Attachment of Articles and Prepositions in German: Simple Cliticization or Inflected Prepositions*

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0. Introduction

It is a well-known fact that in Modern German certain forms of the indefinite article, such as ein and eine, as well as certain forms of the definite article, such as der, das, dem, and den, can attach to preceding prepositions. As the examples in (1)-(4) show, combinations of prepositions and attached articles contrast with combinations of prepositions and unattached articles.

(1) a. Für 'ne Mark kannst Du 30 Sekunden telefonieren. 'For one mark you can call for 30 seconds.'
b. Für eine Mark kannst Du 30 Sekunden telefonieren.
(2) a. Für'n Groschen kann man nicht mehr viel kaufen. 'For one Groschen one can't buy much any more.'
b. Für einen Groschen kann man nicht mehr viel kaufen.
(3) a. Ich habe die Kette für'n Basar gemacht. 'I made the necklace for the fundraiser.'
b. Ich habe die Kette für den Basar gemacht.
(4) a. Für's Mittagessen ist alles vorbereitet. 'Everything has been prepared for lunch.'
b. Für das Mittagessen ist alles vorbereitet.

In this paper I will mainly concentrate on the attachment of definite articles. However, the analysis of attached definite articles could easily be extended to indefinite articles as well because the two phenomena are strictly parallel in their morphological and syntactic behavior. Chart (5) shows that the attachment of definite articles is quite productive in the sense that it occurs in all cases that can be governed by prepositions and in that it occurs with virtually all prepositions.

(5) Inventory of Preposition/Article Combinations (Case for Case)

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<tr>
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</thead>
<tbody>
<tr>
<td>Genitive att.</td>
<td>statt's</td>
<td>statt'r</td>
<td>statt's</td>
<td>statt'r</td>
<td></td>
</tr>
<tr>
<td>unatt.</td>
<td>statt des</td>
<td>statt der</td>
<td>statt des</td>
<td>statt der</td>
<td></td>
</tr>
<tr>
<td>Dative att.</td>
<td>vor'm</td>
<td>vor'r</td>
<td>vor'm</td>
<td>vor'n</td>
<td></td>
</tr>
<tr>
<td>unatt.</td>
<td>vor dem</td>
<td>vor der</td>
<td>vor dem</td>
<td>vor den</td>
<td></td>
</tr>
<tr>
<td>Accusative att.</td>
<td>gegen'n</td>
<td>gegen's</td>
<td>gegen</td>
<td>gegen die</td>
<td></td>
</tr>
<tr>
<td>unatt.</td>
<td>gegen den</td>
<td>gegen die</td>
<td>gegen das</td>
<td>gegen die</td>
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One way of interpreting examples such as (1)-(5) is to regard the attachment of determiners to preceding prepositions as the result of a phonological process. This view is taken in Schaub (1979), who identifies the attachment of determiners to prepositions as a...
"coarticulatory phenomenon" and who coins the term "Verschmelzungsform" to convey the idea that the article phonologically fuses together with a preceding preposition. Although Schaub does not provide any detailed phonological derivations, she might have a derivation as in (7) in mind for a string like (6).

(6) für das Auto
(7) \[fyr das awto\]
\[fyr d'ols awto\]
* \[fyr as awto\]
\[fyr s awto\]

However, there are at least four problems that such a purely phonological solution cannot account for. I will discuss these counterarguments against a phonological solution in the next section of this paper, before I consider two morphological treatments for the problem at hand.

1. Four arguments against a phonological treatment

The first counterargument against a phonological solution concerns the process of phonological weakening that such an analysis presupposes. Not all of the intermediate stages of the derivation in (7) are possible pronunciations of (6) in casual speech. At least in my dialect, the stage which is marked by an asterisk in (7) is not a possible pronunciation for (6). However, if the pronunciation \[fyr s awto\] were in fact the outcome of a series of phonological weakenings ("lenitons"), such a gap in pronounceability would be highly unexpected, unless the intermediate form violated some phonotactic constraint in the language, which is not the case here.

Second, it turns out that the Verschmelzungsform, i.e. the form which has the article attached to the preposition, is not just an optional variant of the preposition with a following unattached article; instead, each form is restricted to certain uses of the definite article.

In German the definite article can be used in at least three different ways, as examples (8)-(10) indicate.

'When I looked out of the window, I saw a car in front of the house. When I came back a few minutes later, the car was gone.'

(9) Das Auto verschmutzt die Umwelt mehr als jedes andere Verkehrsmittel.
'Cars pollute the environment more than any other means of transportation.'

