

CLITICS IN PHONOLOGY, MORPHOLOGY AND SYNTAX

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Birgit Gerlach and Janet Grijzenhout (eds.)

Clitics in Phonology, Morphology and Syntax

CLITICS IN PHONOLOGY, MORPHOLOGY AND SYNTAX

Edited by

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Clitics from different perspectives

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1. Introduction

This volume presents papers which provide new insights into the nature of clitics and into the phonological, morphological, and syntactic principles which underlie the selection of their hosts. A clitic is generally understood to mean a word which cannot stand on its own and “leans” on a host word. Clitics are usually weak forms of functional elements such as pronouns, determiners, auxiliaries, negation particles and question particles. Since Zwicky (1977), a distinction is made in the literature between simple and special clitics. Simple clitics are different from special clitics in that the latter are not necessarily derived from corresponding full forms in a transparent way and they may or must be placed at a different position than the corresponding full form if there is one (for a complete list of defining characteristics see Kayne 1975; Nübling 1992; Zwicky 1977).

Clitics play an increasingly prominent role in linguistic research and the status of clitics is a topic of much debate in phonology, morphology, and syntax, as well as in the respective interfaces. The discussion on clitics gives rise to diverse and controversial analyses. The purpose of the introduction to the present volume is to offer an overview of some current ideas on clitics.

In phonology, the prosodic structure of clitics is much debated. Mostly, clitics are prosodically deficient in that they fail to meet prosodic minimality conditions. For instance, unlike prosodic words, clitics need not consist of a full vowel. Moreover, clitics often exhibit different phonological behaviour from other categories (see e.g. Akinlabi & Liberman, this volume, on clitics and tonal phenomena and Reindl & Franks, this volume, on special metrical conditions with respect to clitics in verse). A central issue in recent phonological theory is

how clitics should be prosodified and whether we should distinguish a separate “clitic group” in the prosodic hierarchy, as originally proposed by Nespor & Vogel (1986) and Hayes (1989), or whether this category is superfluous. Under the latter view, clitics are attached to — or integrated into — categories such as the prosodic word and the phonological phrase (Booij 1996; Hall 1999; Kleinhenz 1998; Selkirk 1995; Zec & Inkelas 1991). In Section 2, we discuss the question whether the distribution of clitics justifies a category “clitic group” in the prosodic hierarchy or not and whether there are convincing arguments to assume that they are either part of prosodic words, or linked to categories higher than the prosodic word.

From a morphological point of view, it is questionable whether a distinct morphological category of clitics is linguistically desirable beyond a purely descriptive means. In recent analyses, it has been proposed to accommodate clitics in one of the categories “word” or “affix”. This issue is addressed in Section 3. Furthermore, the combinatory restrictions that underlie the occurrence of opaque clitics in clitic clusters pose a problem for phonology and syntax and seem to warrant a morphological analysis. In this respect, recent modular analyses within the frameworks of Distributed Morphology and Paradigm Function Morphology compete with those which propose an Optimality Theoretic solution. The latter allow for the interaction of phonological, morphological, and syntactic constraints.

The syntactic status of clitics is no less controversial. As for pronominal clitics, one of the main problems is whether they are arguments as proposed by Kayne (1975) and many others, or whether they are functional heads as proposed by, e.g., Sportiche (1996). Furthermore, Section 4 shows that it is an unsettled issue whether clitic placement is best accounted for in an entirely syntactic (Kayne 1975; Sportiche 1996; Uriagereka 1995), a prosodic (Halpern 1992), a prosodic-syntactic (Čavar & Wilder 1994), or an optimality-theoretic approach (Anderson 1996; Legendre 1996).

2. Clitics and prosodic structure

Prosodic structure theory holds that syntax does not provide domains for phonological rules in a direct fashion. Instead, it is assumed that phonological rules can be explained in purely phonological terms if their domains of application are expressed in relation to prosodic constituents such as the prosodic word (PW) or the phonological phrase (PPh). Prosodic constituents are defined on the basis of the morphosyntactic structure of sentences, but they need not be isomorphic to morphosyntactic constituents. Kleinhenz (1998) illustrates this with the following example where the German article *einen* and the noun *Fehler* form one syntactic

constituent (see (1a)), whereas they are part of different prosodic constituents (see (1b)):

- (1) a. ich muß [[**einen Fehler**]_{NP} gemacht haben]_{VP}
 I must a mistake made have
 ‘I must have made a mistake’
 b. ich [mu.zən]_{PW} [**fe:l**]_{PW} gemacht haben

In example (1b), the weak form of the determiner *einen*, /ən/, needs a host word and forms one prosodic constituent (here: PW) with *muß*.

As originally proposed by Selkirk (1978), the prosodic structure of an utterance is composed of a specific hierarchy of prosodic units. This hierarchy is given in (2) with the extension of a so-called “clitic group” (see Nespor & Vogel 1982, 1986 and Hayes 1989):

- (2) utterance
 intonational phrase
 phonological phrase
 clitic group
 prosodic word

The phonological utterance is the largest constituent in the prosodic hierarchy. It consists of one or more intonational phrases which are usually dominated by the same X^n (where X^n is the highest node of a syntactic tree). The intonational phrase groups together one or more phonological phrases and the phonological phrase is formed from one or more clitic groups. For evidence to assume the categories “utterance”, “intonational phrase”, “phonological phrase” and “prosodic word”, we refer to Nespor & Vogel (1982, 1986) and Selkirk (1978). The domain of the clitic group is defined by Nespor & Vogel (1986: 154) as follows:

- (3) The domain of the Clitic Group consists of a Prosodic Word (PW) containing an independent (i.e. nonclitic) word plus any adjacent PWs containing:
 a. a directional clitic¹
 b. a clitic such that there is no possible host with which it shares more category memberships.

