The Prosody of German Clitics*

Ursula Kleinhenz, ZAS (Berlin)

In this paper I discuss the prosodic representation of clitics in Standard German and in some German dialects.

The paper is organized as follows: first, I introduce the assumptions on clitics this paper is based on. In 2 I give the data on the different types of clitics that will be discussed and I show that clitics in German require the assumption of a special prosodic domain. In 3 I discuss the nature of this prosodic domain: is it the clitic group or some kind of recursive structure? The different prosodic representations are applied on the German data. Finally, the correct representations for enclitic and proclitic forms will be defended. I show that there is evidence from phonological processes that proclitic and enclitic forms have two different prosodic representations. Assuming this, some asymmetries in the phonology of clitics can be explained.

1. Introduction

The standard assumption in phonological theory is that words that leave the lexicon have all properties of phonological words (PWds) assigned to them. That is, metrical structure and syllable structure. PWds are prosodically independent and can stand on their own.

The most relevant issue in the phonology of clitics is their prosodic licensing. Since they are no PWds of their own, they have to be licensed by attaching to some prosodically free form, either a PWd or a higher category. This process, however, violates other phonological principles (cf. (3)).

This paper deals with various prosodic representations of clitics and their costs with respect to other principles of the PWd.

The data in the following sections are either taken from Heike (1964)[1] or from my own tape- recordings of German native speakers (the latter are marked with /). Syllable boundaries are separated by a dot.

1.1 Preliminaries

In this paper I assume that the properties listed in (1) hold for PWds.

(1) Properties of the PWd
  (a) The PWd is the domain of syllabification (cf. Booij 1985)
  (b) The PWd is assigned metrical structure in the lexicon

The topic of this paper will be one type of violation of this lexically assigned structure, namely clitics.

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* I thank C. Féry and T.A. Hall for helpful discussions.

1 The data taken from Heike are given in his original semi-phonetic orthography.

Clitics are a problematic subject. The problems start with defining the term. In this paper I will not go into any details about the syntactic licensing of clitics. Instead, I assume the characteristics of clitics that are summarized in (2).

(2) Properties of clitics
- (a) They are prosodically deficient (they are no PWd of their own).
- (b) Their reduction does not depend on speech rate.
- (c) They have to meet certain syntactic requirements:
  first, they have to be members of a closed class,
  second, they are not in a focus position (which interacts with their prosodic properties)

Since clitics are no prosodic word of their own, they have to be prosodically licensed, in other words, they somehow have to associate to a member of the postlexical prosodic hierarchy. Prosodic incorporation, however, comes at the cost of a violation of other principles in phonology, namely the alignment of lexical categories and prosodic words.

The most recent version of these principles which was set up by Selkirk (1995) is given in (3).

(3) Alignment constraints (Selkirk 1995)

(a) Word Alignment constraints
Align (Lex, L; PWd, L), *short: Align LexL*
Align (Lex, R; PWd, R), *short: Align LexR*

(b) Prosodic Word Alignment constraints
Align (PWd, L; Lex, L), *short: Align PWdL*
Align (PWd, R; Lex, R), *short: Align PWdR*

(3) lists all violations of the alignment of lexical and prosodic categories. To give an example: An encliticized form, that is a PWd of the form *Word+Clitic* violates both *Align LexR* (because the right edge of the Lexical category does not coincide with the edge of a PWd). *Align PWdR* (because the right edge of the PWd is not the edge of a Lexical category).

In (2)(b) I claim that speech rate is not one of these conditions but that cliticization is independent of speech rate. This view is not shared by all phonologists (cf. Baumann (this volume) for the opposing view). The data from German I present in this paper show that speech rate may serve in order to differ between reduction due to cliticization and fast speech reduction: reduction processes either respect syntactic information, in that case only the forms that meet the conditions in (2) are subject to them. At faster speech rates all unstressed forms are subject to these reduction processes.

2. Clitics in Standard German and in some Dialects

In this section I introduce the types of clitics that occur in German. Phonological means to identify cliticization will be introduced.

