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## Variation in the case system of German – linguistic analysis and optimality theory

*alle grammatischen ausnahmen scheinen mir  
nachzügler alter regeln, die noch hier und da  
zucken, oder vorboten neuer regeln, die über  
kurz oder lang einbrechen werden.*<sup>1</sup>

### 1. Preliminary remarks

This paper focuses on different kinds of case variation and uses optimality theory (abbreviated as OT) to analyze the phenomena in question. Thus, the realms of both sociolinguistics and grammar are entered and combined. A model of the different varieties of German as well as a brief overview of the German case system are presented in section 2. In section 3, we introduce a classification of different types of variation by focussing on case phenomena. Then, in section 4, a concept of OT is suggested that theoretically describes the relationship between the grammatical features and the distribution of variants within the varieties of a language. This OT concept is also used in section 5 for the analysis of case variation in dative plural NPs in different varieties of German. Finally, we plead for the combination of OT and a system linguistic presentation to be a fruitful approach that has to be pursued further.

As to the different varieties of standard German, it is assumed that the *Standardsprache* ('standard language') is the codified standard language as it is written down in grammars and dictionaries. Within this paper, it will be referred to as *codified standard German*. The codices we take as a basis are the *Duden* grammar of 2009 and the *Zweifelsfälle-Duden* ('Duden for cases of doubt') of 2007. In addition to this, the standard language is also constituted by the *Gebrauchsstandard* ('standard language in use') (cf. Ammon 1995: 88), which includes non-codified variants that are used in newspaper articles, for instance. Furthermore, we consider the spoken and written *Umgangssprache* ('colloquial German') as the non-dialectal non-standard language. It consists of regional varieties as well as of varieties that differ from the standard language socio-stylistically. Following Barbour/Stevenson (1990: 144), we suggest a rough division between *standardnahe Umgangssprache* ('colloquial standard German'), i.e.

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<sup>1</sup> Jacob Grimm (1847): Ueber das pedantische in der deutschen sprache. In: Kleinere Schriften, Volume 1, Berlin 1879, S. 330. The quotation can be translated as follows: all grammatical exceptions seem to be remnants of old rules still flickering here and there or harbingers of new rules befalling us sooner or later.

colloquial German that is – structurally – relatively close to the standard language, and *dialektnahe Umgangssprache*, i.e. colloquial German that is relatively close to dialects.<sup>2</sup> It has to be underlined that the varieties that are focused on in the following analysis can overlap. Particularly as for case variation, it is obvious that all variants of the standard language also appear in non-dialectal colloquial German, but not vice versa.<sup>3</sup>

Regarding the notion of case, it is assumed that all phrases carrying case are assigned abstract case as a grammatical feature and have a head that can be case-marked. This case marking of the head (= *morphologischer Kasus* ‘morphological case’, cf. Gallmann 1996: 298) refers to the presence of a morpho-syntactic feature that can, but does not have to be realized morphologically by means of a case suffix. If a noun carries the grammatical feature of case, but has no case suffix, the case marking is not visible and thus non-overt (cf. (*das*) *Buch* ‘(the) book’ NOM). If there is a case suffix, however, the case marking is visible and thus overt (cf. (*des*) *Buch-es* ‘of (the) book’ GEN). Following Gallmann (1996), we regard case-marked heads as case specified. They are different from case indifferent heads, which are not case-marked even if the phrase in which they appear is assigned abstract case. This will be shown in section 5, where NPs are discussed which lack case specification.

## 2. Some notes on the German case system

The German case system still has case specified as well as overtly case-marked word forms. This can be shown with the paradigm of *der Junge* ‘the boy’: *der Junge* NOM, *des Jungen* GEN, *dem Jungen* DAT, *den Jungen* ACC. Although it is only the difference between the nominative and the oblique cases that the noun marks morphologically by means of the suffix *-n*, there are still different forms of all four definite articles (cf. *der* NOM, *des* GEN, *dem* DAT, *den* ACC ‘the’). In addition to that, there are NPs in German with a noun that is case-marked, but without a suffix, and with a definite article without unambiguous case marking. This is the case for all feminine singular nouns in definite NPs (cf. the paradigm of *die Lehrerin* ‘the teacher’: *die Lehrerin* NOM, *der Lehrerin* GEN, *der Lehrerin* DAT, *die Lehrerin* ACC). In such a paradigm, the classification as nominative or accusative can only be deduced from the syntac-

<sup>2</sup> Instances of colloquial German are, for example, forms of expression as they may appear in chat communication. Such non-dialectal colloquial German exists in the German-speaking part of Switzerland as well. Therefore, we assume a bipolar model consisting of dialects as one pole as well as of Swiss High German as another pole. The latter is heterogeneous in itself as it includes codified standard German, the *Gebrauchtsstandard* as well as non-dialectal colloquial German. Thus, colloquial German in Switzerland is not only constituted by dialects, but also by colloquial Swiss High German.

<sup>3</sup> Note that for our analysis, we do not take German dialects into consideration. Case variants in learner varieties and are not included in the analysis either.

tic context (cf. *Das Mädchen besucht die Lehrerin* ‘The girl goes to see the teacher’ or ‘It is the girl that the teacher wants to go and see’).

This large variability concerning case marking is connected with the fact that the inflectional paradigms of the nouns are, to a certain extent, in competition with each other. German grammars vary as to the exact amount of inflectional paradigms, using different criteria to classify them. Some assume three main classes (i.e. strong, weak and mixed inflection), some differentiate between up to 30 subclasses (cf. Hentschel/Weydt 2003: 150–155). With reference to the *Duden* grammar (2009: 194), we classify four main types of nominal inflectional paradigms in singular and one type in plural. In the inflectional paradigm of weak singular nouns, there is a formal distinction between the nominative and the oblique cases by means of the suffix *-en* (cf. *der Prinz* ‘the prince’ NOM vs. *den Prinz-en* ‘the prince’ ACC). In the strong paradigm in singular, there is a genitive suffix *-(e)s* (cf. *des Kreis-es* ‘of the circle’ GEN), but no suffix for all other forms (cf. *der Kreis* ‘the circle’ NOM) since the dative suffix *-e* (cf. *dem Kreis(-e)* ‘the circle’ DAT) has become obsolete. It is only used in lexicalised forms (cf. *zu Hause* ‘at home’) and in idiomatic expressions (cf. *im Grunde genommen* ‘basically’). In these collocations, the dative suffix *-e* is still the norm that has been laid down in the codices, but else, it is no longer customary in the present-day language.

In the course of the following discussion, we will only focus on the nouns of the strong and of the weak inflection in singular for it is above all in these two inflectional paradigms where variation of case marking appears. An example of this is presented in (1a’), where the accusative noun *Student* ‘student’ has no case suffix *-en*, a pattern that is ungrammatical in codified standard German, but that can be found in the *Gebrauchsstandard* and in colloquial German. Moreover, the sentences in (1) make clear that the syntactic function can – albeit not generally – be deduced from the case form: the form of the article (cf. *den* ‘the’ ACC) indicates that the NP at the beginning of the sentence is the direct object and not the subject. The same applies if the nominal case suffix is omitted (cf. 1a’) or if the noun is never overtly case-marked (cf. 1b).

(1) Case inflection:

- a. *Den Studenten* (weak inflection) *sieht der Lehrer*.  
‘The student [object] sees the teacher [subject].’
- a’. *Den Student\_* *sieht der Lehrer*.  
‘The student [object] sees the teacher [subject].’
- b. *Den Mann* (strong inflection) *sehe ich*.  
‘The man [object] see I [subject].’