(10) Ich möchte den Pullover, nicht diesen.
'I would like that sweater, not this one.'
(8) exemplifies what we might call an anaphoric or referential use of
the definite article. The use of the definite article in the noun
phrase das Auto establishes an anaphoric link between the referent of
this NP and the referent the NP ein Auto in the preceding sentence. In
(9) the definite article is used in its generic sense. Das Auto in (9)
does not refer to any particular car; rather it refers to cars as a
"natural kind", to borrow the terminology of Carlson (1977). In (10)
the definite article is used deictically. In its deictic use the
definite article is stressed, which distinguishes this usage from all
others.

After this necessary digression, we can analyse in more detail how
the usage of the Verschmelzungsform of a definite article differs sys-
tematically from that of the unattached articles.

<table>
<thead>
<tr>
<th></th>
<th>Anaphoric Use</th>
<th>Generic Use</th>
<th>Deictic Use</th>
</tr>
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<tbody>
<tr>
<td>Verschmelzungsform</td>
<td>*</td>
<td>0.K.</td>
<td>*</td>
</tr>
<tr>
<td>unattached definite</td>
<td>0.K.</td>
<td>*</td>
<td>0.K.</td>
</tr>
</tbody>
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As the chart in (11) shows, the Verschmelzungsform and the unattached
form of the definite article are semantically in complementary distri-
bution. Thus, in a sentence like (12) the definite article der can be
used deictically, or it can be used anaphorically, if (12) is embedded
in a discourse like (13).

(12) Sie geht gerne zu der Schule.
'She likes to go to this school.'

(13) Karen geht schon im zweiten Jahr zum Heinrich-Heine-Gym-

nasium. Es gefällt ihr dort gut. Sie geht gerne zu der
Schule.
'Karen has been going to the Heinrich-Heine-Gymnasium for
two years. She likes it there. She enjoys going to that
school.'

However, when the generic use of the definite article is intended, i.e.
if the speaker wants to express the proposition that Karen likes to go
to school, the use of the Verschmelzungsform is obligatory. In this

(14) Karen geht gerne zur Schule.
'Karen likes to go to school.'

A purely phonological account of the attachment of the definite article
to preceding prepositions is at a loss to explain this systematic seman-
tic/pragmatic difference between attached and unattached forms. Even
though the relationship between the semantic component and other com-
ponents of a grammar may not be completely understood at the present
time, I know of no linguistic theory and of no example of a segmental phonolo-
gical rule in any language that would lead to the claim that the applica-
tion of a segmental phonological rule can cause a difference in mean-
ing.
The third counterargument against a phonological analysis of the Verschmelzungsform concerns evidence from idioms. If the attachment of the definite article were merely a phenomenon of coarticulation, as Schaub claims, we would expect the use of the Verschmelzungsform to be optional in all contexts. However, for most idioms this is not the case. Thus, we find patterns as in (15)-(17).

(15) a. Wir machen eine Fahrt ins Grüne.  
   'We are taking a trip to the countryside.'
   b. *Wir machen eine Fahrt in das Grüne.

(16) a. Wer im Glashaus sitzt, soll nicht mit Steinen werfen.  
   'People who live in glasshouses shouldn't throw stones.'

(17) a. Er traf ins Schwarze.  
   'He hit the bullseye.'
   b. *Er traf in das Schwarze.

(The (b) examples are, of course, not actually ungrammatical; they just don't have the idiomatic meanings.)

Furthermore, the use of the Verschmelzungsform is obligatory in certain syntactic constructions and is prohibited in others. For the superlative construction of adjectives and adverbs the forms am (from an dem) and im (from in dem) must be used. Thus, (18a) and (19a) are grammatical, (18b) and (19b) ungrammatical.

(18) a. Gottlieb schwimmt am schnellsten.  
   'Gottlieb is the fastest swimmer.'
   b. *Gottlieb schwimmt an dem schnellsten.

(19) a. Es stört mich nicht im geringsten.  
   'It does not bother me in the slightest.'
   b. *Es stört mich nicht in dem geringsten.

On the other hand, for the use of der, die, and das in relative clauses an attachment to a preceding preposition is prohibited. Compare (20) and (21).

(20) a. Das Haus, in dem Fritz wohnt, wird verkauft.  
   'The house in which Fritz lives is for sale.'
   b. *Das Haus, im Fritz wohnt, wird verkauft.

(21) a. Das Konzert, für das ich Karten gekauft habe, fällt aus.  
   'The concert for which I bought tickets was cancelled.'