2.1 Types of Clitics (and other weak forms)

The standard cliticization in German is incorporation into the preceding PWd. Evidence for this will be given in 3.2. (4) shows some of these typical cliticizations in Rhinelandian.

(4) Function words in German (enclitic)

(a) / [erklä.ret] mal
erklär et mal
explain **it** for once

(b) /dat [fin.**dich**] auch
das find **ich** auch
*this think **I** as well*
'I agree to that'

The direction of cliticization shows that the left edge of a PWd is protected better than its right edge: Enclisis is preferred over proclisis (this is a crosslinguistic tendency; cf. Selkirk (1995)).

Encliticization of a vowel-initial clitic leads to a mismatch between the phonological and the morphological structure, as illustrated in (5).

(5) Phonology-Morphology mismatch

{erklär} {et} mal	dat {find} {ich} auch	(morphological bracketing)
[erklä] [ret] mal	dat [fin] [dich] auch	(phonological bracketing)
explain it for once	*this think I as well*	

From (5) it becomes evident that cliticization has some restructuring effect on phonology. Below, this prosodic incorporation of the clitic forms into a host word will be looked at. Which factors determine this integration, how is it constrained and what does the resulting structure look like?

In (6) to (10), further types of cliticized forms in German are listed.

(6) Allomorphs

(a)
damit gehe ich **zu dem** Anwalt
*with this I will go **to the** lawyer* (referential)

(b)
damit gehe ich **zum** Anwalt
*with this I will go **to a** lawyer* (generic)

The allomorphs in (6)(a) versus (b) are historically related, but are separate lexical entries in Modern Standard German. The reduced form was once derived from the full form by productive phonological reduction rules. These forms are lexicalized nowadays, in other words, the full form and the cliticized form cannot be substituted for one another. Since they are not the result of the cliticization, these forms will not be discussed here.

A debate some years ago concerned the question whether clitics have to be specified individually for a certain direction (cf. Klavans 1985) or whether languages have a preferred direction for cliticization (cf. Booij 1996). In German, it is a mixture of both. Clitics clearly prefer to cliticize to the left, but there is a small number of bi-directional clitics[2]. An example of a bi-directional clitic is given in (7).

(7) Bi-directional clitics

ich hab (ə)n apfel gegessen
I have an apple eaten
'I have eaten an apple'

(a) ich [ha.bən] apfel (enclitic)

(b) ich [hap] [ən ʔapfəl] gegessen (proclitic)

The determiner *ən* (reduced from *einen* 'a/an.MASC') cliticizes either to the left or to the right.

Bi-directionality is restricted to determiners. This is no coincidence, but rather the consequence of two conflicting principles concerning this category: on the one hand, the left edge of a PWd is generally strongly protected, as I mentioned above, citing Selkirk (1995). This would block proclisis, since the result of proclisis is a PWd whose left boundary does not coincide with the boundary of the stem as illustrated in (8) (LEX = lexical category).

(8) Left edge of PWd not a LEX

$[kauf]_{LEX}$ einen $[Apfel]_{LEX}$ → $[kauf]_{PWd}$ [einen Apfel]$_{PWd}$ → Left edge of PWd not a LEX
buy an apple *buy an apple*

On the other hand, determiners always precede the noun they modify, so that enclisis automatically results in a mismatch between the prosodic and the syntactic structure, as illustrated in (9).

(9) Phonology-syntax mismatch (cf. Klavans 1985)

$[kauf]_{LEX}$ einen $[Apfel]_{LEX}$ → $[kauf\ einen]_{PWd}$ $[Apfel]_{PWd}$ → Syntax-Phonology Mismatch
buy an apple *buy an apple*

The enclitic structure in (9) creates a mismatch between the syntactic and prosodic structure, whereas the proclitic structure in (8) preserves the syntactic bracketing, but at the cost of a violation of the left edge of the PWd *Apfel* 'apple'.