Not only the accusative object, but also genitive and dative objects can be placed in front of the finite verb. Under certain conditions, these cases can also be classified as direct objects (cf. Wegener 1986). However, we will not use the term

‘direct object’ because objects in German can be differentiated sufficiently by means of their case. In English, where nominal objects are not case-marked, it is reasonable to make a difference between a direct object and an indirect object, i.e. an object that is linked with the verb by a preposition (cf. *I give the book to Mary*).

Let us now turn to case assignment. In German, verbs, adjectives, nouns and prepositions assign case to an NP. All four types of case assigners are illustrated in (2) in bold print:

(2) The four categories of case assigners in German:

a. *einer Sache* GEN **überdrüssig** [adjective] *sein*

↑  
‘to be tired of something GEN’

b. *das* **Buch** [noun] *des Kindes* GEN

↑  
‘the child’s GEN book’

c. **mit** [preposition] *dem Kind* DAT

↑  
‘with the child DAT’

d. *jemanden* ACC **treffen** [verb]

↑  
‘to meet someone ACC’

Note that case assignment by the noun is different from case assignment by the other parts of speech. The noun in standard German assigns only genitive case, a different case category is not possible. In colloquial German, however, a noun can be preceded by a dative NP and a possessive pronoun that links them both (cf. *dem Kind* DAT *sein Buch* ‘the child DAT its book’, i.e. ‘the child’s book’). The conditions under which such an adnominal dative can appear have already been described in detail (cf. Zifonun 2003, Dürscheid 2007) and are not part of the discussion here. According to the *Duden* grammar (2009: 1212), the dative possessive construction is characteristic of spoken language, but it cannot be used in written language. In the scope of case assignment by verbs, adjectives and prepositions, genitive, dative as well as accusative case are possible (cf. *jemandem* DAT *helfen* ‘to help somebody DAT’, *jemanden* ACC *treffen* ‘to meet somebody ACC’, *sich einer Sache* GEN *erinnern* ‘to remember something GEN’), but not nominative. This case is exclusively linked with certain structural positions, that is to say the subject position as well as the position of a predicative nominative (cf. *Er* NOM *ist Lehrer* NOM ‘He NOM is a teacher NOM’).

Furthermore, case assignment can also be motivated semantically (cf. *an die Wand* ACC *hängen* ‘to hook on the wall ACC’ vs. *an der Wand* DAT *hängen*

‘to be attached to the wall DAT’). The choice of the case category that is assigned depends on the meaning that is conveyed, which can be described with the thematic roles of GOAL with accusative and of LOCATION with dative case. It is possible that there is no change of meaning even if the case assigner varies as to the case category that it governs. This is the case when dative is used instead of genitive case (cf. *wegen des schlechten Wetters* GEN/*wegen dem schlechten Wetter* DAT ‘because of the bad weather GEN/DAT’). Dative case in such phrases is outside the norm defined by the *Duden* grammar, except for constructions with such prepositions as *entlang* (see section 3).

### 3. A typology of case variation

In order to classify the different types of case variation, we make use of a theory by Jacobs (2007). This might be surprising at first glance since Jacobs focuses on the classification of orthographic variation exclusively. However, as will be shown, Jacobs’ approach can be transferred to case variation. Case variation can be understood as variation of case assignment and as variation of case marking. The former refers to the case assigner and the phrase that is assigned case. It means the choice of a case category that is assigned, for instance accusative (cf. *Ich rufe dich* ACC ‘I call you ACC’) or dative case (cf. *Ich rufe dir* DAT ‘I call you DAT’). The latter refers to the head of a phrase: on the one hand, there can be variation of case forms since the noun can be used with a case suffix (cf. *den Studenten* ‘the student’ ACC) or without a case suffix (cf. *den Student\_* ‘the student’ ACC). On the other hand, the syntactic word in the head position can be with or without the grammatical feature of case, that is to say it can be case specified (cf. *Orchester ohne einen Dirigenten* ‘orchestra without a conductor’) or case indifferent (cf. *Orchester ohne Dirigent\_* ‘orchestra without conductor’), which can also lead to the variation of case forms. Jacobs (2007) suggests the following four different types of variants:

- 1) disambiguating variants
- 2) construction-based variants
- 3) free variants
- 4) system-based variants

#### *1. disambiguating variants*

According to Jacobs (2007: 47), word pairs such as *Moor* ‘marsh’ and *Mohr* ‘Moor’ are disambiguating variants because the difference in meaning is indicated via the spelling. In the case system, there is also such a semantically motivated variation, namely in the context of the prepositions *an* ‘to’, *auf* ‘on’, *hinter* ‘behind’, *neben* ‘next to’, *über* ‘over’, *unter* ‘under’, *vor* ‘in front of’ and *zwischen* ‘between’ if these prepositions are used with a locative meaning. This

aspect has already been illustrated in section 2. The case assigned by the preposition in these PPs indicates if there is a change of location or not.

There can also be a semantically motivated alternation of the case category governed by the verb if the verb describes a physical influence, as the two sentences *Ich schneide mich* ACC *in den Finger* ‘I cut me ACC in my finger’, i.e. ‘I cut my finger’ and *Ich schneide mir* DAT *in den Finger* ‘I cut me DAT in my finger’, i.e. ‘I cut my finger’ illustrate. In both examples, the accusative NP, on the one hand, is in competition with the dative NP. The dative NP, on the other hand, can be paraphrased, together with the PP *in den Finger* ‘in the finger’, as *in meinen Finger* ‘in my finger’. Thus, the accusative NP refers to a person affected by the verbal action (i.e. the NP is the argument with the thematic role of PATIENT). The dative NP, however, expresses a partial patientivity that only refers to a part of the body (cf. Duden 2007: 762). This also explains why the verb cannot be followed only by the dative NP (cf. *\*Ich schneide mir* DAT ‘I cut me DAT’). Therefore, it is obligatory to mention the affected part of the body.

Furthermore, there are verbs varying as to the assignment of dative and accusative case without the necessity of another NP or PP in addition to the dative NP. According to the *Zweifelsfälle-Duden* (2007: 780), the verb *rufen* ‘to call’, for instance, assigns accusative, but also dative case in regional varieties if the meaning is ‘to ask for somebody by calling him or her’, but not ‘to call somebody over’. It has already been postulated that there are semantic differences between the accusative and the dative object, but we will not resume this discussion in this paper. However, it can be stated that alternating between case categories can serve to indicate differences in meaning. As the choice of the case category is normally motivated by government and not by semantics, there are few contexts where this option is made use of.

A further phenomenon that can be connected with disambiguation is the morphological realisation of case. According to Wegener (2007), the omission of the suffix *-en* in weak masculine nouns with accusative or dative case serves to avoid homonymy. In Wegener’s view, the noun *Dirigent* ‘conductor’ in the phrase *Orchester ohne Dirigent* ‘orchestra without conductor’ has no suffix to rule out the possibility of confusing it with the plural form *ohne Dirigenten* ‘without conductors’. In addition to the fact that the possibility of misunderstanding this example is far-fetched anyway – an orchestra has normally only one conductor –, there are similar examples where singular and plural forms do not coincide, but where there is a reduced nominal form nevertheless (cf. *Ich kenne einen Student* ‘I know a student’). In our view, the noun *Dirigent* ‘conductor’ in the example *Orchester ohne Dirigent* is a syntactically motivated and thus a construction-based variant anyway, where the noun is not case-marked at all and thus case indifferent (see below).

