

# Workshop on Case-impooverished Germanic

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## CASE DEFICIENCY IN THE VERBAL AND IN THE ADPOSITIONAL DOMAIN



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### **0. Goal**

Among the Germanic languages, German is known as a “case-rich language”, together with Icelandic, Faroese, Yiddish. In comparison with “case-poor” Afrikaans, Danish, Dutch, English, Frisian, Norwegian, Swedish, it clearly does not count as case-impooverished. Its nominal case inflection is eroded but it retains overt accusative, dative and genitive in DPs and pronouns. Nevertheless, also German shows erosions of its case system.

The goal of this talk is to show that some of these areas of erosion shed light on the nature of case. In the center is a comparison of V-dependent case and P-dependent case. This is an area in which contrasts are particularly visible.

Section 1 provides some information about the case paradigm. Section 2 turns to nominals that lack a case paradigm: quantifiers and bare nominals. They fail as datives or genitives. Section 3 asks whether this failure can be reduced to the absence of case morphology, and the answer will be no. The proposal will be made that inherent cases are syntactically under a shell we call K(ase) Phrase. In Section 4 takes a focus on case deficiency in the adpositional domain and shows that case deficient nominals do not fail as datives. Section 5 contains conclusions.

If time permits, I will refer to material that is added in three appendices. Appendix I contains data that support the KP-analysis, Appendices II and III contain data from on-line processing in language comprehension.

## 1. German case morphology

		<i>a-declension</i> "day"	<i>ō-declension</i> "gift"	<i>i-declension</i> "power"	<i>n-declension</i> "heart"
s i n g	N	<b>tag</b>	<b>geb-a</b>	<b>kraft</b>	<b>herz-a</b>
	G	tag-es	geb-a	kreft-i	herz-en
	D	tag-e	geb-u	kreft-i	herz-en
	A	<b>tag</b>	<b>geb-a</b>	<b>kraft</b>	<b>herz-a</b>
p l u r	N	<b>tag-a</b>	<b>geb-a</b>	<b>kreft-i</b>	<b>herz-un</b>
	G	tag-o	geb-ono	kraft-io	herz-ono
	D	tag-um	geb-om	kreft-im	herz-om
	A	<b>tag-a</b>	<b>geb-a</b>	<b>kreft-i</b>	<b>herz-un</b>

Tab.1 – Nominal inflection and Case syncretism in OHG

Lexical/inherent cases (D, G) tend to be morphologically marked, while structural cases (N,A) may be morphologically unmarked. This holds for earlier stages of Germanic as well as for later stages. While the determiner system was already developed in MHG, pure genitive nominals were still ok.

- (1) a. der was wol rosseloufes wît Iw. 6987  
*he was well horse-run-GEN away*  
*"He was well as far away as a horse can run"*
- b. si füerent roubes eine magt Pz 122,20  
*they bring robbery-GEN a maiden*  
*"They have with them an abducted maiden"*

In modern German such genitives survived only fossilized in de-nominal adverbs:

- (2) morgens abends nachts sonntags  
*morning-GEN evening-GEN night-GEN sunday-GEN*  
rechts links flugs unversehens  
*right-GEN left-GEN flight-GEN unknowing-GEN*

However, although the nominal inflection of the genitive is retained in the masculine and neuter noun, its functionality has disappeared. Case must be marked in functional structure above N:

- (3) a. \*die Ausfuhr Holzes  
*the export wood-GEN*  
*"the export of wood"*
- b. die Ausfuhr (dieses) brasilianischen Holzes  
*the export this-GEN Brazilian-GEN wood-GEN*  
*"the export of (this) Brazilian wood"* (Gallmann, 1997)

The fact that there is Case syncretism in which dative morphology collapses with other Cases (as in the *-en* of *Frauen* ("women"), *Professoren* ("professors"), *Dirigenten* ("conductors")) and the fact that proper names, which are notoriously uninflected in Standard German, (as in: *Sie haben Peter gratuliert* ("They congratulated Peter<sub>DAT</sub>"), *Sie sind Mick Jagger nachgelaufen* ("I ran after Mick Jagger<sub>DAT</sub>")) leads to the impression that dative Case can be lost without serious consequences for the grammar of the language.

This impression is most likely wrong. *-en* seems to be an exponent of dative but not genitive case. Underlyingly, the dative may be *-en-en*. The genitive requires pre-nominal inflection.

- (4) a. wenn man Frauen applaudiert / nachläuft  
*if one women-DAT applauds after-runs*  
*"If one applauds / runs after women"*
- b. \*wenn man sich Frauen erwehren muss  
*if one REF women-GEN defend must*  
*"If one has to defend oneself from women, ..."* Plank (1980)

Proper names were until recently case-inflected. After the loss of case, semantically functionless DP-structure as in *dem Hans, der Maria* etc. could take over. Bare proper names could be argued to raise to D and derive case in this way.

Schirmunski (1962: 432) shows that *morphological signs of differentiation as relics of the nominal declension are strongest in the dative* („Morphologische Differenzierungsmerkmale als Überreste der Substantiv-deklination bewahrt am festesten der Dativ.“) Various German dialects retain the familiar *-e* affix (*dem Gast-e, de, Land-e, dem Hund-e*), others lengthen the vowel after *-e* epenthesis (*da<sub>XNOM</sub>* vs. *da<sub>XDAT</sub>*, „day“), others drop the coda (*doak<sub>NOM</sub>* vs. *doad<sub>DAT</sub>*, „day“); some Bavarian and Franconian dialects show optional dative strengthening in the plural (*to<sub>XNOM</sub>* „day“ vs. *to<sub>ηDAT</sub>* „days“ vs. *to<sub>ηanDAT</sub>* „days“).