The faster speech becomes, the less relevant is syntactic constituency and forms such as in (10) are strongly preferred. This has already been observed by Selkirk (1986).

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2 There is no clitic that attaches solely to the right in German.

(10) Fast speech reduction
ich hapm apfel gegesssen
I have an apple eaten
'I have eaten an apple'

In (10) the clitic and the preceding form are a PWd, which can be concluded from the fact the nasal is assimilated. Fast speech reductions are typically enclitic and besides all unstressed forms are reduced, regardless of their syntactic status. Therefore, I will not treat fast speech as cliticization.

Rather, all the cases mentioned above have to be accounted for separately: enclisis differs with respect to the way is it prosodically licensed from proclisis and they both differ from fast speech reduction because of the different role syntax plays.

Despite the data in (7) cliticization in German support Booij's (1996: 17) assumption according to which languages have a preferred direction for cliticization. On the basis of Dutch he concludes that - contrary to Klavans - (1985) the directionality does not have to be stored in the lexicon for each clitic individually. As we will see from 3.3, German differs from Dutch with respect to the types of prosodic integration, but the basic idea is the same: the (rare) proclitic forms are a limited exceptional category. Proclisis is limited to determiners.

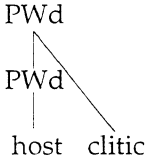
Clitic pronouns in German can be classified as "simple" clitics in the typology of Zwicky (1977), since they can freely be substituted by their full forms.

2.2 Diagnostics for Clitics

One problem concerning clitics is that the prosodic incorporation of clitics is often not evident. In this section I will show how one can nevertheless find out whether an unstressed form is cliticized or not. For the purposes of this section I will anticipate the results of the discussion in 3 and assume that enclitic forms and their host word together form a recursive PWd, as schematized in (11).

I will give detailed arguments in favor of this recursive prosodic structure in 3.

(11) Recursive Prosodic Word (cf. Selkirk 1995)



In order to show that cliticization has taken place, we need evidence that the function word is prosodically incorporated into a host category. Therefore, we have to look for phenomena at the word level domain that have clitic plus host word as a domain.

Since there is only little evidence from standard German data, I will additionally consider data from German dialects (Rhinelandian and Frankonian) that have more phonological clues.

In principle, there are two types of evidence that show that prosodic integration has taken place, namely two different rules that interact with cliticization and the phonological restructuring that is connected with cliticization.

The first is a rule common to both, MSG and dialectal forms. In German, syllable-final obstruents are devoiced.[3]

(12) Final Devoicing in German (Hall 1992: 53)
[-son] _ [-voice] / __]$_\sigma$

(12) says that a voiced obstruent devoices, if syllable-final. By this rule, we can tell, whether a consonant is syllable-final or not. Only syllable-final consonants undergo this rule.

However, as can be seen from (13), Final Devoicing (FD) fails to apply if the stem-final consonant that would be expected to be devoiced precedes a vowel-initial clitic.

(13)
(a)/ dat fin.**d**ich auch
das finde ich auch
this think I as well
'I agree to that'
(b) / dat [ɪ.**z**ən]runder Turm
das is ein runder turm
this is a round tower

The reason for this is that the stem-final consonant is resyllabified to the onset of the following syllable. Since the domain of syllabification is the prosodic word, we can conclude that the clitic must form a PWd together with its host.

The second piece of evidence in favor of prosodic integration can only be found in some dialects. Dialects in the Rhinelandian / Franconian area have a rule that voices intervocalic obstruents, but only if the obstruent is stem-final and followed by a clitic.

(14) Obstruent Voicing (OV) in Rhinelandian/ Franconian dialects
[+obstr] → [+sth] / (V _)$_{w\,min}$ V...)$_{w\,max}$

(14) captures the fact that in these dialects, an intervocalic obstruent is voiced if it is located at the edge of a minimal prosodic word, with no minimal word boundary following. The result is a distribution of voiced and voiceless obstruents as in (15).