Wegener (2007: 42 f.) suggests furthermore that also the diachronic change of the noun from the weak into the strong inflectional paradigm is motivated

semantically. She points out that weak masculine nouns almost always carry the semantic feature [+animate]. Nouns with the feature [–animate] tend to break out of this paradigm. This aspect indeed explains the transition of nouns such as *Funke* ‘spark’, *Gedanke* ‘thought’, *Wille* ‘will’ and *Friede* ‘peace’ into the strong inflectional paradigm. However, it should not be forgotten that the feature [+/-animate] is only one factor determining the change into another inflectional paradigm. According to Köpcke (2005), further factors referring to the final sound of the word (i.e. +/-schwa), its pronunciation and its syllabic structure have to be taken into consideration. Without doubt, these features are stronger than the semantic feature [+/-animate]. This can be illustrated with such examples as *Patient* ‘patient’, *Student* ‘student’, *Dozent* ‘lecturer’ and *Dirigent* ‘conductor’, which are all in the paradigm of words of non-German origin (cf. Duden 2009: 213). Although they carry the feature [+animate], they all tend to give up the weak inflectional paradigm and to change to the strong inflectional paradigm when it comes to the case forms for accusative and dative case in singular.

It also has to be noted that such a tendency is mentioned in the *Duden* grammar (cf. 2009: 214), but it also has to be pointed out that these masculine nouns have to show weak inflection in the codified standard language (see further below). The same is the case for other nouns in this paradigm, such as *Automat* ‘machine’ or *Planet* ‘planet’, which have the semantic feature [–animate], but also have to show weak inflection (cf. Duden 2009: 213). The only noun with the feature [–animate] in this paradigm for which strong inflection is grammatical according to the *Duden* grammar (2009: 214) is *Magnet* ‘magnet’ (cf. *den Magneten/den Magnet\_*), which supports Wegener’s aforementioned view.

## 2) construction-based variants

Jacobs (2007: 48) regards spellings such as <milch> and <Milch> ‘milk’ as construction-based variants since it is just the one or the other spelling that is possible in a specific grammatical construction (cf. *Kuhmilch* ‘milk of a cow’ vs. *Milch holen* ‘to get milk’). Construction-based variants in the case system are, for instance, case specified and case indifferent nouns. The aforementioned phrase *Orchester ohne Dirigent\_* ‘orchestra without conductor’ is an example of a case indifferent variant. Neither an article nor an adjective precede the noun *Dirigent* ‘conductor’. Further examples are *wegen Umzug\_ geschlossen* ‘closed for removal’, *gemäß Artikel\_ 20* ‘according to article 20’ and *das Verhältnis zwischen Arzt und Patient\_* ‘the relationship between doctor and patient’. Case indifference is the common denominator in all of these constructions, where the noun does not only lack a case suffix, but it is not case-marked at all. As there is no adjectivally inflected word form, the noun does not carry the grammatical feature of morphological case.

Like Gallmann (1996), we assume that the case specification of the noun is regulated by adjectivally inflected word forms. More exactly, this means that in an NP<sup>4</sup>, an inflected determiner<sup>5</sup> and/or an inflected adjective carry the grammatical feature of morphological case. By means of congruence, this feature is transferred to the noun, making it case specified as well (cf. *Orchester ohne ein-en gut-en Dirigent-en* ‘orchestra without a good conductor’). Of course, the noun can be case specified, but still without a case suffix (cf. *ohne ein-en gut-en Artikel\_* ‘without a good article’). If the adjectival inflection is missing, however, since there is neither a determiner nor an adjective (or only an adjective that is not inflected, such as *prima* ‘great’), the noun is case indifferent (cf. *ohne prima Dirigent\_* ‘without great conductor’).

This regularity is also recorded in the *Duden* grammar, where case indifference in singular is declared as acceptable (cf. Duden 2009: 964). In plural, however, case indifference is not considered acceptable, the dative suffix *-n* of the noun has to be realized even if the noun is not preceded by a determiner or an adjective (cf. Duden 2009: 967). This means that the plural noun has to be case specified in codified standard German without there being an adjectivally inflected word form (cf. *Eis mit Früchte-n/\*mit Früchte\_* ‘ice-cream with fruits’). According to Gallmann (1996: 305), this phenomenon can be explained by a second principle of case specification, which we name *genuine case specification*: a nominal head can carry the feature of morphological case even if no adjectivally inflected word precedes the noun. Thereby, the case feature percolates directly from the phrase to the head, so it is not transferred via congruence with the article or with the adjective. Because of this genuine case specification of the nominal head, the syntactic word in the head position is also genuinely case specified (cf. *ein Abend mit Konzerte-n* ‘an evening with concerts’). Since such a phenomenon of case specification is only possible in certain constructions, it is an instance of construction-based variation. This option of case specification seems to apply to NPs in plural, but also to proper names without an article (cf. *Peters Buch* ‘Peter’s book’) for the proper name is also assigned morphological case without there being an adjectivally inflected word form (e. g. an article).

In a word, the following can be stated: because of the presence or absence of adjectivally inflected word forms and/or because of genuine case specification (or genuine case indifference), case specified and case indifferent nouns can be

<sup>4</sup> Gallmann analyzes the distribution of the case feature within a DP carrying case. Slightly simplifying matters, we will continue using the concept of NP.

<sup>5</sup> The original term *Artikelwort* ‘article word’ according to the *Duden* grammar (2009: 249 ff.) corresponds with the term *determiner* in most English grammars. Hence, it will be used throughout the paper. The term *Artikelwort* is synonymous with the traditional term *Begleiter* ‘word accompanying the noun’ and refers to demonstrative and indefinite determiners as well as to the article, but it excludes pronouns, such as the personal pronoun, which is traditionally termed as *Stellvertreter* ‘word replacing the noun’.



considered construction-based variants. Contrary to that, the next type of variation enables the speaker to choose freely from various forms of realisation within a certain frame.

### 3) *free variants*

As Jacobs (2007: 50) points out, one can choose between spelling variants such as <Friseur> and <Frisör> ‘hairstylist’, as they do not differ semantically and as both are correct within the norm. In analogy to that, the long (cf. *-es*) and the short suffix (cf. *-s*) for the genitive case are free variants. That is because both suffixes are acceptable in German if the noun ends in a stressed vowel plus one or more consonants (cf. *Giftes/Gifts* ‘poison’ and *Erfolges/Erfolgs* ‘success’). Another case of free variation can be made out when it comes to nouns which still appear with weak inflection, but the change of which into the strong inflectional paradigm has also been accepted by the norm. These are nouns such as *Oberst* ‘colonel’, where the genitive forms *des Obersten* [weak] as well as *des Obersts* [strong] are equally acceptable according to the *Duden* grammar (2009: 224 and 237). Contrary to an example such as *Bär*, the variation of these forms of the lexeme *Oberst* is not connected with a difference in meaning.<sup>6</sup> Thus, to speak with Jacob Grimm (see the introductory quotation), there are new rules that have already befallen us. The same applies to the pronouns *jemand* ‘somebody’ and *niemand* ‘nobody’, which can appear with or without a suffix in an accusative or dative position (cf. Duden 2007: 491).