Most interesting is perhaps to see that in various dialects the dative undergoes prepositional strengthening. The primary reason may be compensation for the loss of morphological distinctness, but there are also examples in which P is inserted despite overt dative morphology:

(5) Prepositionally strengthened dative

	P + N/NP/DP		literally	
a.	em frent	“the friend <sub>DAT</sub> ”	“in-the friend”	Alsatian
b.	en de frende	“the friends <sub>DAT</sub> ”	”in the friends”	
c.	i mein fo:ter	“my father <sub>DAT</sub> ”	“in my father”	Tyrolian
d.	i dr muater	“the mother <sub>DAT</sub> ”	“in the mother”	
e.	i de lait	“the people <sub>DAT</sub> ”	“in the people”	
f.	i mir	“me <sub>DAT</sub> ”	“in me”	
g.	i weim	“whom <sub>DAT</sub> ”	“in whom”	
h.	a miär	“me <sub>DAT</sub> ”	“to me”	Swiss German / Kanton Uri
i.	a demm	“this one <sub>DAT</sub> ”	“to this-one”	

## (6) Examples from Seiler (1998)

[all the verbs assign dative Case in German]

- a. daß a de Roos, aba aa a de Leit nix passiert  
*that to the horses but also to the people nothing happens*  
“that nothing happens to the horses but neither to the people” Bavarian, Traunstein
- b. du muasst es a deine frau vaschreibn lassn  
*you must it to your wife prescribe let*  
“You need to have it prescribed to your wife” Bavarian, Malching
- c. in di Schwainge:bm  
*in the pigs give*  
“give to the pigs” Austro-Bavarian, St. Georgen
- d. wo:rschinglech het er d’ Rößli [...] für vil Geld i irgendwelche  
*perhaps has he the horses for much money in some*  
ri:che Schwö:be [...] verchauft  
*rich Germans()*  
“Perhaps he sold the horses for a lot of money to some rich Germans”  
Swiss German, Aargau

Important question: Why is there differential dative marking or dative strengthening but never differential accusative marking or accusative strengthening?

## 2. Absence of a case paradigm

### 2.1 Case-less quantifiers

The case-language German has many nominals that lack a case paradigm and can also not be put under a DP-umbrella. Here are indefinites (so-called “weak quantifiers”); initial observations due to Gallmann (1996; 1997).

- (7) a. Genug / nichts / allerlei / etwas / wenig ist schiefgegangen NOM  
*enough / nothing / a lot / something / little has gone-wrong*
- b. Wir haben genug / nichts / allerlei / etwas / wenig erlebt ACC  
*we have enough / nothing / a lot / something / little experienced*
- c. \*Feuchtigkeit schadet genug / nichts / allerlei / etwas / wenig DAT<sup>1</sup>  
*humidity harms enough / nothing / a lot / something / little*
- d. \*Ich konnte mich genug / nichts / allerlei / etwas / wenig erinnern GEN  
*I could REF enough / nothing / a lot / something / little remember*

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<sup>1</sup> Be sure to interpret the indefinite as an argument and not as an adverb as in *Das schadet nichts* “This doesn’t do harm in any way” or *Ich kann mich etwas erinnern* “I can remember a little”. These are well-formed but irrelevant under the present considerations.

The Swiss German correspondent of *etwas* ("something") is *öppis*. Notice that unlike *etwas*, it has a dative form, *öppis-em*, which is obligatory in the context of a dative assigning verb. With *-em*, examples with dative verbs are fully grammatical.

Once the indefinite is part of a nominal phrase that spells out inherent case, the deviant examples return to well-formedness:

- (8) a. Feuchtigkeit schadet [nichts gut isoliert-**em**] DAT  
*humidity harms nothing well insulated-DAT*
- b. Ich konnte mich [genug rauschend-**er** Feste] erinnern GEN  
*I could REF enough orgiastic-GEN festivities remember*

Thus, overt case morphology appears to be the key factor for the licensing of the verb-governed inherent cases DAT and GEN.

## 2.2 Bare nominals, case repair and concomitant interpretative suspension

Where possible, German shows repair strategies that solve the dilemma of missing dative (and also genitive) case in an interesting way.

Consider bare nominals such as *Kälte* ("cold temperature"), *Hitze* ("heat"), *Freude* ("joy"), *Wut* ("rage"). They lack morphological case entirely. This does not harm NOM, ACC but it harms DAT, GEN.

- (8) a. Kälte stört mich nicht NOM  
*cold disturbs me not*  
*"Coldness doesn't disturb me"*
- b. Ich kann Kälte gut ertragen ACC  
*I can cold well bear*  
*"I can well tolerate coldness"*
- c. \*Du darfst diese Pflanzen nicht Kälte aussetzen DAT<sup>2</sup>  
*you must these plants not cold expose-to*  
*"You must not expose these plants to coldness"*
- d. \*Ich kann mich Kälte lebhaft erinnern GEN  
*I can REFL cold vividly remember*  
*"I have vivid recollections of coldness"*

Use of the definite determiner yields the expected semantic effect of a definite/specific reading.