Of course, one might claim that the morphemes der, die, and das are not to be considered as forms of the definite article when occurring in relative clauses, but rather as homophous relative pronouns. Notice, however, that this counterproposal cannot salvage a phonological solution to the attachment of definite articles. If attachment were phonologically productive, we would expect it to extend to the homophous relative pronouns as well. However, as (20) and (21) show, this is not the case.
2. Two morphological analyses and how to decide between them

Now that I have ruled out the possibility of a phonological explanation for the attachment of the definite article to preceding prepositions, I will consider two alternative solutions that seem to be left open. One approach would argue that the attachment of the article is an instance of cliticization. This view is taken in Zwicky (1982) and would amount to treating the attachment of the article as originating in a readjustment rule that would convert structures like (22) into structures like (23).

(22)  
Prep PP  NP  
   |    Det N  
  X  

(23)  
Prep PP  NP  
  Det  
  Prep  
  X

The readjustment rule would Chomsky-adjoin the determiner to the preposition; the determiner can then cliticize to the preposition. Since the cliticized version of the article occurs in the same syntactic position as the unattached form of the article, the attachment of the definite article in German would be an example of what Zwicky (1977) calls "simple cliticization".

The view that the attachment of the definite articles to preceding prepositions involves readjustment of syntactic structure and subsequent cliticization is consistent with all the counterarguments cited above against a phonological solution. It does not have to rely on a series of phonological weakenings, as Schaub's solution does. The systematic difference between the semantic/pragmatic properties of the attached and the unattached forms of the article will come as no surprise because the cliticized and the non-cliticized version must have separate listings in the lexicon, so that they can differ in meaning, say between a deictic and anaphoric reading on the one hand and a generic reading on the other hand. The only slight problem for the cliticization approach that arises from the data discussed so far involves the superlative construction. Recall that for the superlative construction of adjectives and adverbs the use of the forms im and am is obligatory, whereas their unattached counterparts in dem and an dem are unacceptable. Since in all other cases the cliticization of the article seems to be optional, in the sense that both the non-cliticized and cliticized version are grammatical (albeit with certain systematic semantic differences), the superlative construction represents something of an exception. However, this construction involves only two prepositions in their dative singular forms. Therefore, it can plausibly be argued that these two prepositions have lexically marked forms for the superlative of
adjectives and adverbs, rather than deriving this construction by a combination of cliticization and readjustment.

Moreover, the cliticization approach seems to have the advantage of being easily generalizable to the attachment of the definite article to material other than prepositions. It turns out that in casual speech the definite article can attach to anything preceding it, as long as the preceding material is in the same clause.

(24) Er hat's neue Auto auf Raten gekauft.
'He has bought the new car on an installment plan.'

(25) Er erreicht langsam's Rentenalter.
'He slowly reaches the age for retirement.'

(26) Er hat Maria'n teuren Pelzmantel gekauft.
'He bought Maria the expensive fur coat.'

(27) Sie brachte's Meerschweinchen ins Zimmer.
'She brought the guinea pig into the room.'

(28) Sie hat in Frankreich's grosse Glück gefunden.
'She found true happiness in France.'

In (24) the definite article attaches to a preceding auxiliary, in (25) to an adverb, in (26) to a noun phrase, in (27) to a main verb, and in (28) to a prepositional phrase. In general, there seems to be no restriction on the type of preceding material the definite article can attach to in German. This situation resembles that of the cliticization of *is* and *are* in English. The clitic forms *'s* and *'re* attach to any preceding syntactic material in the same clause. If there is no preceding material, they will "by default" attach to the following material. This is also true of the definite article in German. Consider the examples in (29) and (30).

(29) *'s Geschäft ist heute geschlossen.
'The store is closed today.'

(30) *'n neuen Mantel kann ich mir nicht leisten.
'I can't afford a new coat.'

If we adopt Zwicky's solution of treating the attachment of articles to prepositions as simple cliticization, then this attachment would be just one particular instance of a much more general rule of cliticizing articles to any preceding syntactic material.

However, upon closer inspection the attachment of articles to any preceding material and the combination of articles and prepositions turn out to be quite dissimilar. One aspect that distinguishes the two phenomena is their dependence on the rate of speech. The case of articles combining with prepositions is independent of the rate of speech, whereas the attachment of articles to preceding syntactic material is highly dependent on the rate of speech. Thus, if sentences (24)-(30) are uttered slowly, they simply become unacceptable.

It is especially instructive to compare the two types of processes in their behavior with respect to parenthetical remarks or pauses.
The preposition/article combinations in (31) and (32) are unaffected by parenthetical remarks and hesitation pauses in that they can occur immediately before such pauses, whereas the attachment of articles to preceding syntactic material is sensitive to such interruptions, as the grammaticality of (33a) and (34a) and the ungrammaticality of (33b) and (34b) show. If the article is separated from preceding material by a pause or parenthetical remark, then it has to attach to the following material. Thus, it follows the "default case", just as if there were no preceding material at all.