After this discussion of free variation of case marking, free variation of case assignment will now be focussed on. There are prepositions governing dative as well as genitive case without a difference in meaning (cf. *entlang dem Fluss* DAT ‘along the river DAT’/*entlang des Flusses* GEN ‘along the river GEN’). In the context of the preposition *plus* ‘plus’, even three cases – dative, accusative and genitive case – are acceptable (cf. Duden 2009: 613). Further prepositions with such a variation of dative and genitive case are, for instance, *dank* ‘thanks to’, *entgegen* ‘contrary to’, *gemäss* ‘according to’ and *nahe* ‘near’ (cf. Di Meola 1998). However, variation of case assignment with these prepositions is not accepted in the codified standard language yet (see section 2). Because of that, they do not belong to the scope of free variation. Instead, they are classified as system-based or variety-based variants, respectively. This type of variation, overlying all others, will now be explained.

### 4) *system-based variants*

In his explanations about system-based variation, Jacobs (2007) lays the emphasis on the fact that formal differences with reference to spelling can be attributed

<sup>6</sup> The variant with weak inflection (cf. *des Bären* GEN) means ‘bear’, whereas the variant with strong inflection (cf. *des Bärs* GEN) is only possible with the technical meaning of the noun as *Maschinenhammer* ‘ram’ (cf. Duden 2009: 224).

to the use of the forms in different varieties. As an example, he mentions the difference in the spelling of <ß> between the standard German of Germany (cf. *heißen* ‘to be called’) and the standard German of Switzerland (*heissen* ‘to be called’). We call such and other instances variety-based variants as differences can be found between the national varieties of German (e.g. between the codified standard in Germany and Switzerland) as well as within different varieties of a national variety (e.g. between the standard and colloquial German of Germany or of Switzerland). In the German case system, this type of variation appears on the level of case assignment (cf. *jemanden* ACC *anrufen* ‘to call somebody ACC’ in standard German vs. *jemandem* DAT *anrufen* ‘to call somebody DAT’ in the colloquial German of West and South Germany and of Switzerland). However, variety-based variants can also be found on the level of case forms, for instance when it comes to the realisation of the genitive case suffix *-es* or *-s* (cf. *des Ausgang-es* vs. *des Ausgang-s* ‘of the exit’). Provided that there is free variation, the long form is preferred in the standard German of Switzerland (cf. Dürscheid/Hefti 2006: 135), whereas the short form is preferred in the standard German of Germany.

Further cases of variety-based variation can be found between technical language and everyday language (cf. *des Herzes* ‘of the heart’ GEN in technical language vs. *des Herzens* ‘of the heart’ GEN in colloquial language) or between specific dialects (cf. the variation of case forms in *bei die Mutter* DAT ‘with the mother DAT’ vs. *bei der Mutter* DAT ‘with the mother DAT’). The variation of such nouns as *Student* ‘student’ between weak and strong inflection, as it was mentioned above, is another instance of variety-based case variation. According to the *Duden* grammar (cf. 2009: 214), only the variants with weak inflection are part of the codified standard language. Furthermore, it can be shown that a variant can belong to more than one type of variation. The change of case assignment of the verb *rufen* ‘to call’ (see above), for instance, is caused by semantics and is thus an instance of disambiguating variation. Simultaneously, its variation of case assignment is variety-based as the use of *rufen* assigning dative case is only acceptable in specific regional varieties. The adnominal dative (see above) is also variety-based as it is preferred in spoken language. At the same time, it is construction-based since as an alternative for the genitive attribute, it can only be in prenominal position.

There might be further classes that would have to be amended, but most case variants can be subsumed under these four types. The following two sections will show how some phenomena in the large area of case variation can be described by means of OT. First of all, there will be some remarks about OT.

## 4. Norm, variation and optimality theory

In OT, it is assumed that languages follow general (system linguistic) regularities, also known as constraints. It is also assumed that constraint conflicts can occur, meaning that the relevant constraints are violable. Consequently, linguistic regularities are by no means absolute rules, but strong tendencies at best (cf. Businger 2010: 155). In an OT competition, a set of candidates with the same meaning, the same surface structure (i.e. S-structure) or the same numeration (i.e. the same lexical material) is confronted with a ranking of constraints (cf. Müller 2000: 12). These constraints are universal, but what is parameterized is their ranking for each language or variety. The constraint profile of each candidate is shown in a table, indicating which constraints it fulfils, which ones it violates and how many times it violates a constraint. The higher a constraint is ranked, the more heavily its violation weighs. The candidate with the best constraint profile is the winner of the competition and thus the optimal candidate, which can violate one or more constraints once or several times and is still grammatical.

The question of what the characteristics of the optimal candidate are will now be focussed on. The answer depends on how the term *optimality* is defined and thus on the kind of competition. If optimality is – in the sense of the classical OT modelling – equated with the term of *grammaticality*, only the optimal candidate is determined as the grammatical structure and all further structures in the same set of candidates are ungrammatical. According to Müller (2000: 241), the idea of optimality can also be connected with the concept of *unmarkedness*.<sup>7</sup> The optimal candidate is then grammatical as well as completely unmarked. All further structures in the same set of candidates are graded in accordance with their constraint profile and their ranking indicates their degree of markedness. The worse their constraint profile is, the lower they are placed in the ranking list of all candidates and the more marked they are. In our view, both concepts of optimality (i.e. grammaticality/ungrammaticality as well as unmarkedness/markedness) can be combined in one single OT competition. In Müller's approach (2000: 241 ff.), this is made possible by a splitting up of the constraint hierarchy into a matrix hierarchy and a subhierarchy. Within the matrix hierarchy, grammatical and ungrammatical candidates can be differentiated. If there is more than one grammatical structure in a set of candidates, the grammatical candi-

<sup>7</sup> The concept of *unmarkedness* is to be understood as *grammatical unmarkedness* in OT and to be differentiated from *morphological unmarkedness*. *Grammatical unmarkedness* means the degree of acceptability in the scope of grammaticality: the less marked a candidate is, the more acceptable it is (cf. Müller 2000: 242 f.). *Morphological markedness*, however, means the presence of case suffixes as a morphological marking of the case feature. Therefore, nouns with non-overt case marking are not morphologically marked with respect to case.

dates are graded in accordance with their constraint profile by means of the subhierarchy, which is a hierarchy of constraints within a complex constraint of the matrix hierarchy. The violation of a constraint in the subhierarchy is indicated with a question mark. The candidate with the best constraint profile is grammatical as well as completely unmarked and the ranking of all other grammatical candidates reflects their degree of markedness.

In contrast to Müller, it is assumed here that the concepts of grammaticality/ungrammaticality and unmarkedness/markedness can be captured in only one competition with only one constraint hierarchy. Each candidate has its constraint profile because of its features in reference to this constraint hierarchy. A comparison of all constraint profiles leads to a ranking list of all candidates. The optimal candidate is, like in Müller's account, grammatical as well as completely unmarked. A boundary of grammaticality indicates which candidates – on the basis of their constraint profiles – are still or no longer grammatical. The advantage of this concept of OT competitions is the following: if language phenomena of different varieties are compared, an OT competition can demonstrate that the different varieties have the same constraint ranking and thus the same tables, but that the boundary of grammaticality in the tables is at a different position for each variety. It is in exactly this way that case variation can be analyzed (see section 5).

The potential of OT has been used more and more for analyzing and describing not only languages, but also variation within varieties of a language. Herrgen (2005), for instance, makes use of OT to explain the variation of verbal morphology in various regional varieties of German and pleads for OT to be used as a paradigm to describe areal linguistic dynamics (cf. Herrgen 2005: 278). In a more recent analysis on areal linguistic variation and OT, Herrgen (2009: 109) remarks that only few studies on this matter have been published. It is the aim of this paper to help fill this gap. We regard OT as suitable to analyze the relationship between the grammatical features and the distribution of variants within the varieties of a language, or even to account for the variational distribution in a language by means of the grammatical features of different variants. However, we assume that differences between varieties are not only based on constraint ranking differences (Herrgen 2009: 111 f.), but also on different positions of the boundary of grammaticality within a table with the same constraint ranking for all varieties, as it was mentioned before. An example of such an analysis is demonstrated in the next section.