<sup>2</sup> Case-less bare nominals can nevertheless occasionally be found on indirect objects as in

(i) Wenn man sie Licht aussetzt, kann man Blasen sehen  
*if one them<sub>ACC</sub> light<sub>DAT</sub> exposes can one bubbles see*  
*"If one exposes them to light, one can see bubbles"*

<http://context.reverso.net/%C3%BCbersetzung/deutsch-englisch/Licht+aussetzt> 03.6.2017

As a matter of fact, however, insertion of a dative-bearing D as in *dem Licht* is much preferred and does not affect interpretation as will be pointed out shortly in the main text.

- (9) a. Die Kälte stört mich nicht NOM  
*“The (actual atmospheric) cold temperature does not bother me (e.g. because I’m wearing a warm coat)”*
- b. Ich kann die Kälte gut ertragen ACC  
*„I can easily bear the (actual atmospheric) cold temperature (e.g. because I’m wearing a warm coat)”*

Observe now that the deviant examples (8c,d) can be repaired with the definite determiner because the determiner is overtly Case-marked. Interestingly, the use of the definite article does in these cases not necessarily trigger the specific interpretation.

- (10) a. Du darfst diese Pflanzen nicht der Kälte aussetzen DAT
- (i) *“You must not expose these plants to the (actual atmospheric) cold temperature”*  
 SPECIFIC
- (ii) *“You must never expose these plants to cold temperature (in general)”*  
 NON-SPECIFIC

The same holds for the genitive. In other words, the semantic contribution of the definite determiner may be switched off precisely under the condition that it repairs a case-deficient nominal. Case deficiency does not matter in the structural cases NOM and ACC, but it matters in the lexical/inherent cases DAT and GEN. D acts as a default to supply morphological case while its semantic contribution is suspended.

For details and a generalization that spans various independent cases s. Bayer (in press a,b).

### **3. Is it only morphology?**

So far, the asymmetry between the structural cases NOM, ACC and the inherent cases DAT, GEN looks like a morphological quirk. It is strongly suggested, however, that morphology is only the visible exponent of an underlying syntactic structure that holds for the inherent cases but not for the structural cases.

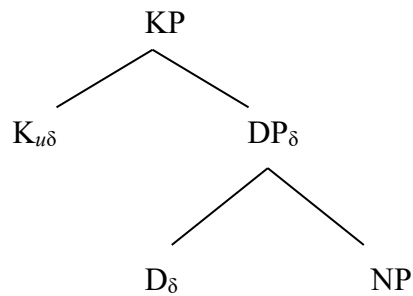
Bayer, Bader and Meng (2001) argue that NOM, ACC are licensed by the functional heads T and *v* whereas DAT, GEN require independent functional structure. They identify this structure as a K(ase)-head that projects a Kase-phrase (KP) immediately dominating DP.

In modern German nominal phrases, overt case is according to many researchers located in D (among phi-features and agrees with modifiers and (residual) case-inflection on the noun as in *d-es brasilianisch-en Holz-es*, “the<sub>GEN</sub> Brazilian<sub>GEN</sub> wood<sub>GEN</sub>”). The functional head K selects DP and agrees with its morphological case  $\delta$ . Thus, DP values a case feature  $u\delta$  on K. <sup>3</sup>

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<sup>3</sup> KP has been suggested in earlier work by Lamontagne and Travis (1987), Bittner and Hale (1996) and others. Our motivation is, however, different. We postulate KP only where the syntax does not supply a relevant functional head.

(11)



What would be evidence for KP?

I.

The dialect data in (5) and (6) can be understood with K as the spell-out of Kase. (i) What is called P here is not the preposition that one would expect (*\*passieren/verschreiben + an; \*geben/verkaufen + in*). (ii) The head is not a compensation of a lost morphological case (i *mir*<sub>DAT</sub>, i *weim*<sub>DAT</sub>, a *deina frau*<sub>DAT</sub>). Thus, K must not be identified with P, as suggested by Asbury (2008).

II.

Bayer et al. (2001) list the empirical domains in i. through viii. in which DAT differs from ACC. In the meantime, evidence ix. could be added. The contrasts are predicted by the assumption of a KP-shell for DAT. Examples and comments are provided in [☞ Appendix I](#).

- i. passive
- ii. middle
- iii. binding
- iv. secondary predication
- v. extraction
- vi. compounding
- vii. topic drop
- viii. clausal arguments
- ix. comparative clauses

III. External evidence from language comprehension

Local case ambiguity and its resolution shows rather diverse patterns in on-line language comprehension depending on the case involved. DAT is both harder to recover and harder to undo than ACC. This has the flavor of a garden path i.e. syntactic reanalysis. Two cases appear in [☞ Appendix II](#).

#### 4. Case deficiency in the adpositional domain

Case is mainly discussed in the verbal domain. Case in the adpositional domain attracts less attention (see Blake, 1994; Butt, 2006). A standard view that emanates from GB-theory is that case is assigned by P roughly as it is assigned by V.

We have seen so far, that in the verbal domain, case deficient nominals are licensed as structural cases but fail as inherent cases. With a special focus on DAT, we have argued that the nominal needs to “bring along” its own functional structure, and that this functional structure is KP. This explains why caseless nominals like *nichts* or *Kälte* fail: \**Feuchtigkeit schadet nichts*; \**Du darfst diese Pflanzen nicht Kälte aussetzen*.

In the domain of P, we see a rather different picture.

As Bayer et al. (2001) and Bayer and Bader (2007) point out, the nominal complement of a dative assigning preposition can be completely case underspecified. The original observations are due to Gallmann (1997).