As a result, the attachment of articles to preceding syntactic material and the combination of articles with prepositions are quite distinct processes. To use the terminology of Kaisse (forthcoming), the former process is a fast speech rule, whereas the latter is a rule of connected speech.

So far, I have presented only negative evidence, to the effect that the combinations between prepositions and articles cannot be considered just an instance of a more productive cliticization attachment of articles to any preceding material. I will now discuss some positive evidence that conclusively shows that the prepositions that combine with forms of the definite article have to be considered inflected prepositions, rather than hosts of simple clitics. My argument presupposes an organization of grammar that has been suggested in recent work by Arnold Zwicky and Geoffrey Pullum. Pullum/Zwicky have argued that a grammar should be viewed as a system with high modularity. That is, a grammar will consist of a number of different components, which have distinct functions and are governed by distinct principles, which are ordered with respect to each other, and which are allowed only limited interaction with one another. Pullum/Zwicky adopt the traditional distinction between syntax and morphology, but argue that the morphological component of a grammar should be divided into at least three different
submodules: word formation rules, allomorphy rules and morphophonemic rules. Moreover, Zwicky and Pullum assume that there is a component of readjustment and cliticization rules which intervenes between the syntactic and the morphological components. The rules of readjustment and cliticization have the function of readjusting syntactic structure so that the readjusted structure can serve as input to the rules of morphology and phonology. Such a readjustment of syntactic structure is necessary because, as has often been observed, the syntactic structure of a sentence need not be identical to its prosodic structure. The sentence This is the cat that caught the rat that ate the cheese is the classical example cited in this context. The pauses between prosodic phrases do not coincide with the major breaks in syntactic constituent structure. Therefore, in certain cases the syntactic structure has to be modified before prosodic structure can be assigned. The readjustment and cliticization component serves exactly this purpose. The cliticization of English pronominal objects and the reduction and cliticization of English auxiliaries are typical examples of such cliticization rules.

As mentioned above, Zwicky (1982) claims that the attachment of definite articles in German involves a readjustment and cliticization rule in very much the same fashion as auxiliary reduction in English. Such an analysis makes strong predictions about the location of this rule in the overall grammar. Since the components of the grammar are ordered in such a way that the rules of one component precede all rules of the following component, Zwicky’s analysis predicts that the putative cliticization of definite articles in German should not affect the operation of any syntactic rule. This prediction follows from the assumption that the syntactic component precedes the component of readjustment and cliticization.

Therefore, under the view that all readjustment and cliticization rules follow all syntactic rules, as suggested by the syntax-morphology interface model of Pullum/Zwicky, we would expect no syntactic rule to affect the combinations of prepositions and definite articles, if these were true cases of simple cliticization. However, there is at least one syntactic rule that these article-preposition combinations are sensitive to, namely the rule of coordination. Consider the pattern in (35).

\[(35)\]

\begin{itemize}
  \item a. vor'm und nach'm Essen  
  'before and after the meal'
  \item b. über'm und unter'm Tisch  
  'above and underneath the table'
  \item c. vor'm und hinter'm Haus  
  'in front of and behind the house'
  \item d. zum und vom Arbeitsplatz  
  'to and from work'
\end{itemize}

The examples in (35) show that preposition-article combinations can be conjoined. However, someone favoring a cliticization analysis might well point out that corresponding combinations of unattached articles and prepositions are grammatical as well:
(36) a. vor dem und nach dem Essen
b. über dem und unter dem Tisch
c. vor dem und hinter dem Haus
d. zu dem und von dem Arbeitsplatz

That is, one might argue that the conjoined structures in (35) can be derived from the corresponding structures in (36) by a readjustment and cliticization process. Notice, however, the ungrammaticality of the phrases in (37).

(37) a. *vor dem und nach'm Essen
b. *über dem und unter'm Tisch
c. *vor dem und hinter'm Haus
d. *von dem und zum Arbeitsplatz

If (35) involved cliticization as an instance of a more productive rule of attaching articles to any preceding material, we would expect that its application to each of the conjuncts, such as to vor dem and nach dem in (36a) should be optional, and therefore we would expect the strings in (37) to be grammatical. They are, however, unacceptable, and therefore the attachment of the articles in (35) cannot involve cliticization. Rather, what are conjoined in (35) must be single constituents and not cliticized versions of prepositions.