## 5. Variation in dative plural noun phrases

In section 5.1, specific types of dative plural NPs with nominal heads ending in *-e*, *-el* or *-er* (cf. *Leute*, 'people' *Artikel* 'article' and *Wälder* 'forests') are described that are taken into consideration. In section 5.2, the relevant constraints

and their ranking are suggested. In the same section, the competitions and tables of the different phrase types are presented. In line with the OT concept, it is assumed that the same constraint ranking applies to all relevant varieties. Also, we use the concept of the varying positions of the boundaries of grammaticality for the different varieties. This means that varieties close to the codified standard language, such as the *Gebrauchsstandard*, have fewer grammatical candidates whereas varieties far from the standard language, such as colloquial German, have more of them.

## 5.1 Phenomena

As to the relevant NPs, a difference will be made between three types. These are illustrated in scheme 1 and commented afterwards. In order to illustrate that all examples are assigned dative case, the NPs are embedded into PPs. It is thus not the whole PP, but only the NP embedded in the PP that has to be taken into consideration.

Scheme 1: case variation in dative plural NPs

<i>Types of phrases</i>	<i>Possibility of case specification by means of an adjectivally inflected word form</i>	<i>Structural features of the NP</i>
type I phrases	no	<ul style="list-style-type: none"> <li>– without determiner/adjective Ex.: <i>mit Konzerten</i> ‘with concerts’</li> <li>– as an expression of measurement or quantity and without a partitive attribute (cf. Duden 2009: 175, 983) Ex.: <i>nach 80 Metern</i> ‘after 80 metres’</li> <li>– with an attributive adjective that is not inflectable Ex.: <i>mit prima Artikeln</i> ‘with great articles’, <i>mit Schweizer Alpenkräutern</i> ‘with Swiss alpine herbs’, <i>mit 126 Spielen</i> ‘with 126 games’</li> </ul>
type II phrases	yes	<ul style="list-style-type: none"> <li>– with a determiner with strong inflection Ex.: <i>mit allen Artikeln</i> ‘with all articles’</li> <li>– with an adjective with strong inflection Ex.: <i>mit netten Leuten</i> ‘with nice people’</li> </ul>
type III phrases	yes	<ul style="list-style-type: none"> <li>– with an determiner and an adjective, both with strong inflection Ex.: <i>mit einigen guten Artikeln</i> ‘with some good articles’</li> <li>– with two determiners, both with strong inflection Ex.: <i>mit allen seinen Kindern</i> ‘with all his children’</li> </ul>

**Type I phrases** consist of NPs in which case specification of the noun by an adjectivally inflected word form is not possible because such a word form is missing or the adjective is not inflectable. The latter applies to adjectives such as *prima* ‘great’, to cardinal figure adjectives such as *zehn* ‘ten’ as well as to derivatives of geographic proper names ending in *-er* such as *Schweizer* ‘Swiss’. As it has been discussed already, nouns in such syntagms must be case specified in codified standard German. However, there are four exceptions. According to the *Zweifelsfälle-Duden* (2007: 989, 994) and the *Duden* grammar (2009: 967), a plural noun can also be case indifferent (i) in a phrase with an expression of measurement or quantity and with a partitive attribute (cf. *in dreißig Meter\_Höhe* ‘in a height of thirty metres’), (ii) in the collocation *aus aller Herren Länder\_* with a prenominal genitive attribute (literally ‘from the countries of all lords’, i.e. ‘from all the world’), (iii) in a phrase with an attribute with the preposition *von* ‘of’ describing a quality (cf. *eine Art von Hosenträger\_* ‘a kind of braces/suspenders’) and (iv) in a phrase with the preposition *ab* with the meaning of ‘as from’ (cf. *ab drei Monate\_* ‘as from three months’). This possibility of free variation shows that also the codified standard language has the tendency to have genuine case indifference in plural NPs under certain conditions.

Otherwise, only nouns with genuine case specification are correct in such phrases, and the noun has to appear with the dative case suffix *-n* according to the *Duden* grammar (cf. Duden 2009: 967), even if there is no adjectivally inflected word form preceding it. Such syntagms are, for instance, expressions of measurement or quantity, but without a partitive attribute (cf. *nach 80 Metern/\*Meter\_* ‘after 80 metres’),<sup>8</sup> NPs without a determiner or without an adjective (cf. *mit Konzerten/\*Konzerte\_* ‘with concerts’), NPs with an attributive adjective that is not inflectable (cf. *mit Schweizer Alpenkräutern/\*Alpenkräuter\_* ‘with Swiss alpine herbs’) as well as NPs with a cardinal figure adjective, but without a noun of real measurement (cf. *mit 126 Spielen/\*Spiele\_* ‘with 126 games’).

In our OT analysis, we focus on NPs without an adjectivally inflected word form that can only have a genuinely case specified noun in the codified standard language (cf. *nach 80 Metern/\*nach 80 Meter\_* ‘after 80 metres’), but that can also appear with a genuinely case indifferent noun in the *Gebrauchsstandard* and in colloquial German (cf. *nach 80 Meter\_*).<sup>9</sup> In addition to that, it is assumed

<sup>8</sup> There is one exception in codified standard German: phrases with the preposition *ab* ‘as from’ can also have case indifferent nouns (cf. *ab drei Monate\_/Monaten* ‘as from three months’, cf. Duden 2009: 967).

<sup>9</sup> We include expressions of measurement without a partitive attribute as the exceptional variation *ab drei Monate\_/ab drei Monaten* ‘as from three months’ is only one particular case in the codified standard. Consequently, NPs with prenominal genitive attributes

that genuinely case specified nouns in an NP without an adjectivally inflected word form also have a suffix (cf. *mit Artikeln* ‘with articles’). This means that nouns without a case suffix in an NP without an adjectivally inflected word form are always genuinely case indifferent only (cf. *mit Artikel\_* ‘with articles’).

The **type II and type III phrases** have in common that the nouns are preceded by determiners and/or inflectable adjectives. Thus, there is the possibility of case specification by adjectivally inflected word forms. In type II phrases, there is one determiner or adjective with strong inflection in the NP whereas in type III phrases, there are two of them. In the *Gebrauchsstandard* and in colloquial German, it can be observed that determiners and adjectives with strong inflection can appear in two inflectional paradigms, one paradigm providing the suffix *-en* (cf. *mit netten Leuten* ‘with nice people’), the other paradigm providing the suffix *-e* (cf. *mit nette Leuten* ‘with nice people’). The suffix *-en* identifies the dative case unambiguously as there is no other inflectional suffix that is formally identical in the plural paradigm of strong adjectival inflection. The inflectional suffix *-e*, however, does not identify the dative case unambiguously since the suffix *-e* also appears in a nominative (cf. *Es sind nett-e Leute* ‘They are nice people’) and in an accusative form (cf. *Er traf nett-e Leute* ‘He met nice people’). Plural nouns ending in *-e*, *-el* or *-er* show a similar variation since they can be with the dative case suffix *-n* as well as without a case suffix. This distribution leads to the following functional differentiation: the nominal case suffix *-n* identifies the dative case unambiguously in a plural paradigm whereas the nominal dative plural case form without a case suffix does not identify the dative case unambiguously.