- (12) a. Das ist mit **genug** / **nichts** / **viel** / **allerlei** / **etwas** / **wenig** vergleichbar  
this is with enough / nothing / much / a lot / something / little comparable  
“This is comparable with enough / nothing / much / a lot / something / little”
- b. Otto ist mit **genug** / **nichts** / **viel** / **allerlei** / **etwas** / **wenig** zufrieden  
Otto is with enough / nothing / much / a lot / something / little content  
“Otto is content with enough / nothing / much / a lot / something / little”

Similarly, non-inflecting bare nominals such as *Kälte* do not require the support of a case bearing determiner.

- (13) a. Mit Kälte kommt Emma gut zurecht  
*with cold comes Emma well along*  
“Emma can get along fine with cold temperatures ”
- b. Unter Kälte hatte der Adel nie zu leiden  
*under cold had the nobility never to suffer*  
“The nobles never had to suffer from cold temperatures ”

Not only are bare nominals under PPs grammatically well-formed, they are also fully sensitive to definiteness marking. The examples in (14) are clearly distinct from those in (13)

- (14) a. Mit der Kälte kommt Emma gut zurecht  
*With the cold comes Emma well along*  
“Emma can get along fine with the cold temperatures that she faces e.g. on a tour through Siberia”
- b. Unter der Kälte hatte der Adel nie zu leiden  
*under the cold had the nobility never to suffer*  
“The nobles never had to suffer from the cold temperatures e.g. that reigned the Russian winters in the 18<sup>th</sup> century”

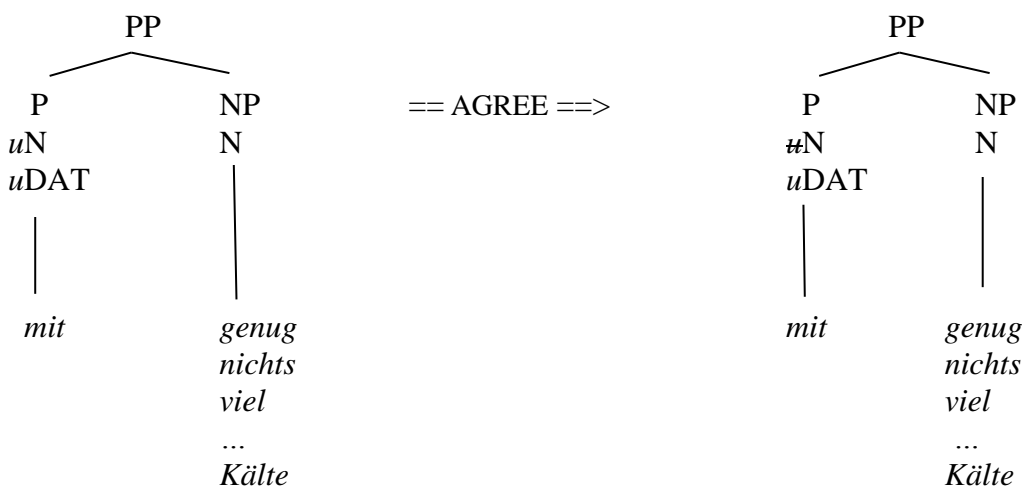


If merger of D is a step with semantic consequences and not an act of repair, this is predicted by the theory proposed in Bayer (in press a,b).

Case “assignment”?

The nominal complement of P does not value the case feature on P because the nominal does not have a case feature to begin with. Bayer and Bader (2007) suggest that P carries a case feature for DAT but that its NP-complement may lack a corresponding feature. In this case, the NP values a nominal features on P but can, of course not value a case feature corresponding to DAT.

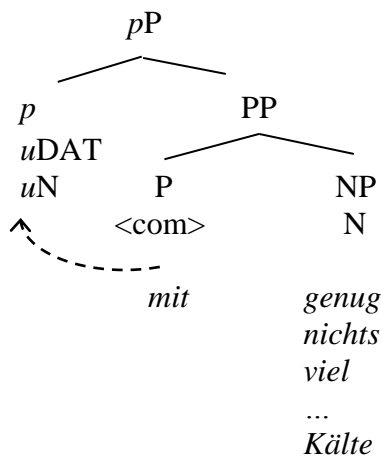
(15)



As a result, the DAT-feature stays. This is exactly what we expect if P is a functional or semi functional head. The nominal, which is case-less by itself, comes to bear case by virtue of undergoing merger with a case assigning P.

The adposition may be split up into a lexical part P (which contributes, for instance, the comitative relation) and a functional part that supplies the categorial and the case feature:

(16)



There are other elements which are traditionally lumped together with adpositions like *in*, *an*, *auf*, *mit*, etc. but behave quite differently. Many of them have a nominal base: *dank* (“thanks to”), *inmitten* (“in the middle of”), *kraft* (“by virtue of”), *mittels* (“by means of”), *trotz* (“in spite of”), *zeit* (lit time; “during“); they developed according to Lehmann & Stolz (1992) between the 16<sup>th</sup> and the 19<sup>th</sup> century, i.e. more recently. These adposition lack the characteristics of functional prepositions. With respect to case, they require spell-out of inherent case. Caseless complements are out.

- (17) a. Dank {seiner Unterstützung / \*was} konnte das Haus gekauft werden  
*thank his support<sub>GEN</sub> what could the house bought be*  
 “Thanks to his support, the house could be bought”
- b. Der Dirigent verstarb inmitten {einer Opernpremiere / \*was}  
*the conductor died in.middle an opera.premiere<sub>GEN</sub> what*  
 “The conductor died in the midst of the premiere of an opera”

PPs with a (semi-)functional adposition cannot be identified with KP but relate to KP relate to KP as follows:

	SEMANTICS	SYNTAX
KP / K	∅	K syntactic exponent of case morphology
PP / P	relation	P lexical head
pP/ p	∅	p functional head with case feature

Tab.2 – Comparison of PP and KP

Unlike P, K lacks semantics; however, K corresponds to *p* as follows: K acquires case by virtue of agreement with a case-bearing DP while *p* is in possession of a case feature.