The implication of this proposal is that each clitic may form a prosodic word of its own. This prediction is not borne out (see Zec 1988; Inkelas 1989; Zec & Inkelas 1991; Booij 1996; Hall 1999) and we will illustrate this below for clitics in Dutch.

Selkirk (1995) claims that there is no justification for the prosodic constituent “clitic group”. The linguistic units which induced Nespor & Vogel (1986) to

assume the clitic group are redefined by Selkirk (1995) with respect to the category prosodic word (PW). She proposes that a lexical word (lex) may form a prosodic word of its own. A function word (fnc) may also form a prosodic word of its own (4a), or it may be prosodified as one of three types of prosodic clitics, viz. free clitics (4b), internal clitics (4c), and affixal clitics (4d).

- (4) Prosodic structure of function words (fnc):
- | | | |
|----|-----------------|--|
| a. | prosodic word | ((fnc) _{PW} (lex) _{PW}) _{Pph} |
| b. | free clitic | (fnc (lex) _{PW}) _{Pph} |
| c. | internal clitic | ((fnc lex) _{PW}) _{Pph} |
| d. | affixal clitic | ((fnc (lex) _{PW}) _{PW}) _{Pph} |

Selkirk (1995) shows that with the different prosodifications of function words, the clitic phenomena in Romance languages — which lead Nespor & Vogel to the assumption of the clitic group — can be explained without reference to this constituent (see also Peperkamp 1997). We will now examine whether the abolishment of a separate clitic group and the assumption of different prosodifications of function words given above also helps to explain the phonological behaviour of clitics in languages such as Dutch and German.

In modern standard Dutch and German, a prosodic word consists of at least one full vowel and there are no syllables which end in a short full vowel (see, e.g., Booij 1996 and Hall 1999, respectively). In other words, the minimal prosodic word has one syllable which ends in a full long vowel (e.g. D. *thee* [te:] ‘tea’ and G. *See* [ze:] ‘lake’) or a short full vowel followed by a consonant (e.g. D. *zet* [zɛt] ‘put’ and G. *Tisch* [tɪʃ] ‘table’). Furthermore, there are no prosodic words that begin with Schwa. Clitics are special in that they may consist of a subminimal word, i.e., one that has Schwa or a reduced vowel as its only vowel, e.g., Dutch *'k* [ək] (weak form 1 sg subj pronoun), *je* [jə] (weak form 2 sg subj pronoun), *een* [ən] (weak form of determiner meaning ‘a’), and *m'n* [mən] (weak form 1 sg poss pronoun). Based on this observation, Booij (1996) and Hall (1999) conclude that weak forms of function words cannot form prosodic words of their own and that there is no justification to assume a separate domain clitic group for Dutch and German.

As an alternative, Booij (1996) proposes that Dutch clitics become part of an adjacent prosodic word. In this respect, clitics resemble affixes, which are also integrated into a larger prosodic domain. According to Booij, affixes and pronominal clitics share certain phonological properties which distinguish them from strong forms of function words and from lexical words. For instance:

- i. Prevocalic Schwa deletion takes place before affixes (5a) and may occur

before clitics (5b), but not before nouns which form a prosodic word of their own (5c).

- ii. Homorganic glide insertion takes place between a vowel-final word and an inflectional suffix (6a), as well as between a vowel-final word and a clitic (6b), but not between a vowel-final word and a following lexical word which forms a prosodic word of its own (6c).

- (5) a. /ro:mə/_{Stem} + /-ɛIn/_{Affix} → [ro:mɛIn]/*[ro:mɛIn]
 ‘roman’
 b. /ha:ldə/ + /əm/_{Clitic} → [ha:ldəm]
 ‘fetched him’
 c. /ha:ldə/ + /o:laf/_{Noun} → [(ha:ldə)_{Pw} (o:laf)_{Pw}]
 /*[(ha:ldə)_{Pw} (o:laf)_{Pw}]
 ‘fetched Olaf’
 (6) a. /kni:/_{Stem} + /-ən/_{Affix} → [kni:jən]
 ‘knees’
 b. /ɪk/ + /zi:/ + /ər/_{Clitic} → [ɪk zi:jər]
 ‘I see her’
 c. /ɪk/ + /zi:/ + /ən/_{Noun} → [ɪk (zi:)_{Pw} (ən)_{Pw}]
 ‘I see Ann’

In addition, Booij points out that clitics exhibit unique phonological behaviour in that /n/-epenthesis is only found optionally between a vowel-final prosodic word and a following clitic (7a), whereas it does not apply in the case of a vowel-final clitic and a following vowel-initial host word (7b,c):

- (7) a. ik wilde ’r helpen [ɪk vɪl.də.nər hɛlpə]
 I wanted her help.INF
 ‘I wanted to help her’
 b. de avond [də a:vɒnt]/*[dəna:vɒnt]
 ‘the evening’
 c. je eet [jə e:t] /*[jəne:t]
 ‘you eat’

For this reason, Booij proposes that proclitics and enclitics have different prosodic representations. Proclitics are directly linked to the following prosodic word, whereas enclitics are linked to the lowest level that is possible, which means that they are incorporated into the preceding prosodic word. Thus, in Selkirk’s (1995) terminology, proclitics are affixal clitics and enclitics are internal clitics. Booij assumes that /n/-epenthesis applies strictly within the prosodic word and not across a prosodic word boundary:

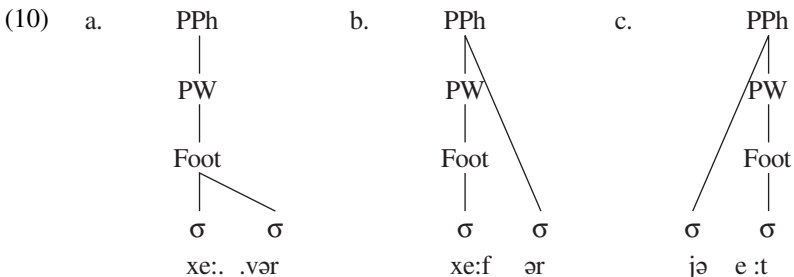
- (8) a. (vɪl.də.nər)_{PW}
 b. (jə (e:t) _{PW}) _{PW}
 c. (də (avɔnt) _{PW}) _{PW}

We think that a different treatment of proclitics and enclitics in Dutch is not justified. We will argue below, that neither proclitics nor enclitics are incorporated into a prosodic word. Instead, they function as sisters of a prosodic word and as such they are directly dominated by the phonological phrase. To motivate this assumption, we here point out that /n/-epenthesis seems to be a general rule in the language which breaks up an illicit sequence of a vowel plus Schwa (*Və). There is no rule (or constraint) which prohibits a sequence of Schwa plus a full vowel and for this reason, we do not find /n/-epenthesis in examples (7b, c). The optional occurrence of /n/-epenthesis depends on the phonological environment and not on the position of clitics in the prosodic hierarchy. Hence, there does not seem to be a reason to assume different structures for proclitics and enclitics in Dutch.

So far, we have seen that there are important similarities in Dutch between Schwa-initial affixes and Schwa-initial clitics with respect to their phonological behaviour. There is, however, one important difference. There is no syllable-final devoicing of stem-final obstruents before Schwa-initial affixes, whereas there is before Schwa-initial clitics:

- (9) a. geef + -er /xe:v_{Stem} + ər_{Affix}/ [xe:vər]
 'someone who gives'
 b. geef 'r een kat /xe:v_{Stem} + ər_{Clitic}/ [xe:fərənkat]
 'give her a cat'

Based on this observation, we propose that affixes form one prosodic constituent together with the stem (10a). Clitics do not form one prosodic word together with their host and do not form a prosodic word of their own, i.e. they are analysed by us as "free clitics" (see 4b), i.e., as constituents which are directly dominated by the phonological phrase (10b, c).



The explanation for the prosodically deficient nature of Dutch clitics and for their special phonological distribution that we would like to present here is as follows. Weak function words do not always have a full long vowel or a short full vowel plus a following consonant, i.e. they are “subminimal”. In this respect, they resemble Schwa-initial suffixes. This may be attributed to the fact that both clitics and affixes do not form a prosodic word of their own. The fact that stem-final obstruents retain their underlying voicing specification before Schwa-initial suffixes, whereas they are always devoiced before Schwa-initial clitics, is explained by the fact that Schwa-initial suffixes are integrated into the same prosodic word as the preceding stem (10a), whereas clitics are not (10b). Hence, we have shown that both proclitics and enclitics are best analysed as being directly dominated by the phonological phrase (i.e. as “free clitics” in the sense of Selkirk 1995) and have the same prosodic structure.

Hall (1999) reaches a similar conclusion for German. He argues that German proclitics and their host do not belong to the same prosodic word and that proclitics are linked directly to the phonological phrase. This means that Dutch and German proclitics have the same prosodic representation (see (10c) and (11) respectively):

- (11) (es (geht)_{PW})_{PPh} [əs.ge:t]
 ‘it’s alright’

For enclitics, Hall assumes two distinct representations. According to him, a host plus vowel-initial enclitic sequence forms one prosodic word when the host ends in a consonant (12a, b) or a full vowel (12c).

- (12) a. (kann ich)_{PW} [ka.nɪç]
 ‘can I’
 b. (komm’ ich)_{PW} [kɔ.mɪç]
 ‘am I coming’
 c. (Tu’ich)_{PW} [tu:ɪç]
 ‘do I’, ‘I do’

In a host plus consonant-initial enclitic there are two possibilities. If the clitic ends with a vowel completely reduced to Schwa, it is part of the same prosodic word as the host (13a). If it ends in a full short vowel, it cannot stay in final position of a prosodic word, because this would violate the generalisation that there are no prosodic words in German that end in a lax vowel. For these cases, Hall proposes that the enclitic is not part of the same prosodic word as the host, but that it is directly linked to the phonological phrase (13b).

- (13) a. (kann sie)_{PW} [kanzə]
 ‘can she’
 b. ((kann)_{PW} sie)_{PPh} [kanzɪ]
 ‘can she’

Whereas we concluded that Dutch allows one option to represent clitics (viz. as free clitics directly linked to the PPh), Hall (1999) proposes that German allows for two possibilities (free clitics and internal clitics). Green (this volume) argues that in Irish, proclitics are mostly free clitics, but under certain conditions, an internal clitic structure may arise. In summary, we note that the prevailing view in current literature is that there is no special prosodic category “clitic group” and that a single language may have more than one representation of clitics.

The morphology of clitics has been the focus of many recent analyses in different frameworks and we will discuss them next.

3. The morphological status of clitics

In morphology, recent research has focused on the question whether clitics constitute an autonomous morphological category, or whether they can be described as one of the independently motivated categories “affix” or “word”. Note that this question resembles the question in Section 2 with respect to the prosodic status of clitics (e.g. whether they form a prosodic word of their own, whether they are free in prosodic structure, or whether they are best analysed as internal or external affixes). The so-called “Zwicky-criteria” (Zwicky 1984; Zwicky & Pullum 1985) are used to determine whether a linguistic element is a clitic, an affix, or a word. Since these criteria are gradual rather than absolute and since clitics are defined negatively (i.e. an element is a clitic, if it has neither enough word-like properties nor enough affix-like ones), it is often difficult to decide about the status of these elements.