If the sets of candidates of type II and type III phrases are formed with such lexemes as *all* ‘alle’, *some* ‘einige’ or *gut* ‘good’, there is also the possibility of candidates appearing with determiners and/or adjectives that are not inflected (see  $c_5$  in table 4 as well as  $c_9$  in table 5). In these NPs, there is no case specification by an adjectivally inflected word form.

## 5.2 Constraints and competitions

As it has become apparent, the three types of phrases have different structural features, so their sets of candidates cannot be in the same OT competitions. However, the constraints and their ranking are the same for all three types of phrases. Therefore, the OT competitions of a set of candidates for all relevant varieties can be summarized in one single table. This serves as an overview of the possibilities of case variation in standard and colloquial German. In general, it can be stated that the varieties differ in the following way: the closer to the codified standard language a variety is, the higher its boundary of grammatical-

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would also have to be included. However, for the sake of brevity, this type of syntagm is excluded from our OT analysis.

ity is in the table. For the illustration of the case marking in dative plural NPs, we will use the following four constraints:

(3) Constraints for the OT competitions:

CASESPEC:

The nominal head of the NP is case specified.

IDENTPLUR:

The NP is identifiable unambiguously as a plural NP.

DATMARK:

A case specified word form in the NP marks the dative case in plural morphologically and also identifies the dative case unambiguously.

MARLIN:

The morphological marking of the case feature identifying the dative case in plural unambiguously appears linearly.

The constraint CASESPEC demands that the head of an NP carries the grammatical feature of case and that it is thus case specified either because of genuine case specification or by congruence with an adjectivally inflected word form. In accordance with the constraint IDENTPLUR, the NP has to be identifiable as a plural NP by means of its lexical (e.g. because of a quantifier) or its morphological structure (e.g. because of the suffixes in the NP). DATMARK refers to each case specified word form in the NP, thus including determiners, adjectives with strong inflection and nouns (cf. *mit einig-en gut-en Artikel-n* ‘with some good articles’). According to this constraint, each of these case forms has to mark the dative case morphologically in such a way that it can be identified unambiguously. Thus, every missing unambiguous marking of the dative case of a case specified word form violates DATMARK.

As demanded by the constraint MARLIN, the morphological marking identifying the dative case unambiguously (i.e. the inflectional suffix *-en* for determiners and adjectives with strong inflection and the nominal inflectional suffix *-n*) has to manifest itself linearly, that is to say at the determiner first, then at the adjective and finally at the noun. MARLIN also demands that a case specified word form can only have the morphological marking of the case feature as defined in DATMARK if each preceding case specified word form shows this feature as well. MARLIN is thus applied to each word form individually. If the adjective and the noun, for example, have the marking as demanded in DATMARK, but the determiner appears without it (cf. *mit einig-e gut-en Artikel-n* ‘with some good articles’), MARLIN is violated twice since neither the adjective nor the noun fulfil the constraint. It also takes into account the number of case specified word forms preceding another such word form. If a case form has a morphological marking like in DATMARK although several preceding case specified word forms do not have this marking, MARLIN is violated in accordance with the amount of “omitted” case forms. The fact that the noun in the NP *mit einig-e*



*gut-e Artikel-n* ‘with some good articles’, for example, omits the determiner as well as the adjective with regard to the fulfilment of DATMARK runs counter to the principle of linearity twice, so MARLIN is also violated twice in this NP. Basically, MARLIN is only relevant and violable if there are two or more case specified word forms in an NP.

We assume that the aforementioned constraints have the following ranking: CASESPEC >> IDENTPLUR >> DATMARK >> MARLIN. This assumption is explained by the fact that there is a preference for the case specification of the noun as well as for the unambiguous morphological marking of the dative case in plural, particularly in the codified standard language. However, before presenting the OT competitions in detail now, a general note is necessary. The candidates of an OT competition need to have the same structural and particularly the same lexical features, but different morphosyntactic features. Therefore, not all possible examples are equally suitable as candidates. For instance, the lexical material in the list of examples in scheme 1 is too heterogeneous, not only concerning the determiners and the adjectives, but also the nouns and their different word endings in *-e*, *-el* or *-er*. In all three types of phrases, the problem is solved by means of a focus on NPs with the same lexical material and on a noun ending in *-el* in each type of phrase. This also means that a structure with lexical material that is different from the candidates, but with the same morphosyntactic case features has the same position in the ranking list and thus the same degree of markedness and grammaticality.<sup>10</sup> In addition to that, we define different sets of candidates for separate competitions and we make a comparison between candidate profiles beyond the competitions that they appear in.

#### *type I phrases*

As to type I phrases, the emphasis is put on three sets of candidates with and without an attributive element. The three sets of candidates consist of the following lexemes:

- (4) Lexemes for the three sets of candidates in the type I phrases:
  - for the set of candidates I: *Artikel* ‘article’
  - for the set of candidates II: *prima* ‘great’, *Artikel* ‘article’
  - for the set of candidates III: *80*, *Artikel* ‘article’

<sup>10</sup> This argument does not hold good in every case: in the *Gebrauchsstandard* as well as in colloquial German, nouns ending in *-el* in plural, for example, can appear in a dative NP that can formally be interpreted as a singular NP, which violates IDENTPLUR (cf. *guten Artikel* ‘good articles’ DAT or ‘good article’ ACC). However, an NP with the same inflectional suffixes and with a noun ending in *-er* cannot be interpreted as a singular NP, so IDENTPLUR is fulfilled (cf. *netten Leute* ‘nice people’ DAT, *guten Kräuter* ‘good herbs’ DAT).

For the set of candidates I, there is the following table as an overview of the OT competitions of all relevant varieties:<sup>11</sup>

Table 1: case variation in the set of candidates I

candidates	CASESPEC	IDENTPLUR	DATMARK	MARLIN
☞ c <sub>1</sub> : (mit) Artikeln				
c <sub>2</sub> : (mit) Artikel	*! <sup>12</sup>	*		

In table 1, the case specified candidate c<sub>1</sub> is optimal because it does not violate any constraint. The candidate c<sub>2</sub> is not optimal as the head of the NP is case indifferent and the NP cannot be identified unambiguously as a plural NP by the noun *Artikel* ‘article’. However, it is exactly because of the case indifference of the noun that c<sub>2</sub> cannot violate DATMARK. In addition to that, none of the candidates violates MARLIN for the following trivial reason: c<sub>1</sub> has only one and c<sub>2</sub> has no case specified word form so the principle of linearity cannot be violated at all. This, by the way, also applies to the sets of candidates II and III.

The overview of all OT competitions for the set of candidates II is shown in table 2:

Table 2: case variation in the set of candidates II

candidates	CASESPEC	IDENTPLUR	DATMARK	MARLIN
☞ c <sub>1</sub> : (mit) prima Artikeln				
c <sub>2</sub> : (mit) prima Artikel	*!	*		

Also in table 2, no constraints are violated by the case specified candidate c<sub>1</sub>. In particular, there is no violation of DATMARK and MARLIN. As the noun is the only case specified word form, these two constraints only refer to the word *Artikeln* ‘articles’ and are fulfilled in c<sub>1</sub>. Thus, c<sub>1</sub> is the optimal candidate. The case indifferent candidate c<sub>2</sub>, violating CASESPEC and IDENTPLUR, is not optimal.

<sup>11</sup> It shall be mentioned again that all candidates in all OT competitions are NPs and that they are only embedded into a PP to illustrate more clearly their status of being dative plural NPs. Thus, the preposition *mit* ‘with’ is enclosed in brackets.