As a result, V-related nominal phrases with inherent case rely on case morphology whereas P-related nominal phrases can be caseless; they derive their case from the functional side of P.

Why do we still find morphological case in the context of P?<sup>4</sup>

<sup>4</sup> In fact, we do not always. Many mistakes of missing datives in complements of dative assigning prepositions can be found on the internet. (i) is from a published text. Since *nach* requires the dative, the correct form would have been *neue-n Erkenntnisse-n*.

(i) Dazu wurde vom Gouverneur extra die ehrgeizige Ermittlerin Evie Blackwell berufen  
*therefore was by.the governor expressly the ambitious investigator Evie Blackwell assigned*  
 und möchte nun in ihrem Urlaub nach **neue Erkenntnisse** suchen.  
*and wants now in her vacation for new discoveries search*  
 “For that job, the ambitious investigator Evie Blackwell was for that very purpose assigned by the governor,  
 and now she wants to search for now discoveries during her vacation”  
<https://www.amazon.de/Stadt-Verschwundenen-Dee-Henderson/dp/3868276645> 12.09.2017

In cafes, one can frequently see on the menu card missing DAT-inflection after *mit*.

(ii) Eis mit frische Früchte  
*icecream with fresh fruit<sub>PL</sub>*  
 “Icecream with fresh fruit”

- |      |    |   |     |
|------|----|---|-----|
| (18) | a. | an den Mann / *an der Mann<br>„to the man“          | ACC |
|      | b. | mit dem Kind(e) / *mit das Kind<br>„with the child“ | DAT |
|      | c. | mit der Frau / *mit die Frau<br>„with the woman“    | DAT |

The answer is given by the Elsewhere Condition (Kiparsky, 1973) which requires that in a situation of rule competition, a rule R1 which applies to a domain D1, D1 being a proper subset of D2, prevents the more general rule R2 from applying to D1. D1 is the special case, namely the one with the explicit inflection.

☞ **Appendix III** provides evidence from on-line processing about the difference between the detection of locally ambiguous cases in the V-domain and in the P-domain. The result strongly supports the present story.

## 5. Conclusions

Although German counts as a case-rich language, there are various spaces in the system that are rather case-impooverished.

As a rule of thumb, the case-impooverished part is found in the structural cases NOM and ACC whereas the case-rich part is found in the lexical or inherent cases DAT and GEN. This follows if the structural cases are determined by the verb-related functional heads T and *v* whereas the inherent cases have to introduce “their own” functional heads. Accordingly, there are no good “reasons to believe that the inherent cases are in fact structurally matched against syntactic heads or features rather than lexically licensed” (Sigurðsson, 2006:8)

The inherent cases – we have mainly looked at the dative – materialize in syntax as KP with K a functional head that cannot be found in NOM or ACC, or they rely on the functional part of adpositions which assign inherent case.

Merger with a caseless nominal cannot value/erase the case feature on the adposition. Therefore, the case feature stays and is interpreted as inherent case.

As a more general conclusion, case appears to be deeply involved with syntax proper. Our findings are incompatible with the proposal that case may be a purely morphological decoration of syntactic output that is added post-syntactically. At least, the case system of German does not support the proposal by Sigurðsson (2006:27) that “we need to return to the traditional view that case is a morphological (PF) phenomenon.

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## Appendix I

### SYNTACTIC TESTS FOR THE STATUS OF DATIVE CASE

These tests distinguish DAT from NOM, ACC. The data are explained if DAT but not NOM, ACC is syntactically represented by a KP-shell. It is unclear how case morphology could explain these data.

**1. Passive** Function changing operations suppress the subject's theta role and affect the verb's ability of licensing an object (Burzio's generalization). If  $v$  is lacking, it is the accusative that is affected, not the dative. The dative is functionally taken care of by KP. It does not interact with  $v$ .

- (1) a. Oswald hat den Präsidenten ermordet ACC  
*Oswald has the president-ACC assassinated*  
*“Oswald has assassinated the president”*
- b. Der Präsident wurde ermordet  
*the president-NOM was assassinated*  
*„The president was assassinated”*
- (2) a. Oswald hat dem Präsidenten gehuldigt DAT  
*Oswald has the president-DAT given-homage*  
*“Oswald gave homage to the president”*
- b. Dem Präsidenten/\*der Präsident wurde gehuldigt  
*the president-DAT was given-homage*  
*“The president was given homage”*

**2. Middle** The reason is essentially the same: ACC cannot be assigned and the subject position lacks a theta role. (Burzio's generalization)

- (3) a. Es ist leicht, diesen Wagen zu fahren ACC  
*it is easy this car-ACC to drive*  
*„It is easy to drive this car“*
- b. Dieser Wagen fährt sich leicht  
*this car-NOM drives REFL easily*  
*„This car drives easily“*
- c. \*Diesen Wagen fährt es sich leicht  
*this car-ACC drives it REFL easily*
- (4) a. Es ist leicht, diesem Weg zu folgen DAT  
*it is easy this path-DAT to follow*  
*„It is easy to follow this path“*
- b. \*Dieser Weg folgt sich leicht  
*this path-NOM follows REFL easily*

