

**Case Marking Direction:  
The Accusative in German PPs<sup>1</sup>**

Joost Zwarts

Radboud University Nijmegen

## 1 Prepositional case

There is a well-known contrast in German between dative and accusative case with prepositions:

- |     |    |               |        |    |                 |        |
|-----|----|---------------|--------|----|-----------------|--------|
| (1) | a. | in dem        | Zimmer | b. | in das          | Zimmer |
|     |    | in the.DAT    | room   |    | in the.ACC      | room   |
|     |    | ‘in the room’ |        |    | ‘into the room’ |        |

While the first PP can be used to describe where something is (a place), the second PP describes where something is moving (a direction or goal). We get minimal pairs like the following:

- |     |    |                                 |
|-----|----|---------------------------------|
| (2) | a. | Alex tanzte in dem Zimmer       |
|     |    | Alex dance-PAST in the.DAT room |
|     |    | ‘Alex danced in the room’       |
|     | b. | Alex tanzte in das Zimmer       |
|     |    | Alex dance-PAST in the.ACC room |
|     |    | ‘Alex danced into the room’     |

Similar contrasts can be found in other Indo-European languages, with the accusative typically being used for the goal path and other cases (like the dative or ablative) for the locative place situation.

The purpose of this paper is to consider the status of the dative/accusative contrast in the case typology of generative grammar, which distinguishes between inherent, structural,

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semantic, and lexical case (see Chomsky 1986, Woolford 2006, Kiparsky 1998, for instance). One possibility is that prepositions assign different thematic roles to their complement (say location and goal), which can be distinguished through inherent case-marking. Another option is that the contrast is based on a difference in structural position. The cases could also mark some kind of non-thematic semantic contrast, maybe aspectual, like partitive and accusative do in Finnish. A final possibility would be to treat the cases as lexical, i.e. idiosyncratically tied to particular prepositions.

In this paper I will review these four options for German spatial PPs. The conclusion will be that the use of dative and accusative does not fit into one of the existing four types of case. Instead, I will argue that the pattern that we find arises from the interaction of different constraints, some of which are structural, others semantic and lexical. I first review the basic German pattern in section 2, then discuss the four theoretical options in 3, and present an Optimality Theoretic account of this interaction in section 4.

## 2 The pattern of prepositional case

German PPs in general allow three possible cases: dative, accusative and genitive. There is a sizeable set of prepositions in German, but here, I will focus on the core of that set, namely the primary spatial prepositions that assign dative or accusative. With this restriction we find the following 16 items, in three classes:<sup>2</sup>

(3)	DATIVE	ACCUSATIVE	DATIVE & ACCUSATIVE
	aus ‘out of’	durch ‘through’	an ‘on’
	bei ‘near’	um ‘around’	auf ‘on’
	nach ‘to’		hinter ‘behind’
	von ‘from’		in ‘in’
	zu ‘at, to’		neben ‘next to’
			über ‘over’
			unter ‘under’
			vor ‘in front of’
			zwischen ‘between’

<sup>2</sup> In older and regional versions of German, *bei* ‘near’ is in the third column of the two-way prepositions, governing both dative and accusative (Draye 1996:210).

Roughly speaking, the primary prepositions of a language are the older and more common prepositions, with a simple, monomorphemic structure, not derived from lexical categories (N, V, A) or borrowed from another language.<sup>3</sup> I am therefore leaving out spatial prepositions that are complex, like *gegenüber* ‘opposite’ (dative), *entlang* ‘along’ (dative or genitive) and *innerhalb* ‘inside’ (genitive), as well as primary prepositions that are not purely spatial, like *mit* ‘with’ (dative), *bis* ‘until’ (accusative) and *gegen* ‘against’. Prepositions like *gegenüber* and *entlang* are also special because of their postpositional use.