<sup>12</sup> For the sake of simplicity, we will mark all violations that are regarded as “fatal” with the exclamation mark, knowing that the violation only means grammatical markedness and not ungrammaticality in some varieties.

Table 3 is an overview of all OT competitions for the set of candidates III:

Table 3: case variation in the set of candidates III

candidates	CASESPEC	IDENTPLUR	DATMARK	MARLIN
☞ c <sub>1</sub> : (mit) 80 Artikeln				
c <sub>2</sub> : (mit) 80 Artikel	*!			

Table 3 shows the overview of the OT competitions of all relevant varieties for the set of candidates III. The structures of this set of candidates also represent NPs with nouns of measurement (cf. *nach 80 Metern* ‘after 80 metres’). It can be seen that the optimal candidate c<sub>1</sub> violates no constraints. The candidate c<sub>2</sub> appears with the cardinal figure adjective *80* und is thus identifiable unambiguously as a plural NP. Even if c<sub>2</sub> does not violate the constraint IDENTPLUR, it still is not optimal.

At this stage, the three sets of candidates can be compared with reference to standard and colloquial German. If the three tables that have been shown represent the OT competitions in codified standard German, c<sub>1</sub> is grammatical, whereas c<sub>2</sub> is ungrammatical in each competition. The optimal candidates in each competition can also be considered grammatical in the *Gebrauchsstandard* as well as in colloquial German. Furthermore, it can be seen that c<sub>2</sub> in table 3, fulfilling IDENTPLUR, has the better constraint profile than the candidates c<sub>2</sub> in table 1 and in table 2. Because of this comparison, it is obvious that the candidate with the better constraint profile is also grammatical, but marked in a variety that is closer to the codified standard language (e.g. the *Gebrauchsstandard*). On the other hand, candidates with a worse constraint profile (cf. *mit Artikel\_* ‘with articles’, *mit prima Artikel\_* ‘with great articles’) are ungrammatical in a variety close to the codified standard language, but they are still grammatical, but marked in a variety far from the standard language.

### *type II phrases*

For the generation of the set of candidates of type II phrases, the lexemes *all* ‘all’ and *Artikel* ‘article’ are used. Table 4 summarizes all OT competitions of the standard as well as of the colloquial varieties with such type II phrases:

Table 4: case variation in type II phrases

candidates	CASESPEC	IDENTPLUR	DATMARK	MARLIN
☞ c <sub>1</sub> : (mit) allen Artikeln				
c <sub>2</sub> : (mit) allen Artikel			*!	
c <sub>3</sub> : (mit) alle Artikeln			*!	*
c <sub>4</sub> : (mit) alle Artikel			*!*	
c <sub>5</sub> : (mit) all Artikel	*!	*		

The candidate c<sub>1</sub> is optimal since it violates no constraint. The candidate c<sub>2</sub> infringes DATMARK for the noun has no suffix that marks the dative case in plural unambiguously. C<sub>2</sub> does not violate MARLIN because of the fact that the distribution of suffixes in c<sub>2</sub> does not violate the principle of linearization. However, MARLIN is contravened by the candidate c<sub>3</sub> since the noun fulfils DATMARK, but the adjective does not, which runs counter to the principle of linearization of this kind of case marking. Because of that, the constraint profile of c<sub>2</sub> is better than the constraint profile of c<sub>3</sub>. The candidate c<sub>4</sub>, in turn, has a lower position in the ranking list than c<sub>3</sub> because both its case specified word forms violate DATMARK. At the same time, c<sub>4</sub> does not infringe MARLIN because there is no suffix marking the dative case unambiguously in plural. The candidate c<sub>5</sub>, which contains a determiner without a suffix, also has to be taken into consideration.

Since there are no determiners and adjectives with grammatical features, but without a suffix in German (cf. Gallmann 1990: 186), the determiner *all* ‘all’ is case indifferent. Because of that, it cannot transfer the grammatical feature of case to the noun. Also, there is no genuine case specification as the noun *Artikel* ‘articles’ in the syntagm *mit all\_ Artikel\_* ‘with all articles’ appears without a case suffix. Moreover, c<sub>5</sub> cannot be identified unambiguously as a plural NP given the reading of the determiner *all* ‘all’ as being singular as well as the reading of *Artikel* ‘article(s)’ as being an uncountable noun. It can be concluded that c<sub>5</sub> violates the constraints CASESPEC and IDENTPLUR and thus has the worst constraint profile of all candidates.

If table 4 represents the codified standard language, the boundary of grammaticality is between c<sub>1</sub> and c<sub>2</sub>. C<sub>1</sub> is grammatical, whereas all other candidates are ungrammatical. The farther a variety is away from the codified standard language, the lower its boundary of grammaticality is in the table and the more candidates are acceptable in this variety. Thus, their position in the ranking indicates their degree of markedness. All these results are caused by the constraints and their ranking. It could be said, for instance, that the boundary of grammaticality of the *Gebrauchsstandard* is between the candidates c<sub>2</sub> and c<sub>3</sub>. In this case, c<sub>2</sub> is also grammatical, but more marked than c<sub>1</sub>. An example from the *Ge-*

*brauchsstandard* with an adjective instead of a determiner, but else with the same structure as  $c_2$  is, for instance *mit extremistischen Inhalte* ‘with extremist contents’ in *Tages-Anzeiger Online* (17.11.08).

### *type III phrases*

The candidates of the following OT competitions consist of the lexemes *einig* ‘some’, *gut* ‘good’ and *article* ‘article’. Table 5 is an overview of the OT competitions of the standard as well as of the colloquial varieties with such type III phrases:

Table 5: case variation in in type III phrases

candidates	CASESPEC	IDENTPLUR	DATMARK	MARLIN
☞ $c_1$ : (mit) einigen guten Artikeln				
$c_2$ : (mit) einigen guten Artikel			*!	
$c_3$ : (mit) einigen gute Artikeln			*!	*
$c_4$ : (mit) einige guten Artikeln			*!	**
$c_5$ : (mit) einigen gute Artikel			*!*	
$c_6$ : (mit) einige guten Artikel			*!*	*
$c_7$ : (mit) einige gute Artikeln			*!*	**
$c_8$ : (mit) einige gute Artikel			*!***	
$c_9$ : (mit) enig gut Artikel	*!	*		

The candidate  $c_1$  is optimal as it fulfils all constraints. Each one of the candidates  $c_2$ ,  $c_3$ , and  $c_4$  infringes DATMARK once because each candidate has one case specified word form without a suffix that would mark the dative case in plural unambiguously. However,  $c_2$ ,  $c_3$ , and  $c_4$  have a higher position in the ranking list than the candidates  $c_5$ ,  $c_6$ , and  $c_7$  since all of them violate DATMARK twice. The positions in the ranking list of  $c_2$ ,  $c_3$ , and  $c_4$  are based on how many times they violate MARLIN.  $c_2$  fulfils MARLIN,  $c_3$  infringes it once – *Artikeln* ‘articles’ is marked in accordance with DATMARK, but *gute* ‘good’ is not – and  $c_4$  violates MARLIN even twice. The reason is that *guten* ‘good’ as well as *Artikeln* ‘articles’ are marked according to DATMARK, whereas *einige* ‘some’ is omitted. The situation of the candidates  $c_5$ ,  $c_6$ , and  $c_7$  is similar as the less a candidate violates MARLIN, the better its position is in the ranking list. Even if the candidate  $c_8$  does not infringe MARLIN – there is no single suffix in this NP marking the dative case in plural unambiguously –, it is placed lower than the aforementioned candidates in the ranking list because it violates DATMARK three times. However,  $c_8$  is placed better than  $c_9$ , a candidate that has only case indif-

ferent word forms, so CASESPEC is contravened.  $C_9$  also violates IDENTPLUR since the word *einig* with the meaning of ‘united’ can also belong to an adjectival lexeme and be understood as being singular.<sup>13</sup>

Finally, table 5 is interpreted with reference to standard and colloquial German. If table 5 represents the OT competition in codified standard German,  $c_1$  is grammatical, whereas all other candidates are ungrammatical. The boundary of grammaticality of the *Gebrauchsstandard* seems to be between  $c_4$  and  $c_5$ . If, however, table 5 represents a variety that is far from the standard, the boundary of grammaticality might well be between  $c_8$  and  $c_9$ .