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[3] Cf. Hall (1992) for arguments against other domains proposed for Final Devoicing.

(15) Distribution of voiced and voiceless obstruents in Rhine - Franconian dialects

	[p, t, k]	[b, d, g]
__ σ	+	–
V __ V	+	+
[[V __ V] $_{w\ min}$] $_{w\ max}$	-	+

(14) and (15) assume a recursion of the prosodic word. In section 3, the assumption of this representation and the phonological evidence for it will be discussed in detail. In (16), an example of OV are plus the syllable structure that can be derived from this is given.

(16) Obstruent Voicing (Rhinelandian, Franconian)[4]

(a) jof dä [ʃtRɪ.gɔp]
jof dä strik op
gave the argument up
'gave up the argument'

OV is a very general phenomenon and occurs independently of the speech rate. Therefore, it is a rule connected to cliticization rather than to fast speech reduction.

In (22), more cases of OV will be introduced in connection with the question whether these can serve as evidence in favor of the clitic group.

3. The Domain of Cliticization

In this section I am going to examine the domain that results from cliticization in German and discuss, how this process is constrained. These two questions are connected: whatever the resulting structure is, we would expect certain types of constraints.

The question I will address in this section is the domain of cliticization.

In (17), an overview over prosodic structures that have been proposed in the literature for clitics is given.

(17) Possible prosodic incorporations of clitics

a) [host]$_{\omega}$[clitic]$_{\omega}$]$_{CG}$ (cf. Hayes 1989, Nespor & Vogel 1983, 1986 and later)
b) [[host]$_{\omega}$ clitic]$_{\omega}$ (cf. Booij 1996, Peperkamp 1995)
c) [host clitic] $_{\omega}$ (cf. Booij 1996)
d) [[host]$_{\omega}$ clitic]$_{\phi}$ (cf. Peperkamp 1995; Selkirk 1995)

In this section I look at the structures listed in (17) in order to find out how German clitics are incorporated prosodically and I will conclude that enclitics are incorporated by adding a projection level to their host word (as in (17)(b)), while proclitics incorporate into the phrase (as in (17)(b)). I give evidence that excludes other possibilities of prosodic incorporation, starting with the category Clitic Group.

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4 Acknowledging evidence from word stress, Peperkamp concludes that Italian dialects may differ with respect to their prosodic integration of clitics. Since such evidence in lacking in German, I assume that all German dialects incorporte their clitics in an identical fashion.

3.1 The Clitic Group

Since clitics are prosodically deficient, the main concern of phonology concerning them has always been the question, to which type of prosodic constituent they attach in order to be licensed and what the resulting structure looks like.

Evidence for the assumption that cliticization requires a new prosodic constituent comes from cases such as the one in (5), repeated in (18), where phonological and morphological boundaries do not match and the resulting phonological category is larger than the PWd but smaller than the PPh.

(18) Syntax-Phonology Mismatch

[erklär] [et] mal	dat [find] [ich] auch	(morphological bracketing)
[erklä] [ret] mal	dat [fin] [dich] auch	(phonological bracketing)
explain it for once	*this think I as well*	

Hayes (in a paper that appeared 1990) was the first to propose that clitics and their host form a special kind of prosodic constituent, the clitic group. Subsequently, this category became famous through the work on higher level prosodic units of Nespor and Vogel. They gave further arguments in favor of this category and formalized its derivation in an algorithm cited in (20) and (21) (see Nespor and Vogel 1983; Nespor and Vogel 1986). According to them, the clitic group is a prosodic constituent between the Phonological Word and the Phonological Phrase.

(19) The Clitic Group in the Prosodic Hierarchy (Nespor & Vogel 1986)

Phonological phrase
↓
Clitic group
↓
Phonological word

According to Nespor & Vogel, CGs are cross-linguistically derived by the algorithm cited in (20):

(20) Clitic Group Formation (see Nespor & Vogel 1986: 154-155)

i) Clitic Group Domain
The domain of CG consists of a PW containing an independent (i.e. nonclitic) word plus any adjacent PWs containing
a) a DCL, or
b) a CL such that there is no possible host with which it shares more category memberships.
(DCL = Directional Clitic; CL = Clitic)

ii) Clitic Group Construction
Join into an n-ary branching CG all PWs included in a string delimited by the definition of the domain of CG.