It has often been observed that there is a semantic pattern in the dative/accusative case contrast (see, for example, Bierwisch 1988, Leys 1989, 1993, 1995, Smith 1992, 1995, Abraham 2001, 2003). In order to clearly see this pattern we need an independent semantic classification of prepositions. The basic semantic split is between prepositions that are locative (referring to places) and directional (referring to paths). Locative prepositions are *bei* ‘near’ in the first column of (3) above and all the two-way prepositions in the third column. Directional prepositions come in three types. There are source prepositions (*aus* ‘out of’ and *von* ‘from’), goal prepositions (*nach, zu* ‘to’), and route prepositions (*durch* ‘through’, *über* ‘over’, *um* ‘around’). This gives us the following basic classification:

(4)	<i>Place</i>	an ‘on’, auf ‘on’, bei ‘near’, hinter ‘behind’, in ‘in’, neben ‘next to’, über ‘above’, unter ‘under’, vor ‘in front of’, zwischen ‘between’					
	<i>Path</i>	<table border="1"> <tr> <td><i>Source</i></td> <td>aus ‘out of’, von ‘from’</td> </tr> <tr> <td><i>Goal</i></td> <td>nach, zu ‘to’</td> </tr> <tr> <td><i>Route</i></td> <td>durch ‘through’, über ‘over’, um ‘around’</td> </tr> </table>	<i>Source</i>	aus ‘out of’, von ‘from’	<i>Goal</i>	nach, zu ‘to’	<i>Route</i>
<i>Source</i>	aus ‘out of’, von ‘from’						
<i>Goal</i>	nach, zu ‘to’						
<i>Route</i>	durch ‘through’, über ‘over’, um ‘around’						

All the prepositions that we classified as place prepositions, except for *bei* ‘near’, can also be used to indicate a goal, and they take the accusative then:

- (5) a. Alex trat in das Zimmer  
 Alex step-PAST in the.ACC room  
 ‘Alex entered the room’

<sup>3</sup> For this distinction see Diewald (1997), Fleischer (2002), Zwarts (1997b), among others.

- b. Alex hängte die Lampe über den Tisch  
 Alex hang-PAST the-ACC lamp above the-ACC table  
 ‘Alex hung the lamp above the table’

Notice that we put *über* ‘above, over’ not only in the class of locative prepositions, but also in the class of route prepositions (as *über*<sub>R(oute)</sub>):

- (6) über<sub>R</sub> die Brücke fahren  
 over the.ACC bridge drive  
 ‘drive over the bridge’

I assume that *über* conflates two prepositions, kept apart in English and Dutch: the place preposition *above/boven* and the route preposition *over* (written here as *über*<sub>R</sub>).

When we combine the case classification in (3) with the semantic classification in (4), we see the following pattern:

		DATIVE	ACCUSATIVE
<i>Place</i>		bei, an, auf, hinter,	-
		neben, in, über, unter, vor, zwischen	
<i>Path</i>	<i>Source</i>	aus, von	-
	<i>Goal</i>	nach, zu	an, auf, hinter, neben, in, über, unter, vor, zwischen
	<i>Route</i>	-	durch, über <sub>R</sub> , um

We can see in this table that all the accusative prepositions are directional, either referring to goals or routes, and, reversively, all the locative prepositions assign dative case. It is not possible to make a straightforward generalization about the dative prepositions, however. We can not say that all dative prepositions are locative, because there are two dative source prepositions (*von* ‘from’ and *aus* ‘out of’) and two dative goal prepositions (*nach* and *zu* ‘to’).

The behaviour of the dative, straddling the line between locative and directional uses, can partially be understood historically. The dative and accusative in present-day German PPs

evolved out of the richer case system of Proto-Indo-European (PIE) (Blake 1994, Fox 1995, Beekes 1995). The present-day dative is a syncretism of three distinct cases in PIE. It covers the PIE dative, which was a non-spatial case for recipients and benefactives and is still used as such in German and many other Indo-European languages. However, it has absorbed the locative case (that was used for location) and the ablative case (for sources). The accusative in PIE was used for goals (like an allative), which is still reflected in its PP use, but it was also used for extents, which is very similar to our route use here (what is called perlocative or translative in local case terminologies).

Notice however, that we find a quite general use of the accusative for goals, while the accusative for routes is only limited to three prepositions. For example, the accusative PP *unter die Brücke* ‘under the bridge’ in (8a) can only refer to the region under the bridge as a goal (‘to under the bridge’), not as a route (‘via under the bridge’). For the route meaning, German uses the dative PP *unter der Brücke* with a postpositional particle *hindurch*, as in (8b).

