative by leaving behind a dative peel, which creates HAVE.

(26) (a) [BE [$_{DAT}$ DAT [$_{ACC}$ ACC [$_{NOM}$ NOM [...]]]]]

(b) [$_{NOM}$ NOM [...]] ... [BE [$_{DAT}$ DAT]]$_{HAVE}$

In (26)(a), we see the verb BE accompanied by a dative possessor. In (26)(b), the possessor argument has raised to the left, leaving behind a dative peel, which augments

BE to become verb HAVE. There are various complexities that I gloss over here, such as what happens with the accusative feature. There are various ways of dealing with this, but a full discussion of the matter is orthogonal to the concerns of the present paper, so I will not undertake it here.

Taking the HAVE/BE difference to carry over to their use as auxiliaries, we can also explain the auxiliary selection facts with locative and directional verbs reviewed earlier in terms of size, as shown in Table 12.

BE	DAT	PROC	
zijn	komen, gaan		(directed motion)
hebben	wandelen, dansen		(manner of motion)

Table 12. Auxiliary selection as size tradeoff

As before, the larger verb selects the smaller auxiliary, and the smaller verb the larger auxiliary.

4. Movement-controlled LOC/DIR Alternation

Earlier we saw that there are two types of P, locative and directional. The difference there was a lexical one, which means it is unpredictable and unsystematic. This section investigates a way in which locative Ps may become directional as the consequence of a regular syntactic movement process, i.e. (at least to some extent) systematically and predictably. The phenomenon is illustrated in the following examples:

(27) (a) de weg in$_{LOC}$ het bos
the road in the wood
"the road in the wood"

(b) de weg het bos in$_{DIR}$
the road the wood into
"the road into the wood"

The locative P in becomes directional if the order is postpositional. Clearly the directional meaning here cannot come from a motion verb, since there is no motion verb in the examples.

Other Dutch locative Ps show the same property (e.g. *op* 'on'). In many languages, there exist similar LOC/DIR alternations in the meaning of prepositions, which correlate with a change in case marking. German provides a case in point.

(28) (a) Alex tanzte in$_{LOC}$ dem$_{DAT}$ Zimmer
Alex danced in the.DAT room
"Alex danced in the room"

(b) Alex tanzte in$_{DIR}$ das$_{ACC}$ Zimmer
the road the wood.ACC into
"the road into the wood"

Again, we see a size tradeoff: the smaller (locative) preposition goes with the large case (dative, or another oblique case in certain languages), whereas the bigger (directional) preposition goes with the smaller case (accusative) (Table 13). Although the specific

oblique case may differ from language to language, the general pattern is clear (Caha 2010, 181).

P	DAT	ACC
in_{LOC}	dem	
in_{DIR}		das

Table 13. Case selection by P as size tradeoff

Caha (2007, 2009, 2010) proposes a peeling derivation for this type of alternation, in which the dative location moves to become an accusative, leaving behind a dative peel. This peel then turns the locative P into a directional one. The derivation is depicted below, where (29)(a) shows locative *in* with a dative complement; (29)(b) shows the result of moving the accusative subpart of the complement of P to the left, leaving behind the feature DAT, which spells out with *in* to create directional *in*.[3]

(29) (a) [in_{LOC} [$_{DAT}$ DAT [$_{ACC}$ ACC [$_{NOM}$ NOM [...]]]]]

(b) [$_{ACC}$ ACC [$_{NOM}$ NOM [...]]] ... [in_{LOC} [$_{DAT}$ DAT]]$_{DIR}$

The interesting property of this proposal is that it links two phenomena: the change in case (which is the result of subextracting a smaller case out of a bigger one), and the LOC/DIR alternation, which arises because the P gets bigger, i.e. turns from a locative into a directional one after peeling movement of the bigger case. Dutch postpositional order (creating P_{DIR} from P_{LOC}) likewise results from this peeling movement. In this analysis, the alternation in the meaning of the preposition is a case of syncretism: the same form expresses two grammatical categories. More specifically, it illustrates the nanosyntactic Superset Principle, whereby a lexical item may spell out a syntactic tree if the lexical tree contains the syntactic tree as a subtree. Since the lexical entry for directional *in* contains that of locative *in*, it may realize both meanings.

5. Conclusion

In this paper I discussed three types of LOC/DIR alternation. The first concerned HTW, which showed all the properties of either directional or locative PPs. HTW was analysed as the phrasal spellout of a structure consisting of the abstract set of features DAT, LOC, and PLACE, arranged in a containment relationship. Given these assumptions, the LOC/DIR alternation with HTW can straightforwardly be explained as a consequence of the Superset Principle. The second LOC/DIR alternation was that of locative prepositions, which may express directed motion in combination with motion verbs. These were accounted for by assuming that the relevant feature could be realized by a particular subclass of the verbs, those expressing directed motion. The third case involved a systematic LOC/DIR alternation in certain locative prepositions, which can become directional if the complement of P moves. This may be visible in postpositional word order, or in a smaller case appearing than the case that goes with the locative meaning. These were analysed in terms of a peeling derivation, where the movement of the

[3] The actual analysis of Caha (2010) is considerably more complex, in a way that I cannot possibly do justice to here. One obvious issue that I leave untouched here is how German prepositional order arises with the directional sense and the accusative. I refer the reader to Caha (2010) for discussion of these issues.

complement of P strands a case peel, which makes the locative P directional (as proposed by Caha 2010).

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