The CG-algorithm was later revised by Vogel in order to account for compounds, which in some languages behave as clitic groups while in others they don't.

(21) Clitic Group Domain (revised) (Vogel 1990: 453)

The domain of CG consists of a PW or PWs containing any independent word(s) dominated by the $\left\{\begin{matrix}\text{highest}\\\text{lowest}\end{matrix}\right\}$ X^0 node plus
any adjacent PWs containing
etc.

The evidence for revising the Clitic Group Domain in this fashion may at the same time serve as evidence in favor of the Clitic Group itself. In languages, which choose the second option and constitute their CGs with the lowest X^0 nodes, a mismatch between syntax and phonology can be observed: syntactically, the two members of a compound behave as one single constituent, phonologically, the first member of the compound plus the determiner behave as a single constituent (in that the determiner cilticizes to the first member of the compound). This can be seen the behavior of these constituents towards phonological rules, such as stress assignment.

However, several people have argued that the clitic group is not necessary in order to account for the data. Peperkamp (1996b) takes a detailed look at some of the famous evidence in favor of this category and offers alternative proposals. In her account, clitics can be prosodically licensed in three fashions: they either incorporate into the preceding PWd or into the proceedings PPh or they can incorporate into the host word, resulting in a compound PWd.

For German, Prinz (1991) and Wiese (1996) have argued against this category. However, there are phenomena in the phonology of dialects that give rise to the assumption a CG. Recall (16), where an example was given from Rhinelandian. Further examples can be seen from (22).

(22) Obstruent Voicing (Rhinelandian, Franconian)

(a) k → g

jof dä [ʃtRɪ.gɔp]
jof dä strik op
gab den Streit auf (MSG)
gave the argument up
'gave up the argument'

/ das [mer.gich]
das merk ich
this notice I
I notice that

(b) t → d

/ von d[ɔɒ.d]aus
von dort aus
from there on

wie jei. [d]et dann?
wie jeit es denn?
how is it going?

stei. [dəns]
steit ens
stands once
'once there stood...'

/ Ich [bra:.dən]
ich brat ihn
I bake him

(c)/ /p/ → [b]
das ti.[bic] noch mal neu
das tipp ich noch mal neu
that type I once again new
'I am going to type this again'

(d) /f/ →[v]
das ho.[ʊ]ich auch
das hoff' ich auch
this hope I too
I hope this as well

Between a clitic and its host word, intervocalic obstruents regularly become voiced, even at slower speech rates.[5]

Examples like these at first sight may count as evidence for the clitic group. In these cases, cliticization seems to cause a resyllabification of their hosts, if they end in a consonant. Voiced obstruents are then blocked from undergoing final devoicing. This seems to indicate that the domain of syllabification is the clitic group. This would then possibly even hold for German. At least, there wouldn't be any counter-evidence against this assumption, since clitics in MSG loose their vowel.

We could conclude that in these dialects, a rule applies like the following in (23)

(23) Intervocalic voicing (to be revised)
[+obstr] → [+voice] / V __ V

The problem about the voicing rule in (23) is its domain. Since it only applies between a clitic and its host word, the rule seems to be constrained by Clitic Group boundaries, a so-called domain span rule. A voicing rule within the clitic group would look like the one in (24).

(24) Intervocalic voicing (to be revised)
[obstr] _ [+voice] / V __ V]$_{CG}$

At first sight, (24) seems to be the representation that accounts for the intervocalic voicing data. (24) correctly voices obstruents at the boundary between clitic and host word, if we assume they were represented as in (25).

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5 This can only be illustrated with stems ending in *-t* or with the first person singular pronoun following, since the other pronouns require inflectional endings that cannot be deleted (in contrast to the first person singular ending *-e*, which is deleted at non-elaborated speech).