- (8) a. Zwei Schwäne schwimmen unter die Brücke  
 Two swans swim underthe.ACC bridge  
 ‘Two swans swim (to) under the bridge’
- b. Zwei Schwäne schwimmen unter der Brücke hindurch  
 Two swans swim underthe.DAT bridge PRT-through  
 ‘Two swans swim under the bridge (to the other side)’

In (8b) the *locative* PP *unter der Brücke* is embedded in a complex directional phrase *unter der Brücke hindurch* ‘under the bridge (through)’, where the directionality is expressed by *hindurch*.

We should also point out here that there is lexical variation in the way goal PPs are marked with verbs of directed motion like *stellen* ‘put’ and *parken* ‘park’. With some verbs the goal PP carries accusative case (9a), with other verbs dative case (9b):

- (9) a. Er stellt den Teller auf den Tisch  
 Heputs the.ACC plate on the.ACC table  
 ‘He puts the plate on the table’

- b. Er parkt das Auto vor dem Haus  
 He parks the car in.front.of the.DAT house  
 ‘He parks the car in front of the house’

We could maybe relate this difference to the semantic selectional properties of the verbs: *stellen* selects goal paths and *parken* selects places, or, in other words, *stellen* does carry the goal directionality itself, while *parken* does. So the PP *vor dem Haus* ‘in front of the house’ in (9b) is not a goal PP, but a place PP that is part of the directional specification of the VP. In the terminology of Jackendoff (1983), *stellen* is CAUSE GO, where GO takes a path, while *parken* is CAUSE GO TO, with TO taking a place. This does not mean that the selection is always unambiguous or easily predictable. The boundary between verbs that select paths and those that select places is difficult to draw. There might of course be verbs that select for a particular preposition or even for particular preposition+case combinations, like *glauben* ‘believe’, that takes *an* with ACCUSATIVE while *interessieren* ‘be interested’ takes *an* with DATIVE. For further discussion of such issues of selection see Jackendoff (1983), Riemsdijk & Huijbregts (2001) and Kracht (2002, 2003).

### 3 The status of prepositional case

As we saw in the introduction, we find four types of case in the literature:

- (10) Inherent case: marking of thematic roles
- Structural case: marking of syntactic positions
- Semantic case: marking of semantic features
- Lexical case: marking of lexical dependency

The central question of this paper is how these types of case-marking can help us to understand the contrast between dative and accusative in German PPs. Does prepositional case fit into one of these four types?.

#### 3.1 Inherent case?

An inherent case is a case that goes along with a particular thematic role. If we consider the simple contrast in (11) a simple correspondence suggests itself:



(1983), that are representative for a variety of semantic approaches that distinguish ‘places’ and ‘paths’ in one way or another.<sup>4</sup>

- (13) a. [Place UNDER(HOUSE) ]                      b. [Path TO([Place UNDER(HOUSE) ])]

UNDER is a place function, a function that maps an object to a place. This place can then be the argument of a path function TO, that maps this place to a path, the path has the place under the house as its goal. The position of the reference object HOUSE is the same in both structures: argument of the UNDER place function and it is the place defined by this function that can function as a location or as a goal (when the TO function applies to it). We have to reject the idea that the dative/accusative contrast is a matter of inherent (thematically driven) case marking.

### 3.2 Structural case?

Could the contrast between dative and accusative then be made in structural terms, as related to different positions. At the face of it, this seems unlikely, because the structure of locative and directional prepositional phrases seems identical:

- (14) a.    in dem<sub>DAT</sub> Zimmer                      b.    in das<sub>ACC</sub> Zimmer  
           ‘in the room’                                      ‘into the room’  
           [PP in [DP dem Zimmer ] ]                      [PP in [DP das Zimmer ] ]

In both cases the DP is a complement of the preposition *in* that projects as a PP. But maybe the structure of locative and directional PPs is really different at a more abstract syntactic level, along the lines of Koopman (1997), Den Dikken (2003) and Noonan (2005), with a PlacePhrase for locative PPs and a PathPhrase for directional PPs. Den Dikken (2003) proposes to associate dative case to the specifier of the PlaceP and accusative case to the specifier of PathP, presenting them as different *structural* cases:<sup>5</sup>

- (15) a.    [PlaceP DAT [PP in dem Zimmer ] ]    b.    [PathP ACC [PP in das Zimmer ] ]

<sup>4</sup> Like my own work on vectors and paths (Zwarts 1997a, Zwarts and Winter 2000, Zwarts 2005), and also in the work of Nam (1995) and Kracht (2000), for example.