The first question that we would like to address in Section 3.1 is whether we actually need a morphological category “clitic”. Subsequently, we consider the morphological properties of clitics in clitic clusters in Section 3.2. Section 3.3 discusses recent accounts of these properties in different theoretical frameworks.

3.1 *Do we need the morphological category clitic?*

A threefold system that distinguishes words, affixes, and clitics is undesirable for reasons of economy. Therefore, one would like to dispense with the term “clitic”, even if useful from a traditional descriptive point of view. Sometimes, an

accurate re-examination of the elements which are traditionally called clitics may lead to a re-categorisation of these elements. Consider in this respect the Romanian definite article *-ul* as a first example discussed by, e.g., Ortmann & Popescu (this volume). On the basis of the fact that the article occurs always on the second position in the Romanian DP, i.e. either after the noun (14a) or after an adjective (14b), its clitic status is often taken for granted.²

- (14) a. lingvist-ul inteligent
 linguist-DEF.MASC intelligent
 ‘the intelligent linguist’
 b. intelligent-ul lingvist
 intelligent-DEF.MASC linguist
 ‘the intelligent linguist’

On the basis of the Zwicky criteria, Ortmann & Popescu conclude that the Romanian article must be an affix. Besides otherwise unexpected stem allomorphy, the most convincing argument in favour of the affixal status is that the article is repeated in coordination structures like (15), which would not be expected if it were a clitic.

- (15) bun-ul și intelligent-ul lingvist
 good-DEF.MASC and intelligent-DEF.MASC linguist
 ‘the good and intelligent linguist’

As to other elements which are traditionally called clitics, a re-examination may lead to the conclusion that they are also better analysed as affixes or words. Monachesi (this volume) argues that auxiliaries and the negation *nu* within the Romanian verbal complex are words rather than clitics. However, there are still other cases, for example possessive clitics in Greek (see Alexiadou & Stavrou this volume) and pronominal clitics in European Portuguese (see Crysmann this volume), which exhibit special behaviour and are therefore more difficult to categorise.

Several researchers have adopted Anderson’s (1992) suggestion to analyse special clitics as a particular kind of affixes. Based on Klavans’ (1985) work on the positional properties of clitics, Anderson (1992) argues that clitics behave like affixes and that the only difference is that clitics are adjoined to syntactic phrases, while affixes are adjoined to words. For this reason, Anderson refers to clitics as “phrasal affixes”. He argues that clitics are bundles of morphosyntactic features which are added to heads. Their surface form is the result of the application of morphological word formation rules. The concept of clitics as phrasal affixes is adopted nearly unanimously in the literature, for example in the framework of HPSG (see Miller & Sag 1997; Monachesi 1995, this volume)

in the framework of Paradigm Function Morphology (Spencer this volume) and in the framework of Optimality Theory (Legendre 1996, this volume).

The conditions and restrictions which underlie the combination of clitics are complicated and in a sense more “special” than that of clitics in isolation. We will consider this issue next.

3.2 *Properties of clitic combinations*

This section introduces morphological properties of clitic combinations. In Romance languages, clitic combinations resist separation, they are strictly ordered with respect to each other, they are confined to at most two elements, and they exhibit unique morphophonological behaviour. In Slavic languages, some of these properties are found as well, except for the fact that clitic combinations may consist of more than two elements. The position of clitics in a sentence either depends on prosodic, morphological, or syntactic properties.

One of the most noticeable properties of clitic combinations is that they usually resist separation, even if there are different positions in the sentence which may potentially accommodate clitics. In Italian modal verb constructions, for instance, a clitic cluster can either attach to the embedded infinitive as in (16a), or to the finite modal verb as in (16b). Adjacency seems essential and separation of two clitics is ungrammatical, as is shown in (16c) and (16d).

- (16) a. Devo dir-gli-lo.
 must.1SG say-3IO-3DO
 ‘I must tell it to him.’
 b. Gli-lo devo dire.
 3IO-3DO must.1SG say
 ‘I must tell it to him.’
 c. *Gli devo dir-lo.
 d. *Lo devo dir-gli.

Another property of clitic combinations is that the clitics are strictly ordered with respect to each other and not — as is the case for affixes — with respect to the host. The Italian examples above show that the dative clitic *gli* has to precede the accusative clitic *lo*, regardless of the proclitic or enclitic status of the clitic sequence.

Observations such as the fact that clitic combinations resist separation and that the inherent order is fixed lead several researchers to the conclusion that clitic combinations have to be analysed as one morphological unit (Harris 1995; Spencer this volume) which may be called “clitic sequence”. This assumption is

further supported by data from first language acquisition. Children acquire clitic sequences very early and they do not make mistakes in the ordering of clitics (Monachesi 1995: 76).

Clitics in clitic sequences cannot combine freely. Clitic sequences in Romance languages, for example, are often restricted to two clitics, even if the clitic inventory consists of more than just an accusative and a dative clitic. Standard Italian, for example, has locative and partitive clitics and in Standard French we find subject, locative, and partitive clitics. Restrictions on possible combinations of clitics are based on case and person specifications. As mentioned immediately above, a dative clitic always precedes an accusative clitic in Italian. In addition, first and second person clitics can not combine with each other (see 17c, d), nor with a third person dative clitic (see (18b) and we refer to Wanner 1977 for a more detailed description of clitic combinations in this language).

- (17) a. Emanuela presenta me a te.
 E. introduce.3SG PRON.1SG P PRON.2SG
 ‘Emanuela introduces me to you.’
 b. *Emanuela me ti presenta.
 E. 1SG.O 2SG.O introduce.3SG
 c. *Emanuela te mi presenta.
 E. 2SG.O 1SG.O introduce.3SG
- (18) a. Emanuela presenta me a lui.
 E. introduce.3SG PRON.1SG.O P PRON.3SG
 ‘Emanuela introduces me to him.’
 b. *Emanuela gli mi presenta.
 E. 3SG.IO 1SG.O introduce.3SG

Even if clitic doubling requirements demand the realisation of a first and a second person clitic, or a first/second and a third person clitic, only one of the two actually occurs as a clitic (see Gerlach 1998a, b and the discussion in 3.3 below).