- c. Diesem Weg folgt es sich leicht  
*this path-DAT follows it REFL easily*  
 „This path is easy to follow“

**3. Binding** Binding shows an asymmetry that disfavors dative arguments as potential binders. If the binding DP is in a KP-shell, it fails to c-command the anaphor in the same way as a DP inside a PP fails to c-command it.<sup>5</sup>

- (5) a. Der Arzt<sub>1</sub> hat den Patienten<sub>2</sub> sich<sub>1/2</sub> im Spiegel gezeigt  
*the doctor has the patient-ACC REF in-the mirror shown*  
 “The doctor showed the patient himself in the mirror“
- b. Der Arzt<sub>1</sub> hat dem Patienten<sub>2</sub> sich<sub>1/\*2</sub> im Spiegel gezeigt  
*the doctor has the patient-DAT REF in-the mirror shown*

In (5a), either one of the arguments with structural Case may be the binder of the reflexive, whence the ambiguity. In (5b), however, only the subject can bind the reflexive. The dative argument is in a KP-shell and does not c-command the reflexive, whence the non-ambiguity.

**4. Secondary predication** As Vogel and Steinbach (1995) observe, the subject of a secondary predicate can be a nominative or an accusative but not a dative. This follows under the standard assumption that the subject is the external argument of the predicate and as such has to c-command it.

- (6) a. Hans<sub>x</sub> hat den Rektor<sub>y</sub> schon dreimal betrunken<sub>x/y</sub> getroffen  
*Hans-NOM has the rector-ACC already three-times drunk met*  
 „Hans met the vice chancellor drunk already three times“
- b. Hans<sub>x</sub> ist dem Rektor<sub>y</sub> schon dreimal betrunken<sub>x/\*y</sub> begegnet  
*Hans-NOM is the rector-DAT already three-times drunk encountered*

Consider PP for comparison

- (7) Hans<sub>x</sub> hat mit dem Rektor<sub>y</sub> schon dreimal betrunken<sub>x/\*y</sub> telefoniert  
*Hans-NOM has with the rector-DAT already three-times drunk telephoned*  
 „Hans telephoned with the vice-chancellor drunk already three times“

While in (6a), the predicate *drunk* can be ascribed either to Hans or to the vice chancellor, in (6b) and in (7), it can only be ascribed to Hans. The reason: in (6b) the DP is embedded in a KP, in (7) in a PP, with K/P preventing c-command.

See also Williams (1994) on English.

<sup>5</sup> Importantly, this restriction pertains only to anaphoric (A-) binding, not to variable (A'-) binding.

(i) Die Schwester hat jedem/keinem Patienten seine Tabletten gegeben  
*the nurse has each / no patient-DAT his pills-ACC given*  
 “The nurse gave each/no patient his pills”

The reason for this is that quantifier and negation features are part of the D- and also of the K-system. Thus KP as well as PP are +quant or +neg. See Bayer and Bader (2007) for discussion.

- (8) a. John ate the meat<sub>x</sub> raw<sub>x</sub>  
 b. \*John ate at the meat<sub>x</sub> raw<sub>x</sub>

**5. Extraction** Müller (1995) observes that dative as opposed to accusative DPs do not allow extraction:

- (9) a. [Über Scrambling]<sub>1</sub> habe ich einem Buch über Optionalität ACC  
*about scrambling have I a book-DAT about optionality*  
 [einen Aufsatz t<sub>1</sub>] hinzugefügt  
*an article-ACC added*  
 „I have added to a book about optionality an article about scrambling“
- b. \*[Über Optionalität]<sub>2</sub> habe ich einen Aufsatz über Scrambling DAT  
*about optionality have I an article-ACC about scrambling*  
 [einem Buch t<sub>2</sub>] hinzugefügt  
*a book-DAT added*  
 „I have added an article about scrambling to a book about optionality“

If K induces an extra functional layer for dative objects that is absent in accusative objects, the barrier effect is expected. See the analogy with PPs.

- (10) \*[Über Scrambling]<sub>1</sub> habe ich stundenlang [in einem Buch t<sub>1</sub>] herumgeblättert  
*about scrambling have I hours-long in a book-DAT turned-over-leaves*  
 „I browsed for hours through a book about scrambling“

**6. Compounds** In synthetic compounds the X<sup>o</sup> object of the verb is incorporated into the verb, but this integration is confined to direct objects which would be assigned accusative Case in syntax. Phrases cannot be incorporated.

- (11) a. Die Studentin betreut die Kinder regelmäßig ACC  
*the student looks-after the children-ACC regularly*  
 „The student takes care of the children regularly“
- b. Mit Kinderbetreuen verdient man wenig  
*with child-care earns one little*  
 „With child-care one earns little“
- (12) a. Das Rote Kreuz hilft vielen Kindern DAT  
*the red cross helps many children-DAT*  
 „The Red Cross helps many children“
- b. \*Mit Kindershelfen erlangt man selten Ruhm  
*with child-help attains one rarely glory*  
 „Child-care doesn't gain you reputation“



**7. Topic drop** In German, the topic in a V2-clause can undergo topic-drop (alias „pronoun zap“), see Ross (1982), Trutkowski (2016). NOM, ACC can be dropped but not DAT (or GEN), and neither can PP.

- (13) a. Ich hab' ihn schon gesehen  
*I-NOM have him-ACC already seen*  
 „I saw him already“
- b. [Ø]<sub>1</sub> hab' t<sub>1</sub> ihn schon gesehen [Ø] = NOM
- c. [Ø]<sub>2</sub> hab' ich t<sub>2</sub> schon gesehen [Ø] = ACC

Topic drop affects arguments that are licensed by T or v. PPs can never be dropped, even if their content is fully predictable from the verb, as could be the case in *denken (an)*, *nachdenken (über)*, *sich freuen (auf)*. The same holds for DAT, i.e. KP.