<sup>5</sup> The phrase structures of Den Dikken, Koopman and Noonan are much more intricate than this and apply to a wealth of syntactic data involving prepositions, postpositions and particles in Dutch and German. I have only extracted the part that is relevant for German case marking, not being able to do justice to their proposals.

The DPs move to that position covertly, or their overt movement is followed by another overt movement of the preposition to a position higher up not shown here, leading to the correct surface order. In any event, dative and accusative are linked to different structural positions.

Assuming different syntactic structures for locative and directional PPs might be an attractive move, given that we see many syntactic differences between the two types, especially in Dutch and German (the languages that are used in the literature to motivate richer PP structure). However, we already saw in section 2 that the dative/accusative contrast does not correspond exactly to the locative/directional contrast. The dative marking of *aus* ‘out of’ presents a problem for this structural case analysis that is based on the PlaceP/PathP distinction. Den Dikken (2003) then needs to assume that in the syntactic structure of *aus* both these functional projections are present:

- (16) *aus dem*<sub>DAT</sub> *Zimmer*  
 ‘out of the room’  
 [<sub>PathP</sub> ACC [<sub>PlaceP</sub> DAT [<sub>PP</sub> *aus dem Zimmer* ]]

Only the lowest one, the PlaceP with dative case, is close enough for the DP object, for independent syntactic reasons. It is not clear, however, what motivates the presence of the PlaceP in (16), or its absence in (15b), independently from the case distinction. If there really is such a structural distinction between *in das Zimmer* ‘into the room’ and *aus dem Zimmer* ‘out of the room’, then we would expect important differences in syntactic behaviour between the two, but these are not found.<sup>6</sup> From a semantic point of view, it seems very unlikely that we can just leave out the PlaceP in (15b). Labeling this phrase as PlaceP suggests a close relation with the place concept in Jackendoff’s semantic representation, which is an indispensable level in the semantics of prepositional phrases, below the directional path level, as shown in (13) (see also Van Riemsdijk and Huijbregts 2001 and Kracht 2002 for such a two-level analysis). Leaving the PlaceP out in the syntax of directional PPs, as is done in (15b), is then simply not an option, unless the PlaceP has a very loose relation with its semantic counterpart (which is not what Koopman, Den Dikken and Noonan have in mind).

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<sup>6</sup> Den Dikken mentions the fact that *aus*, but not *in*, can occur as a directional particle: *ausführen* out-lead ‘export’ versus *einführen* in-lead ‘import’ (*\*inführen*). However, this could also be a lower-level variation in the morphological shape of this word.

We have to conclude that there is insufficient ground for assigning dative and accusative in PPs on the basis of different structural positions.

### 3.3 Semantic case?

In Finnish the partitive and accusative case can be used on objects to make a distinction between atelic and telic aspect (Kiparsky 1998):

- (17) a. Hän avas-i ikkuna-a  
He open-Past3Sg window-Part  
'He was opening the window' (atelic)
- b. Hän avas-i ikkuna-n  
He open-Past3Sg window-Acc  
'He opened the window' (telic)

Partitive case corresponds to atelic aspect or unboundedness, while accusative case corresponds to telic aspect or boundedness. This (un)boundedness can reside in the noun phrase object itself, but it can also be a global property of the whole VP, as in the example above. This kind of marking is not structural, but semantic, because it depends on the presence of a feature of (un)boundedness.