Third person clitics and reflexive clitics exhibit particular morphological behaviour in clitic sequences (see Bonet 1995: 607 who refers to these cases as ‘opaque clitics’). These clitics are either deleted, or substituted by other clitics, or their surface form differs from their form in isolation in combination with other clitics. Deletion is found for example in Spanish where reflexive *se* and impersonal *se* cannot both occur in the same sequence (19a). Substitution is found in the same context in Italian, where the first *si* is substituted by the first person plural or locative clitic *ci* (see 19b). Substitution within clitic sequences is also found in Spanish, e.g., in a combination of the two object clitics *le* and *lo*, the first one is substituted by the reflexive clitic *se* (see 19c).

(19) Opaque clitics I

a. Spanish: clitic deletion

*se se	→	se
IMPERS-REFL		IMPERS/REFL

b. Italian: clitic substitution

*si si	→	ci si
IMPERS-REFL		1 PL/LOC-REFL

c. Spanish: clitic substitution

*le lo	→	se lo
3IO.SG-3DO.SG		REFL-3DO.SG

In Mexican and Uruguayan dialects of Spanish, an accusative clitic referring to a non-feminine and/or singular entity may exhibit feminine and/or plural morphology if the number and gender of the dative clitic in the same sequence is no longer visible due to clitic substitution (*le* → *se*). As a result, the sequence *se las*, for instance, has many different readings in these dialects (i.e. 3IO.SG.MASC-3DO.PL.FEM and 3IO.SG.FEM-3DO.PL.FEM, 3IO.PL.MASC-3DO.SG.FEM, 3IO.PL.MASC-3DO.PL.FEM and 3IO.PL.FEM-3DO.PL.FEM, 3IO.PL.FEM-3DO.SG.MASC, 3IO.SG.FEM-3DO.PL.MASC, see Bonet 1995: 635).

(20) Opaque clitics II

a. *le las	}	→	se las
b. *les la			
c. *les las			
d. *les lo			
e. *le los			

Clitics and clitic combinations are also attested in e.g. the Slavic languages and in Greek. Here, the internal order of clitics obeys similar restrictions as those mentioned above for Romance languages. As in Italian, the dative clitic *vi* in Bulgarian, for instance, has to precede the accusative clitic *ja* (21).

(21) Ne sâm li vi ja pokasval?
 NEG AUX.1SG Q IO.2PL DO.SG.FEM show.PCP.SG.MASC
 'Haven't I shown her to you?' (Avgustinova 1997)

In addition to direct and indirect object clitics, the Bulgarian clitic inventory contains an interrogative clitic, a negative clitic (also attested in French), and clitic auxiliaries (also attested in Romanian). Furthermore, the number of clitics which may be combined in a single cluster is not restricted to two. This is unusual for most of the Romance languages, except for Romanian, but it is also

observed in other Slavic languages like Macedonian (see, e.g., Spencer this volume and Tomić this volume), Serbian, and Croatian. In most Slavic languages, the position of clitics is independent from the morphosyntactic category of their host. They always occur in the second position of the sentence. The placement of these “Wackernagel” or “P2” clitics has to be analysed in terms of their prosodic or syntactic properties (see Section 4).

We have seen that the behaviour of clitics in clitic sequences is unique and does not resemble processes which are attested in affixal morphology. Thus, clitic combinations have to be regarded as a separate issue in linguistic theory. Note, that the properties of clitic combinations do not only pose a problem, but seriously challenge the explanatory power of a framework which denies the independence of a morphological component. This is especially true for any theory which attempts to assign all morphological processes to transformational syntax.

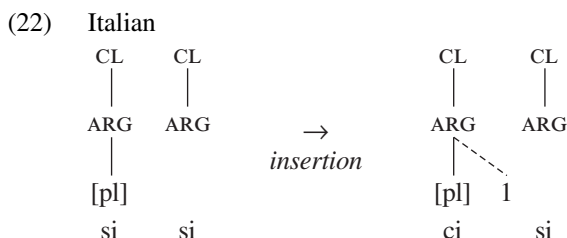
One of the first attempts to account for the phenomena observed with clitic combinations in generative grammar, i.e., Perlmutter (1970), has a long-standing tradition. Perlmutter suggests that clitic combinations obey so-called “Surface Structure Constraints” which state a templatic order of clitics within the sequence. The clitic sequence template consists of different slots, each of which can only be occupied once. Combinatory restrictions like those mentioned above result from the fact that both clitics belong to the same templatic slot, so that they cannot co-occur within the same sequence. In addition, the substitution of the third person dative clitic by the reflexive clitic *se* in Spanish is captured by the so-called “spurious *se* rule” (Perlmutter 1970: 191) which says that the dative clitic should be replaced by *se*.

Until recently, Perlmutter’s Surface Structure Constraints were adopted to account for the order of clitics (see, among many others, Avgustinova 1997; Monachesi 1995; Sportiche 1996; Sylla 1979). In the last decade, however, the view that morphology is an independent grammatical module with particular rules, as advocated in, e.g., Minimalist Morphology (Wunderlich & Fabri 1996) and Distributed Morphology (Halle & Marantz 1993), has re-emerged. In addition, Optimality Theory (McCarthy & Prince 1993, 1994; Prince & Smolensky 1993) introduced the concept of violable constraints and a mechanism of constraint ranking in which phonological and morphological requirements may interact. Thus, recent theoretical developments offer new possibilities to deal with problematic issues and clitics are currently even more an object of linguistic research than ever before.