Once we recognize that combinations of prepositions and attached definite articles act as simple constituents in syntactic rules, we are left with two options. We could analyse them either as inflected prepositions or as case-marked definite articles. Regarding them as case-marked articles would lead to a proliferation of cases in German. Furthermore, this analysis would have to regard it as a merely accidental feature that a noun governed by a preposition plus an attached article is always identical in its case marking to a noun governed by the same preposition plus an unattached article. Therefore, combinations of prepositions and attached articles have to be considered inflected prepositions rather than case-marked articles.

Preposition-article combinations in German are inflectional in the same way as the English verbal inflection n't. As Zwicky/Pullum (1983) point out, n't crucially interacts with the syntactic rule of Subject-Auxiliary Inversion (SAI). If n't were a simple clitic, it would have to cliticize to the preceding auxiliary before SAI applies, because a sentence like (39) is ungrammatical, while a sentence like (38) is not. However, this analysis involves a rule-ordering paradox, if we want to maintain that all syntactic rules precede all cliticization rules.

(38) Haven't you seen this movie.
(39) *Have not you seen this movie.

For the case of English n't it is the syntactic rule of Subject-Auxiliary Inversion that provides crucial evidence for treating n't as inflectional; for the case of German preposition-article combinations it is the rule of coordination that leads to such an analysis.
Zwicky/Pullum (1983:503) provide further criteria to distinguish between inflection and cliticization, most of which apply equally in the case of English n't and German inflectional prepositions:

(40) **Cliticization versus Inflection** (Zwicky/Pullum)

A. Clitics can exhibit a low degree of selection with respect to their hosts, while affixes exhibit a high degree of selection with respect to their stems.

B. Arbitrary gaps in the set of combinations are more characteristic of affixed words than of clitic groups.

D. Semantic idiosyncrasies are more characteristic of affixed words than of clitic groups.

Criterion A clearly applies to the case at hand, if we compare the inflectional prepositions to the fast speech rule that attaches articles to any preceding syntactic material. Article inflections are restricted to prepositions only; fast speech attachment is unrestricted, in that attachment does not depend on the lexical or phrasal category of the preceding material in any way. Criterion B is applicable because there is a gap in the inflectional paradigm, in that neither of the articles die can ever form an inflectional ending for a preposition. Criterion D is clearly satisfied, if we consider the systematic semantic distinction between the generative use of inflected prepositions and the anaphoric and deictic use of uninflected prepositions and articles.

Let me in conclusion suggest three syntactic rules for German that will generate the relevant strings for examples such as (35) and (36). Without defending my choice, I will adopt the framework of Generalized Phrase Structure Grammar (GPSG), rather than a transformational analysis. I propose the following two rules to expand prepositional phrases in German:

(41) \(< n, \bar{p} [ \bar{p} \bar{N} ], \ldots > \)

[α case]
[β number]
[γ gender]
[δ definite]

(42) \(< m, \bar{p} [ \bar{p} \bar{m} \bar{N} ], \ldots > \)

[α case]

The rule in (41) will generate prepositional phrases with inflected prepositions, while the rule in (42) generates "ordinary" prepositional phrases consisting of an uninflected preposition and a noun phrase (N). The features attached to the P node will be copied onto the P node by the Head Feature Convention of Gazdar/Pullum (1982) and from the P node to the N and N nodes, respectively, by the Control Agreement Principle of Gazdar/Pullum (1982). The rules in (41) and (42) will generate strings like vorm Haus and vor dem Haus, respectively. To generate conjoined strings of inflected prepositions I will adopt coordination rules as proposed in Gazdar (1981:158).
(43) \( < k, [a_1, \ldots, a_n], \beta'(a_1, \ldots, a_n) > \)

where \( \beta \in \{\text{und, oder,}\ldots\} \) and \( a \) is any syntactic category.

(44) \( < 1, [a, \beta a], a', \beta > \)

where \( \beta \in \{\text{und, oder,}\ldots\} \) and \( a \) is any syntactic category.

For strings such as (36) I suggest the following derived phrase structure rule.

(45) \[ [\bar{P} \bar{P}/\bar{N} \bar{N}] \]

Rule (45) will assign the following structure to the conjoined phrase vor dem und nach dem Essen.

(46)

Notice that the rules stated above, together with the "Across-the-Board-Principle" which follows automatically from the version of Gazdar's Coordination Schema in (43), will not generate any of the ungrammatical strings in (37). These phrases are ruled out because the Coordination Schema allows coordination only between identical structures. However, since vor dem Essen and nach dem Essen are generated by two different syntactic rules, they are not conjoinable and thus cannot serve as input to the derived phrase structure rule in (45).

Footnotes

* I would like to thank Arnold Zwicky for many helpful comments on this paper.

1 For a complete list of occurring forms see Schaub (1979), p. 94.
References