(25) Intervocalic voicing in the Clitic Group

von d[ɒɒ.**d**]aus
von [[dor**t**] [aus]]$_{CG}$ (phonological representation)
from there on

/ wie jei. [**d**]et dann?
wie [[jei**t**] [et] $_{CG}$ (phonological representation)
how is it going?

The problem about a rule applying in the clitic group, such as in (25) is that it would overgenerate voiced obstruents. It would voice all intervocalic obstruents within the domain of a clitic group. However, as can be seen from (26), there are voiceless intervocalic obstruents within the clitic group. In (26)(a), a voiceless obstruent occurs intervocalically before an inflectional ending, in (26)(b) within a single morpheme and in(26)(c) between the two members of a compound.

(26) (a) inflected form (b) monomorpheme (c) compound

(a) bra[**tə**]n	(b) Bra[**tə**]n	(c) bratapf[ə]l	
brat + en		[Brat] [apfel]	(morphological bracketing)
bake.INF	*roast(N)*	*roast apple*	
'to bake'	'roast'	'baked apple'	

Above this, in combinations of host words plus clitics, intervocalic obstruents in other positions than the one at the boundary between host and clitic do not voice (cf. (27)

(27)
[reiteste]$_{CG}$
reitest du
ride you
do you ride?

We can conclude that this rule provides no evidence in favor of the clitic group, which supports Wiese (1988) and Prinz (1991) who claim that there is no CG in German.

A problem for an account that does without the clitic group are proclitic forms as in (28).

(28) Phonology-Syntax mismatch

(a) enclitic:	(b) proclitic:	(c) *proclitic syllabification
ich [ha.bən] [apfel] gegessen	ich [hap] [ən ʔapfəl]	* [napfəl]
ich hab einen apfel eaten	*ich hab einen apfel*	*an apple*

According to Prinz (1991: 80) these forms must incorporate into the following PWd for theoretical reasons, since otherwise they would violate the SLH.

Incorporation into the PWd would result in the prosodic structures in (29).

(29)

(a) enclitic				(b) proclitic			
$[\text{ich}]_{PWd}$	$[\textbf{ha.bən}]_{PWd}$	$[\textbf{apfel}]_{PWd}$	gegessen	$[\text{ich}]_{PWd}$	$[\textbf{hap}]_{PWd}$	$[\textbf{napfəl}]_{PWd}$	gegessen
I	*have an*	*apple*	*eaten*	*I*	*have*	*an apple*	*eaten*

However, there are some empirical arguments against this. These data will be discussed below. In this section I show that the proclitic forms differ from the enclitics in that they incorporate into the phonological phrase. I conclude that the cliticization data have to be accounted for as two independent ways of prosodic incorporation.

The data in (27) suggest that enclitics and proclitics have to be treated separately: An encliticized determiner syllabifies together with its host word (cf. (28)(a)). This is not the case with proclitics. As one can see from (28)(b) and the ungrammatical syllabification in (28)(c), proclitics do not syllabify with their host: in these cases, the initial *a* in *apfel* is preceded by a glottal stop.

These forms are not enclitic either, which can be seen from the fact that in (28)(b) the stem-final *b* is devoiced, whereas in (28)(a), it is resyllabified to the onset of the following clitic.

I conclude that (27) shows that proclitic forms adjoin to the PPh they precede (cf. (17)(d)). This representation was suggested by Peperkamp (1995) and Selkirk (1995) in order to account for similar cases where the clitic

Below I argue that, in German, enclitic forms cannot be treated along the same line but are rather incorporated into their host word (as in (17)(b)), thereby adding a projection level to this PWd.

3.2 Incorporation into the Phonological Phrase

Above, I have shown that the intervocalic voicing does not provide evidence in favor of the category clitic group (as in (17)(a)) for German clitics. Still, a representation has to be found that accounts for the domain of intervocalic voicing which occurs only between a clitic and its host word.