3.3 *Clitic sequence internal processes in recent research*

With respect to the complicated issues concerning clitic sequences mentioned in Section 3.2, at least three recent frameworks need to be mentioned here, because they contribute to the discussion in interesting ways: (i) Distributed Morphology (introduced by Halle & Marantz 1993), (ii) Paradigm Function Morphology (see Stump 1993, 1997), and (iii) Optimality Theory (introduced by McCarthy & Prince 1993, 1994, 1995; Prince & Smolensky 1993).

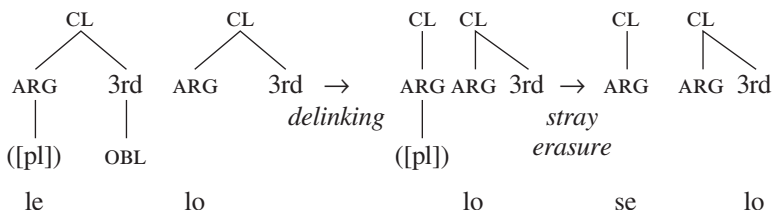
Bonet (1995) and Harris (1995) both propose an analysis of Romance pronominal clitics within the framework of Distributed Morphology. For them, clitics constitute morphological feature structures on which morphological impoverishment and readjustment rules apply. They furthermore assume that the linearisation of morphological elements also takes place in the morphological component. Bonet suggests that insertion and delinking of morphosyntactic features lead to the opaque forms of clitics. For example, the opaque Italian clitic sequence *ci si* results from the insertion of the person agreement feature [1] — for first person — to the combination of impersonal *si* and reflexive *si*, which are represented underlyingly by the morphosyntactic feature structures ARG-[PL] and ARG respectively:



In the example above, Bonet assumes that the underlying feature structure for the impersonal reflexive contains the number feature [pl]. If this feature structure is combined with the reflexive clitic, a morphological rule applies which inserts the feature [1] and links it to the impersonal clitic. The resulting feature structure, then, is spelled out as *ci* which is the first person plural clitic.

In the Spanish example below, Perlmutter's Spurious *se* Rule is implemented into the analysis in terms of delinking, i.e., the node containing the person agreement feature 3rd and its daughter OBL are delinked. Bonet assumes that, in contrast to Italian, bare [ARG] nodes are incompatible with agreement features in Spanish. Subsequently, ([pl]) is deleted because of structure preservation.

(23) Spanish



To account for the order of clitics within a clitic cluster, Bonet (1995) assumes templates which supply different slots for different clitics or feature structures, respectively. Harris (1995), who confines himself to the analysis of Spanish clitics, replaces these templates by filters. In both analyses, the surface forms of clitic sequences result from morphophonological “spell out” rules.

The problem with this approach is that it remains unclear why a particular feature is inserted or delinked rather than some other feature and the theory predicts insertion or delinking processes that are unattested. In Distributed Morphology, the only purpose of the morphological component seems to be to reorganise the feature structures provided by the syntax, so that the correct surface form emerges and it is not clear how the morphological component can be restricted.

For the same set of data, Grimshaw (1997) and Gerlach (1998a, b) propose an Optimality Theoretic solution. It is assumed that constraints are universal and that within one language the ranking of constraints is fixed. Contrary to Distributed Morphology, predictions about possible clitic combinations in the languages of the world can be made. These predictions follow from different rankings of the same constraints. It has become clear from the discussion so far, that the position of clitics in a sentence and the occurrence of clitic clusters depends on phonological, morphological, and syntactic properties. Another advantage of Optimality Theory in dealing with clitic phenomena is that constraints from different grammatical modules may be considered simultaneously.

In Grimshaw’s (1997) analysis, the input form consists of a specific feature complex. The competing output candidates are the clitics from the clitic inventory of the language in question and they may be underspecified to a certain extent. For clitics in isolation, only the so-called FAITHFULNESS constraints PARSE(feature) and FILL(feature) are relevant. The clitic which contains most of the features of the input (i.e., the one which incurs the fewest PARSE violations) and which has the fewest additional features (i.e., the one which incurs the fewest FILL violations) is selected as optimal. In all the Romance languages which Grimshaw considers, the intrinsic ranking of these FAITHFULNESS constraints is

the same. These general constraints which determine the form of a clitic in isolation may be dominated by co-occurrence constraints. This accounts for the fact that a clitic may have one representation in isolation and another one in combination with other clitics. In Romance, a phonological constraint which prohibits identical material to be adjacent (*XX) becomes relevant in the evaluation of clitic combinations. This constraint penalises sequences of impersonal and reflexive *si* in Italian (and *se* in Spanish) as well as the combination of alliterating *le lo* in Spanish. Whether an element is substituted or deleted depends on the ranking of *XX relative to FAITHFULNESS constraints. Italian **si si* → *ci si*, for instance, is the result of the ranking in (25a). In this case, the constraint which says that a clitic has to surface (PARSECL) is ranked higher than the constraint which says that every person feature in the output has to be present in the input (FILLPERS). In Spanish (24b) the ranking is reversed, which renders deletion in the same context better than insertion of a feature.

- (24) a. Italian: *XX, PARSECL » FILLPERS
 substitution **si si* → *ci si*
 b. Spanish: *XX, FILLPERS » PARSECL
 deletion **se se* → *se*

Grimshaw shows that universal constraints, language-specific lexical inventories, and language-specific constraint rankings, suffice to account for the opaque clitics in Romance languages.