- (14) a. \*[Ø]<sub>2</sub> widerspricht ja keiner t<sub>2</sub> [Ø] = DAT  
*objects PRT nobody*  
 „To him/her, nobody objects“
- b. \*[Ø]<sub>2</sub> würde ich t<sub>2</sub> nicht vertrauen [Ø] = DAT  
*would I not trust*  
 „Him/her, I wouldn't trust“

**8. Clausal arguments** CPs with argument status are very likely to be linked to zero pronominals; Koster (1978), also Williams (2013).

- (15) a. [Daß wir verreisen wollten] hat niemanden interessiert NOM  
*that we travel-away wanted has nobody interested*  
 “That we wanted to travel did not interest anyone”
- b. Wir bestritten [daß wir verreisen wollten] ACC  
*we denied that we travel-away wanted*  
 “We denied that we wanted to travel”
- c. \*Wir widersprachen [daß wir verreisen wollten] DAT  
*we objected that we travel-away wanted*
- d. \*Wir erwehrten uns [schon wieder verreisen zu müssen] GEN  
*we kept-off REF yet again travel to must*

Argumental CPs can only be licensed if they relate to one of the two structural cases, but not if they relate to one of the two inherent cases. If they do, they need to appear under a nominal shell.

- (16) a. Wir widersprachen [der Behauptung [daß wir verreisen wollten]] DAT  
*we objected the claim-DAT that we travel-away wanted*  
 “We objected to the claim that we wanted to travel”

- b. Wir erwehrtens uns [des Vorschlags [schon wieder verreisen zu müssen]] GEN  
*we kept-off REF the proposal-GEN yet again travel to must*  
 „We rejected the proposal to be forced to travel again“

CPs can be datives in languages which allow overtly Case-marking on CP due to a nominalizer, e.g. Turkish:

- (17) Ahmet Ayşe-yi [PRO sinema-ya git-meğ]-e zorla-dı  
*Achmed Ayse-ACC movie -DAT go-INF-DAT force-PAST*  
 "Achmed forced Ayse to go to the movie" Kornfilt (1985)

**9. Comparative clauses** Comparative clauses contain gaps, but they do so only when these gaps correspond to the structural Cases nominative or accusative.

- (18) a. Mehr Patienten sind gekommen als [NOM \_\_\_] behandelt  
*more patients have come than treated*  
 werden konnten  
*become could*  
 „More patients showed up than could be treated“
- b. Mehr Patienten sind gekommen als der Arzt [ACC \_\_\_] behandeln  
*more patients are come than the doctor treat*  
 konnte  
*could*  
 „More patients showed up than the doctor could treat“
- c. \*Mehr Patienten sind gekommen als der Arzt [DAT \_\_\_] Medikamente  
*more patients are come than the doctor medicine*  
 verabreichen konnte  
*administer could*  
 „More patients showed up than the doctor could give medicine to“

(18c) can only be rescued by insertion of an overt dative pronoun. Thus, DAT/KP cannot be recovered. Obviously, this is so because it is not licensed by a verb-related functional head.

- (19) Mehr Patienten sind gekommen als [DAT **ihnen**]<sub>1</sub> der Arzt t<sub>1</sub> Medikamente  
 verabreichen konnte

## Appendix II

GARDEN PATH EFFECTS RELATED TO CASE THAT CAN BE EXPLAINED WITH THE ASSUMPTION OF A KP-SHELL FOR DATIVES

### 1. Missing a dative

- (1) Politik ohne Frauen fehlt die bessere Hälfte  
*politics without women lacks the better half*<sub>NOM</sub>  
„The better half is missing in politics without women“  
[https://books.google.de/books/about/Politik\\_ohne\\_Frauen\\_fehlt\\_die\\_bessere\\_H.html?id=qyguPwAACAAJ&redir\\_esc=y](https://books.google.de/books/about/Politik_ohne_Frauen_fehlt_die_bessere_H.html?id=qyguPwAACAAJ&redir_esc=y)  
12.09.2017

*Politik* in the incomplete sentence [*Politik ohne Frauen*] *fehlt* ... is analyzed as NOM. As dictated by the dative assigning verb *fehlen*, the parser's expectation is a dative object, e.g. [*Politik ohne Frauen*] *fehlt niemandem*. Once the dative-incongruent DP *die bessere Hälfte* is received, the parse has to back-track, delete NOM and assign DAT to the first DP.

- (2) Politik ohne Frauen ignoriert niemand mehr  
*politics without women ignores nobody*<sub>NOM</sub> any-longer  
„Nobody ignores politics without women any longer“

In the same way, an OVS-structure has to be established in (2), but due to the accusative assigning verb *ignorieren*, *Politik* has to be relabeled from NOM to ACC.

Missing a dative leads to a more serious garden path than missing an accusative. If DAT but not ACC relates to a KP, (2) requires case relabeling while (1) requires the post-hoc establishment of new phrase structure.

### 2. Inverse case attraction

As Bader and Meng (1999), Bader and Bayer (2006: ch.5) and Czypionky, Dörre and Bayer (submitted) could show experimentally, in on-line comprehension case tends to be mentally attracted from a relative pronoun to the case-ambiguous head nominal. The effect is far stronger when DAT is attracted than when ACC is attracted. Consider the DAT assigning verb *begegnen* (“encounter”).