Assuming that proclitics incorporate into the PPh, as in (17)(d). What about enclitics? It would be desirable to analyze them accordingly, because then the clitic forms in German would be symmetrical.

We can test this by looking again at the distribution of voiceless and voiced obstruents in some German dialects (cf. (15), repeated in (30).

(30) Distribution of voiced and voiceless obstruents in Rhine - Franconian dialects

	[p, t, k]	[b, d, g]
$\_\_\ \sigma$	+	−
V __ V	+	+
$[[\text{V}\ \_\_\ \text{V}]_{w\ min}]_{w\ max}$	-	+

One possible way to account for this distribution would be to assume that enclitics incorporate directly into the preceding PPh, as I have shown above for the proclitic forms.

The forms in (22) would then be represented as in (31).

(31)

/ von d[ɒɒ.**d**]aus
from there on
von [[dor**t**] $_{PWd}$ aus] $_{PPh}$ (phonological representation)

wie jei.[**d**]et dann?
how goes it now
how is it going?
wie [[jei**t**] $_{PWd}$ et] $_{PPh}$ (phonological representation)

Incorporation into the PPh could account for the obstruent voicing, since one could assume a rule that voices obstruents in that particular environment, such as in (32).

(32) Intervocalic voicing (to be revised)
[+obstr] → [+voice] / V __]$_{PWd}$ V] $_{PPh}$

However, representing enclitics in that way would pose a problem for the syllabification in German. As we have seen above (for instance in (28)), there is a contrast between proclitic and enclitic forms concerning syllabification. Only the proclitic forms do not syllabify with an adjacent form.

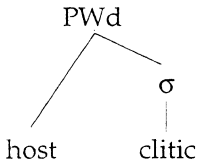
Considering the data in (28), enclitic forms and their host word have to be in the same PWd, since syllabification applies across them. Word boundaries are a barrier for syllabification in German. This can be seen from the data on prosodic mismatches in (28). Therefore, a PWd-boundary must include both, the enclitic form and its host word.

3.3 Cliticization at the PWd-Level

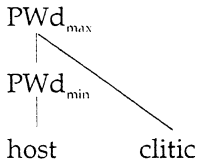
The last possible representation that remains to be tested is to analyze enclitic pronouns as incorporations into the PWd. Here, we again have two possibilities, as sketched in (33):

(33) Two ways of incorporating clitics into the PWd

(a)



(b)



In (33)(a), the clitic is literally incorporated. This violates one of the adjunction principles, according to which only identical constituents can be adjoined. In (33)(b), there is also the SLH violated: it is a recursive prosodic word. But since recursion has

to be assumed for other prosodic domains as well[6], this is no important objection against (33)(b).

Both, (33)(a) and (b) can account for the syllabification of enclitic forms. The domain of syllabification is the PWd in a representation as in (33)(a) or, assuming (33) (b), the Maximal Word. But considering the distribution of the voiced and voiceless obstruents, we find that only (33)(b) provides the environment that is required in order to describe the domain of voicing appropriately.

(34) Prosodic incorporation of encliticized forms in German

/ von d[ɒɒ.**d**]aus
von [[dort] $_{w\,min}$ aus] $_{w\,max}$ (phonological representation)
from there on

wie jei. [**d**]et dann?
wie [[jeit] $_{w\,min}$ et] $_{w\,max}$ (phonological representation)
how is it going?

The intervocalic voicing can be predicted if we assume that it is a domain edge rule at the Minimal Word level (see (22))

(35) Rule domains
w max: domain of syllabification
w min: domain edge of obstruent voicing (if no left prosodic boundary follows)

Note that the facts differ from the Dutch facts (cf. Baumann, this volume). While the data in Baumann could be accounted for as a domain span rule within the clitic group, the voicing in German is restricted to the particular edge between minimal and maximal prosodic word.

6 Cf. Ladd (1992) or Truckenbrodt (1995) for cases of recursion of the PPh.

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