In line with that proposal, we could imagine that dative and accusative in German PPs marks the aspect of the PP or the VP, i.e. whether that phrase is atelic or telic. The dative would then correspond to unboundedness and the accusative to boundedness, as in the following examples:

- (18) a. Sie tanzten in dem<sub>DAT</sub> Zimmer  
'They danced in the room' (atelic)
- b. Sie tanzten in das<sub>ACC</sub> Zimmer  
'They danced into the room' (telic)

This seems to work fine for the two-way prepositions that show an alternation between dative and accusative, but not for other examples:

- (19) a. Sie tanzten aus dem<sub>DAT</sub> Zimmer  
 ‘They danced out of the room’ (telic)
- b. Sie tanzten durch das<sub>ACC</sub> Zimmer  
 ‘They danced through the room’ ((a)telic)

(19a) shows a dative marked PP that still leads to telic aspect, while (19b) on the other hand has an accusative marking, but it does allow an atelic reading. So, clearly, the case inside a PP does not mark the aspect of that PP or the VP higher up. The aspect of the PP is determined by the preposition and the case together, not by the case independently from the preposition.

### 3.4 Lexical case?

We are left then with the fourth option: analyzing the case marking within PPs as a purely lexical phenomenon, i.e. as an idiosyncratic relation between the preposition and the case it selects. As part of its lexical specification, prepositions do not only have a form and a meaning, but also the case that they require on their complement DP. We could represent this as follows, using Jackendoff’s place and path functions:

- (20) a. in, P, +DAT, IN (‘in’)
- b. in, P, +ACC, TO IN (‘into’)
- c. aus, P, +DAT, FROM IN (‘out of’)
- d. durch, P, +ACC, VIA IN (‘durch’)
- e. zu, P, +dat, TO (‘to’)

The meaning of a preposition can be a single place function (like IN) or a single path function (TO), or a composition of a path function and a place function (like TO IN). Some prepositions, like *um* ‘around’, might not be decomposable in such a way, but map directly from the reference object to a path through a more complex function.

In a sense, treating prepositional case as lexical case is the approach that always works. It is a safe and reasonable approach for many preposition-case combinations that we find in languages across the world. Often a preposition and a case might have ended up together for historical reasons that allow no synchronic regular generalization. This is also true for German, a point that I work out in Zwarts (2006). However, as we have seen above, there are still clear patterns in the lexical idiosyncracies. Even if we choose to list the government

properties of German as in (20), then this list should be complemented by a characterization of what is regular about the list, even if the list as a whole cannot and should not be completely generated by a set of rules or principles. So, we must ultimately conclude that prepositional case cannot be completely lexical either.

#### 4 The optimization of prepositional case

The previous section showed that we cannot analyze prepositional case in German as belonging to one of the established types of cases: inherent, structural, semantic, or lexical. What I want to argue now is that the pattern that we find results in fact from the interaction between different types of constraints: structural, semantic, and lexical. Part of the pattern is structural, another part semantic, and yet another lexical. I am going to make this precise in terms of Optimality Theory, with a small constraint system of markedness and faithfulness constraints, similar in spirit to what has been proposed by De Hoop (1999), Kiparsky (2001), Woolford (2001), and Wunderlich and Lakämper (2001), but with obvious differences that find their origin in the different conditions that apply within the PP.

In the OT syntactic model that I am using here, a semantic input is mapped to a syntactic output. For the semantic input I will use Jackendoff's conceptual structures, because these are well-known and sufficiently explicit for our purposes (although maybe not ideal in every respect). I will leave out brackets and labels where possible to simplify the representations. The output is strictly speaking a fully specified syntactic structure, but I will represent it here as a partial string of words and abstract morphemes. We get the following input-output relation, for example:

(21) [<sub>Place</sub> IN HOUSE ] → in DAT Haus

Determination is missing in both the input and the output and the dative morpheme is not spelled out, but the general idea should be clear. The Place in the input is a semantic category that should not be confused with the syntactic category PlaceP ('PlacePhrase') in the syntactic work discussed in section 3.2. I assume that all the syntactic outputs are simple PPs. Part of the total mapping in (21) are the lexical mappings IN → *in* and HOUSE → Haus. Let us assume that these are either baked into the generator or part of high ranking lexical constraints.

To simplify matters, I assume that there are only two cases competing with each other within the output PP, the dative and the accusative, and leave the other two cases in German, the nominative and genitive, out of the picture. The nominative never occurs in PPs, the genitive mainly with prepositions that are derived from nouns, adjectives, and participial verbs, but not with the primary prepositions that we consider here. Let us assume that the nominative is ruled out for structural reasons (because it is a case for specifier positions, for example) and that the genitive is ruled out for categorial reasons (because it depends on a +N(ominal) feature that is lacking in primary prepositions, but present in secondary prepositions). We are left then with dative and accusative as the only two candidates.