### 5.3 Evaluation

The OT competitions presented in the preceding section illustrate three aspects. First of all, they present the phenomena of case variation as variation of case marking in dative plural NPs. Secondly, the competitions show how all these phenomena have to be established in the continuum of grammaticality, grammatical markedness and ungrammaticality. Thirdly, the competitions make it clear that – when it comes to variation of case marking – standard and colloquial German varieties have identical ranking lists of candidates, but different boundaries of grammaticality. Thus, in a more general sense, OT is an ideal instrument to combine the grammarian’s view with the perspective of variational linguistics.

We would now like to bring our analysis to a close by returning to the four types of case variation suggested in section 3. How can these typological types of case variation be applied to the three kinds of dative plural noun phrases introduced in sections 5.1 and 5.2? Those structures in type I phrases that were not part of the OT competitions represent two types of case variation. On the one hand, this variation in the codified standard language is construction-based. As case specification by an adjectivally inflected word form is not possible, there can be genuine case specification or genuine case indifference of the head of the NP. This difference in construction makes it possible for the noun to be either case specified and thus to have a case suffix (cf. *in dreißig Metern Höhe*) or to be case indifferent and thus not to have a case suffix (cf. *in dreißig Meter Höhe*). Moreover, these two phenomena can be considered a kind of vari-

<sup>13</sup> It might seem slightly odd that  $c_5$  in table 4 and  $c_9$  in table 5 have the same constraint profile as e.g.  $c_2$  in tables 1 and 2. This is contrary to the intuition according to which the two candidates mentioned first are more marked grammatically. In order to differentiate the four candidates, a further constraint with a relatively high position in the constraint ranking is necessary, with the function to punish the presence of inflectable adjectival word forms (i.e. determiners and adjectives) that are not inflected. Furthermore, this constraint is necessary to avoid that e.g. in table 5, a possible candidate such as *mit einig\_gut\_Artikeln* ‘with some good articles’ is not placed very high in the ranking list of the candidates.

ety-based variation between two style levels in codified standard German. The same two types of case variation in type I phrases can be found in varieties which accept an NP that has a genuinely case indifferent head and that is ungrammatical in the codified standard language. In the *Gebrauchsstandard*, for instance, there is construction-based as well as – due to the presence of style levels – variety-based variation between an NP with a genuinely case specified noun with a case suffix (cf. *mit 80 Artikeln* ‘with 80 articles’) and an NP with a genuinely case indifferent noun without a case suffix (cf. *mit 80 Artikel\_* ‘with 80 articles’).

Within the standard and colloquial varieties, further phenomena of construction-based variation can be found. This is obvious when NPs with adjectivally inflected word forms and thus with case specification and NPs without any adjectivally inflected word forms and with genuine case indifference are compared: in the codified standard language, there is construction-based variation between dative NPs like *nach vielen Monaten* ‘after several months’ and *ab drei Monate\_* ‘as from three months’. In colloquial German, this type of variation can be found between such plural NPs as *mit allen Artikeln* ‘with all articles’ and *mit Artikel\_* ‘with articles’. The (non-)appearance of case specification and of the inflectional suffix *-n* correlates with the presence of the noun in a specific syntactic construction. The construction-based variation between case specified and case indifferent nouns does not necessarily have to lead to variation of case forms. In the *Gebrauchsstandard*, for example, an NP with a case specified noun without a suffix and an NP with a genuinely case indifferent noun can also be regarded as construction-based variants.

A further basic type of variation, overlying all competitions, is the variation resulting from the different positions of the boundaries of grammaticality of the varieties in the OT ranking lists above. Variety-based variants are phenomena that are above the boundary of grammaticality in one variety, but below that boundary in another variety.  $C_2$  in table 5, for example, is a variety-based variant as this candidate is acceptable in the *Gebrauchsstandard*, but not acceptable in the codified standard language. Also, we assume that variety-based variation is possible *within* one variety. This can be explained as follows: the candidates that are above the boundary of grammaticality and thus grammatical in a variety show different grammatical markedness. Therefore, these candidates are classified as variants on different style levels of a variety.

## 6. Final remarks

In the preceding sections, the regularities of case marking in German as well as four types of variation were presented. Then, after introducing OT briefly, we analyzed selected types of phrases by means of OT. It was our aim to demonstrate that OT can also be applied to at the interface of standard and colloquial

German. We showed this by focussing on dative plural NPs, where variation of case marking in standard German and in colloquial German can be analyzed in the same way. Thus, grammatical as well as marked and ungrammatical structures can be identified for all varieties, which differ in the fact that their boundaries of grammaticality have different positions in the ranking list. It remains to examine what further phenomena can be analyzed with the constraints presented in this paper and what further constraints need to be defined (cf. e.g. Giger 2008).

It is obvious that not only case variation in dative plural NPs can be analyzed by means of OT. It can also be used to describe other inflectional variations in the present-day language. This concerns, for instance, the construction-based variation of genitive NPs that are inflected or not inflected: under certain conditions, speakers tend towards omitting the genitive suffix *-(e)s* in strong masculine and neuter nouns (cf. *des Abkommen\_/Abkommens* ‘of the agreement’ GEN, *des Dativ\_/des Dativs* ‘of the dative’ GEN, *Zweifelsfälle*-Duden 2007: 993 f.). Obviously, there is a conflict between a constraint such as “A noun that is part of the strong inflectional paradigm has to carry the genitive suffix *-(e)s*” and other constraints referring to the fact that the noun belongs to a specific class (e.g. a foreign word) and determining that these nouns do not have the inflectional suffix *-(e)s*. These constraints can be formalized analogous to the constraints used for the analysis of case variation in dative plural NPs. They are ordered in a specific constraint hierarchy for competitions so the possible candidates can be in competition with each other. One could also try to cover the aspect of plural forms with the suffix *-s* (cf. *Pizzen* vs. *Pizzas* ‘pizzas’), which occur more and more frequently, by means of OT. To do this, the conditions for the presence of a plural suffix *-s* in the present-day language have to be examined first of all. Wegener (2007: 44 f.) compiled these conditions in her overview of the “Entwicklungen im heutigen Deutsch” (‘developments in present-day German’). Moreover, it is also in the area of sentence structuring that variation can be described by means of OT. Müller (1999) exemplifies this by focussing on the order of the immediate constituents of the clause.

All these OT analyses, however, only focus on codified standard German. By contrast, we have developed an optimality-theoretic approach to cases of variation in codified standard German, in the *Gebrauchsstandard* as well as in colloquial German. We hope that there will be more analyses examining the scope of these varieties by means of OT since there is no doubt that this is the area with the most diversity – and thus with the most competitions between the different candidates.



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