- (4) a. #Ich weiß, dass Maria, der ich gerade begegnet bin, DAT  
*I know that Maria who.DAT I just encountered am*  
ein Päckchen geschickt hat  
*a parcel sent has*  
“I know that Maria, who I just ran into, has sent a parcel”
- b. Ich weiß, dass Maria, der ich gerade begegnet bin,  
*I know that Maria who.DAT I just encountered am*  
ein Päckchen geschickt wurde  
*a parcel sent was*  
“I know that Maria, who I just ran into, was sent a parcel”

The active auxiliary *hat* requires *Maria* to be NOM. The auxiliary passive *wurde* requires *Maria* to be DAT. Inverse case attraction causes *Maria* to be a KP. This is confirmed in (4b) but not in (4a). The parser has to retract and delete the KP on *Maria*, which is obviously a costly operation.

Assuming that ACC can likewise be attracted, the garden path effect that is supposed to result in (5a) must be by far weaker. The difference between (5a) and (5b) is weaker than the difference between (4a) and (4b).

- (5) a. Ich weiß, dass Hans, den ich neulich getroffen habe, ACC  
*I know that Hans who.ACC I recently encountered am*  
 einige Kunden angerufen hat  
*some clients called has*  
 “*I know that Hans, who I met recently, called some clients*”
- b. Ich weiß, dass Hans, den ich neulich getroffen habe,  
*I know that Hans who.ACC I recently encountered am*  
 einige Kunden angerufen haben  
*some clients called have*  
 “*I know that Hans, who I met recently, was called by some clients*”

If in (5a) ACC is attracted to *Hans* at all, the resulting OSV order seems to be undone without much effort.

The KP-hypothesis provides a straightforward explanation of the parsing differences between ACC- and DAT-attraction. A purely morphological theory has no chance.

### Appendix III

#### GARDENPATH STRENGTH OF DETECTING V-DEPENDENT VS. P-DEPENDENT AMBIGUOUS DATIVES IN COMPARISON WITH ACCUSATIVES

Bayer and Bader (2007) report work by Bader, Häussler, Bayer and Schmid (2006) who compared the on-line processing of accusative and dative Case in the context of P and in the context of V with the help of Speeded Grammaticality Judgments.

##### (1) Case dependent on V

###### a. Accusative

Ich glaube, dass der Direktor **die Omas/ein paar Omas** unterstützt hat  
*I believe that the director the grannies/a pair grannies-ACC supported has*  
„I believe that the director supported the grannies/a couple of grannies“

###### b. Dative

Ich glaube, dass der Direktor **den Omas/ein paar Omas** geholfen hat  
*I believe that the director the grannies/a pair grannies-DAT helped has*  
„I believe that the director helped the grannies/a couple of grannies“

##### (2) Case dependent on P

###### a. Accusative

Ich glaube, dass der Direktor **an die Omas / ein paar Omas** gedacht hat  
*I believe that the director at the grannies / a pair grannies-ACC thought has*  
„I believe that the director thought of the grannies / a couple of grannies“

###### b. Dative

Ich glaube, dass der Direktor **an den Omas / ein paar Omas** verzweifelt ist  
*I believe that the director at the grannies / a pair grannies-DAT despaired is*  
„I believe that the director was driven to despair with the grannies / a couple of grannies“

Garden-path strength is obtained by subtracting mean percentages of correct answers for locally ambiguous sentences from mean percentages of correct answers for corresponding unambiguous control sentences.

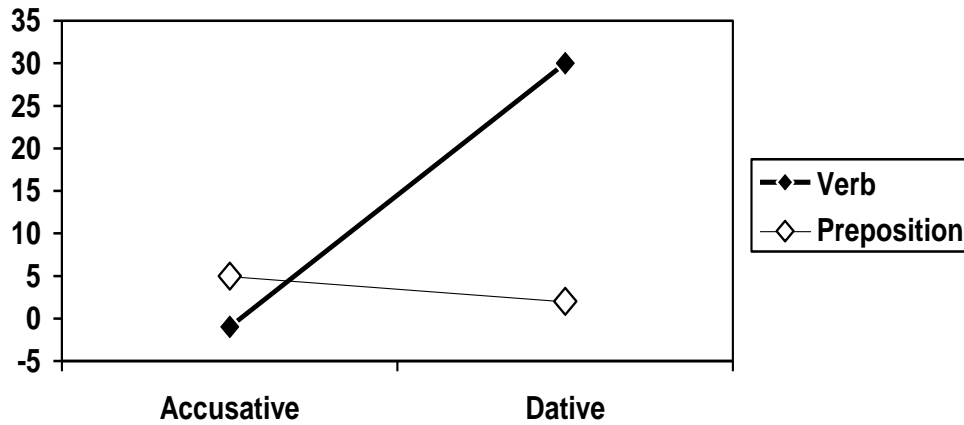


Figure 1 Garden-Path Strength (percentages of correct answers for unambiguous sentences minus percentages of correct answers for ambiguous sentences) for sentences as in (1) and (2)

Figure 1 shows a clear interaction between case and case assigner. For ACC, garden-path strength is close to zero, indicating that ambiguous sentences were as easy to process as unambiguous control sentences, for both the verbal and the prepositional condition. For DAT, a substantial garden-path effect is visible in the verbal condition whereas it is close to zero again in the prepositional condition. This is compatible with a theory according to which DAT is supplied by P but not by V. It is hardly compatible with theories that assume DAT to be a structural case on a par with ACC.