#### 4.1 Structural dative

Following Bierwisch (1988) and others, I will assume that dative is the default, structural case in PPs. There are several indications that dative is the unmarked prepositional case.

Eisenbeiss, Bartke and Clahsen (2006) report that dative is the most frequent case in PPs.

Dative, and not accusative, is also the case that is gaining ground against the genitive in modern German, as with the secondary preposition *entlang* ‘along’. Notice also that dative is the more heterogeneous case of the two, including both locative and directional meanings, while the accusative is more specifically directional in application. In other words, in PPs dative is the unmarked case and accusative the marked case.

In the markedness calculus of Optimality Theory this can be expressed through two ranked constraints that penalize the use of case on prepositional objects, with the accusative being more marked than the dative:

(22) \*ACC(PP) >> \*DAT(PP)

\*ACC(PP): Don’t use the accusative in PPs.

\*DAT(PP): Don’t use the dative in PPs.

This gives the following tableau:

(23) *Dative as the less marked case*

[Place IN HOUSE ]	*ACC(PP)	*DAT(PP)
☞ in DAT Haus		*
in ACC Haus	*	

Interestingly, this markedness ordering of accusative and dative is opposite to the ordering that Woolford (2001) has proposed for the verbal domain:

(24) \*dative >> \*accusative

This ordering expresses, for instance, that accusative is the unmarked case for direct objects of verbs. What we can conclude from this is that case markedness is not an absolute notion, fixed for the whole grammar, but that it is relativized for particular situations (which is very common for markedness, of course). I expressed this by adding (*PP*) to the markedness constraints. For PPs, it is not dative, but accusative that is the marked case, relative to the alternative. This difference in markedness seems to be related to the different functions fulfilled by particular cases in PPs and sentences. In sentences it is the dative that plays particular thematic roles (like experiencer or recipient), in PPs it is the accusative that has a particular spatial function. The dative in PPs is the structural case assigned to the object position, by default, as the least marked case.

#### 4.2 Semantic accusative

We saw in section 2 that there is a group of prepositions in German that combine with the accusative to refer to a goal path. This can be expressed through a faithfulness constraint that requires a TO function in the input to be expressed in the output:

(25) FAITH(TO): Goal has to be expressed.

This constraint requires that there is a distinction in the output between a goal PP and its locative counterpart, an idea inspired by Gehrke (2006). This could be PP-internal case, as in German, but it could also be through other means, as shown in the following examples:

(26)	<i>Place</i>	<i>Goal Path</i>	
a.	in dem Haus	in <u>das</u> Haus	German: PP-internal case
b.	in the house	<u>into</u> the house	English: complex preposition
c.	in het huis	het huis <u>in</u>	Dutch: word order
d.	talo-ssa	talo- <u>on</u>	Finnish: local case

English has a complex preposition for goal paths, that incorporates the *to*. Dutch exploits the postpositional construction to express goal paths. Finnish has different local cases for the two meanings: inessive for places and illative for goal paths.

This faithfulness constraint is ranked above the \*ACC(PP) constraint, so that we get the following result when there is a TO in the input:<sup>7</sup>

(27) *Accusative as the goal case*

[ <sub>Path</sub> TO([ <sub>Place</sub> IN HOUSE ])]	FAITH(TO)	*ACC(PP)
in DAT Haus	*	
☞ in ACC Haus		*

This use of the accusative can be seen as a semantic type of case assignment, driven by a particular semantic feature in the input, namely TO. The semantic case constraint ranks over the structural case constraint. The idea is that accusative should be avoided unless necessary for expressing a goal path.

This formulation can explain why *zu* ‘to’ and *nach* ‘to’ keep the dative. The accusative is not necessary because the item *zu* already expresses the goal:

(28) *Zu as a goal preposition*

[ <sub>Path</sub> TO PARK ]	FAITH(TO)	*ACC(PP)
☞ zu DAT Park		
zu ACC Park		*

There is no need to use the more costly accusative.<sup>8</sup>

### 4.3 Lexical dative

With the two constraints that we have now we still get the wrong result for *bei* ‘near’, which never has an accusative in modern standard German, even when used in a goal meaning. To

<sup>7</sup> I will omit the \*DAT(PP) constraint in this and following tableaux.