A more recent Optimality Theoretic analysis for Romance clitic sequences which also accounts for the order of clitics is that of Gerlach (1998a, b). She uses the updated version of Optimality Theory, namely Correspondence Theory (McCarthy & Prince 1995). In addition to the conflicting FAITHFULNESS and OCP-like constraints (e.g., *ALLITERATION, *SONORITYADJACENCY), Gerlach suggests using ALIGNMENT constraints to derive the order of clitics. The relevant ALIGNMENT constraints require that the left edge of a sequence of clitics corresponds to the left edge of elements marked for case and person. It is assumed that dative case is more marked than accusative case and that the first and second person are more marked than the third person. If these three ALIGNMENT constraints are high-ranked, a marked clitic always precedes an unmarked one. In sequences which contain two marked clitics (a dative clitic and a first or second person clitic), ALIGNMENT constraints are in conflict. In Romanian, the ALIGNMENT constraint for the dative clitic outranks the ALIGNMENT constraint for the second person clitic and this accounts for the fact that in this language, the dative clitic precedes the second person accusative clitic.

In Spanish, Italian, French, and other languages, ALIGNMENT constraints are

unranked with respect to each other and only one of the clitics is realised. We now have to answer the question why in such cases, only the first or second person direct object is realised as a clitic, while the third person indirect object is not. Gerlach (1998b) suggests that this may be accounted for by morphological markedness (i.e. person agreement information must be realised on the verb and ambiguity is prohibited).

Another recently developed model is that of Paradigm Function Morphology (Stump 1993, 1997). Spencer (this volume) argues that clitic combinations are best analysed within this framework. He shows that in Bulgarian, clitic clusters and inflectional affixes form (inflectional) paradigms. He adds the notion of the “clitic cluster” to the model of Paradigm Function Morphology which enables him to derive the internal order of clitic clusters and the sound meaning correspondences by the mechanisms provided by the theory. The latter is done by rules of exponence, called “realisation rules”, which state the relation between morphosyntactic features and their phonological representation. For clitics, these rules are defined over the VP. Different realisation rules apply in a specific order. The internal sequence of clitics in clusters is derived by the Paradigm Function Schema, which states the order in which the rules must apply. The interrogative clitic *li*, however, cannot be analysed within this framework, since its position is not morphologically, but rather prosodically determined. Spencer proposes that such instances of conflicting requirements from different grammatical modules can be best accounted for by the mechanisms of Optimality Theory as suggested by Legendre (1996, 1999, in press a, b).

The subject of Legendre’s (1996, 1999, in press a, b) analysis of Balkan clitic clusters is not only the order of clitics in a cluster, but also the placement of the whole clitic cluster with respect to the host. The crucial assumption is that constraints that belong to the above-mentioned ALIGNMENT family (EDGE in Legendre’s terminology) are in conflict with constraints which prohibit that certain features are initial in a specific domain (NONINITIAL) (see also Anderson’s 1996 analysis of Serbian and Croatian clitic placement). Legendre proposes that this domain may be V' . If EDGE(F) outranks NONINITIAL(F), the element which bears the relevant feature may occur in initial position. If NONINITIAL(F) outranks EDGE(F), the element in question never occurs initially, but obligatorily in 2nd position as, for example, pronominal clitics in Bulgarian. For the Bulgarian negation clitic *ne*, and the question clitic *li*, however, prosody is relevant as well. As observed by Hauge (1976: 17, 16), stress is assigned to the syllable following *ne* and *li* is placed immediately to the right of the first stressed element within the verb constituent. For these clitics, Legendre assumes additional prosodic constraints which interact with the morphological constraints as well

as with other prosodic constraints (e.g. those which require clitics to be stressless). One constraint requires that the right edge of *ne* has to be aligned with the left edge of the head of a prosodic word and another one says that the left edge of *li* has to be aligned with the right edge of a prosodic word.

Legendre (1999, in press b, and this volume) compares the properties of Bulgarian clitics with other Balkan clitics, namely Macedonian and Romanian. She shows that in Macedonian, where the clitic inventory is nearly identical to that of Bulgarian, the order of clitics can be predicted by the same constraints and constraint rankings. The order of the clitics with respect to their verbal host, though, differs from Bulgarian: clitics follow imperatives, but precede other finite verbs. In order to account for this behaviour, Legendre assumes that — all other things being equal — the morphological constraint *EDGE(imperative)* is higher ranked than the other *EDGE* constraints for clitic features and thus renders the correct clitic-host order.

From the preceding section, it is evident that cliticisation is an interface phenomenon. As to the morphology-phonology interface, we have seen that opaque clitics are best analysed if we take into account phonological and morphological OT-like constraints. We have also shown that, with respect to clitics, the morphology-syntax interface is concerned with the question whether clitics are morphological elements like affixes, or rather syntactic elements. From a morphological point of view, there are good reasons to analyse clitics as affixes. An affixal analysis of clitics leads to the question whether clitics are agreement markers (like “ordinary” inflectional affixes) or arguments. This question is related to clitic doubling phenomena. We have also shown that clitic host sequences and clitic sequences in Romance may be accounted for by morphological and morphosyntactic constraints. In the following section, we show how these issues are handled in recent syntactic analyses. As above, we will concentrate on the Romance languages.

4. The syntactic status of clitics

A purely syntactic issue is the placement of clitics in the sentence. The question that needs to be answered is why the position in which clitics surface is different from the positions in which full DPs surface. Moreover, the question arises why these positions are exclusive for clitics. To solve these questions, we need not only to consider to which syntactic position clitics are assigned on the surface, i.e. “where do they go”, but we also need to ask in which syntactic position clitics are generated, i.e. “where do they come from”. A huge number of

different syntactic analyses is concerned with these questions for Romance as well as for Slavic languages. For reasons of space, we can only introduce a selection of the most recent proposals.

First, we consider the Romance languages. As illustrated in Section 3.2, clitics in Romance are adjacent to a verb. In Italian, for instance, direct object DPs follow the finite verb (25a), while direct object clitics precede it (25b). Any other order with finite verbs is ungrammatical, see (25c) and (25d).