<sup>8</sup> *Zu* also has a more restricted use as a locative that creates some ambiguity, like *zu Hause*, which can either mean ‘at the house’ or ‘to the house’, analogous to the ambiguity of English *home*.

account for this case, we need higher-ranking lexical constraint that specifically prohibits the accusative:

(29) \*ACC(*bei*): Don't use the accusative with *bei*.<sup>9</sup>

With this constraint we can derive the dative case marking of *bei*, even when it refers to goal paths:

(30) *Dative as a lexical case*

[ <sub>Path</sub> TO NEAR HOUSE ]]	*ACC( <i>bei</i> )	FAITH(TO)	*ACC(PP)
☞ <i>bei</i> DAT Haus		*	
<i>bei</i> ACC Haus	*		*

Notice the way the constraints are ranked in generality, from more specific in scope to more general:

(31) lexical >> semantic >> structural  
       (*bei*)        (TO)        (PP)

We can see now how structural, semantic and lexical factors systematically interact in prepositional case marking in a way that can elegantly be captured in the non-monotonic ('elsewhere') logic of Optimality Theory.

#### 4.4 Lexical accusative

The constraint FAITH(TO) only takes care of the accusative marking of goal PPs. As we saw in section 2, the route prepositions *durch* 'through', *über*<sub>R</sub> 'over' and *um* 'around' assign accusative case to their object. Three high-ranking lexical constraints that require the accusative would suffice:

(32) ACC(*durch*): Use the accusative with *durch*.  
       ACC(*über*): Use the accusative with *über*.  
       ACC(*um*): Use the accusative with *um*.

<sup>9</sup> Or, equivalently, DAT(*bei*): Use the dative with *bei*.

However, this fails to capture a low-level generalization: accusative is used with those prepositions that lexicalize routes, i.e. that incorporate the route function VIA (Jackendoff 1983). *Durch* ‘through’, for instance, is the lexicalization of VIA IN. We could assume the following preliminary constraint:

(33) ACC(P<sub>VIA</sub>): Use the accusative with a VIA preposition .

This constraint is semantically based, but still in a sense lexically restricted, because it only maps VIA to accusative when VIA is part of the lexical meaning of a preposition. Obviously, this formulation leaves much to be desired and future research should clarify the nature of such lexical-semantic faithfulness constraints.

Another important issue in this respect is whether a constraint like (33) is still active in the synchronic system of German. The prepositions *durch*, *über*<sub>R</sub> and *um* have many non-spatial uses, but even then they govern the accusative, which suggests that a literal VIA component can not play an active role in the determination of accusative case-marking. One possibility is that the prepositional case system of German has been historically shaped through the interaction of different constraints, as laid out above, but that it is synchronically best described as a lexical case system. The other possibility is that (33) still applies, even for causative and temporal uses, but that the VIA component is then more abstract. This is clearly an issue for future research.

## 5 Conclusion

The pattern of prepositional case marking in German is the result of interacting case constraints. At the lowest level we find structural dative case, then semantic accusative for expressing directionality, and at the highest level lexical case, tied to specific items. There are some general conclusions to draw from this. First, even though the constraints might fit some universal format, they can not possibly all be universal, given that they refer to items particular to German. This means that there is a high-ranking stratum of lexical constraints that is language-specific and that takes care of exceptions to universal patterns. Second, case hierarchies do not hold for a language as a whole, but they are relativized to parts of the grammar. The \*dat >> \*acc ordering for the verbal domain is reversed in the prepositional

domain. Third, part of the case system is the result of semantic constraints that are much more general in scope, encompassing also complex prepositions, postpositions, and local cases.

We have only looked at a relatively small set of prepositions, that can be cut up in different ways. The next step to take is to widen the empirical scope, by looking at secondary German prepositions (with genitive case marking) but also to other Indo-European languages that use the accusative in contrast with oblique cases to express directionality, to see whether the type of constraint system that we proposed here can be maintained and elaborated.

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