- (25) a. Vedo Claudia.
 'I see Claudia.'
 b. La vedo.
 'I see her.'
 c. *Claudia vedo.
 d. *Vedo la.

With regard to the origin of clitics, there are two standpoints in the literature, namely the 'movement approach' and the 'base-generation' approach.

4.1 *Movement and base generation*

The movement approach referred to above goes back to Kayne's (1975) work on French syntax. He observes that in Standard French the object is realised either as a full DP or as a clitic. In French and Italian, a clitic and a DP cannot co-occur in the same sentence:

- (26) a. *Je la vois Claudia.
 b. *La vedo Claudia.

Kayne suggests a transformational analysis of clitics. He argues that clitics are base generated as arguments (XPs) and move as such out of their XP-position to join the verb by left adjunction. For French, Kayne's analysis is supported by the fact that clitics obey standard constraints on movement. In Italian, however, clitics behave differently. In constructions with modal verbs (see 16 above) or other so-called "restructuring" verbs like *cominciare* 'begin', cliticisation to the finite verb is also possible (see 27).

- (27) Ne ho cominciato a discutere con Mario da Gianni.
 PART have begun P discuss with M. at G.
 'I have begun at Gianni's house to discuss (of) it with Mario.'
 (Rizzi 1978)

Rizzi (1982) attributes this behaviour to a lexical specification of the matrix verb, i.e. the property to cause restructuring of the construction, so that the movement

approach may be still carried on. In Kayne's later work (1989, 1991) these properties are captured without referring to lexical properties of the matrix verbs. He suggests that clitics may move to I^0 even if the embedded verb does not. This also accounts for Italian participle agreement with clitics: Kayne suggests that the clitic moves through SpecAgrO and the verb remains in AgrO⁰ where it receives the respective agreement morphology.

A more severe problem for Kayne's approach results from the prohibition of clitic doubling structures like the one in (26). The fact that the case assigned by V is absorbed either by the clitic or by the DP predicts that only one of them may occur in the same sentence. This prediction is not borne out for languages like Spanish and Romanian or colloquial varieties and dialects of French and Italian. Indirect object DPs in, e.g., Spanish are obligatorily doubled by clitics (see 28).

- (28) *(Le) doy un libro a ella/a un mujer.
 3IO give.1SG a book P her/P a woman
 'I give a book to her/to a woman.'

Direct object DPs may also be doubled by clitics, for instance in Rio de la Plata Spanish (29a) and in Romanian (29b).

- (29) a. Rio de la Plata Spanish:
 Lo veo a Juan.
 3DO see.1SG P Juan
 'I have seen Juan.'
 (Jaeggli 1986)
- b. Romanian:
 L-am văzut pe Popescu.
 3DO-AUX seen ACC Popescu.
 'I have seen Popescu.'
 (Sportiche 1996)

At first glance, the co-occurrence of clitics and DPs seems to be licensed by the additional occurrence of a case-marking element (*a* in Spanish and *pe* in Romanian) which precedes the DP. This observation is captured by a generalisation known as "Kayne's Generalization" which requires that '... doubled elements must appear affixed by a morpheme (dative-looking in Spanish, the object marker *pe* in Romanian) that does not appear in the absence of the clitic' (Sportiche 1996). This generalisation does not hold if we examine the data more closely. In Spanish, for instance, the case marker is obligatory with human entities (30a), whereas the clitic is obligatory with specific entities ((30b), where *al* stands for the case marker *a* plus the definite article *el*).

- (30) a. *La veo a una mujer.
 Veo a una mujer.
 *La veo una mujer.
 'I see a woman.'
- b. *Lo veo al libro.
 *Veo al libro.
 Lo veo el libro.
 'I see the book.'

This implies that the presence of the clitic and the case marker are required — or licensed — by particular semantic features of the object. The co-occurrence of both in (29a) above is coincidental (i.e. depending on the object having the semantic features [+human] and [+specific]) and not — as predicted by Kayne's Generalization — necessary. Data such as these suggest that the movement approach to cliticisation must be abandoned, at least for languages which allow clitic doubling.

Alternative "base generation approaches" to cliticisation (e.g. Jaeggli 1982) attempt to account for the possible co-occurrence of clitics and DPs. Base-generation approaches assume that clitics are generated in the position in which they surface. However, it is not quite clear how the relation with regard to case and agreement features between clitic and doubled DP is captured and how semantic restrictions on their co-occurrence are to be integrated. Suñer (1988) makes the interesting proposal to account for co-occurrence restrictions in terms of agreement. She suggests that clitics are generated as heads of a VP and neither absorb case nor a θ -role. In her view, clitics are co-indexed with the argument position by chain co-indexing. For instance, in Argentinean Spanish, direct object clitics are lexically specified as [+specific]. Her "Matching Principle" requires that clitics and NPs in the same chain must have identical agreement features and this thus restricts their co-occurrence.

Recent syntactic theories suggest that clitics are functional D^0 s which are in a Spec–Head-Relation with the doubled DP at some stage of the derivation. In the following, we will examine two prevailing analyses, namely Uriagereka (1995) and Sportiche (1995).

Uriagereka (1995) concentrates on 3rd person accusative clitics in Spanish, which he considers to be "weak clitics" in contrast to 1st and 2nd person clitics which he considers to be "strong clitics". Weak clitics are analysed as heads while strong clitics are heads and phrases at the same time, i.e., a weak clitic is base generated in the head position of a DP and the doubled DP occurs in its specifier position. Because of this Spec–Head-relation, agreement features may be checked. Strong clitics, on the other hand, project full DPs and doubled DPs

may therefore only be analysed as adjuncts. Furthermore, weak and strong clitics differ in their specification with respect to person: weak clitics are defective with respect to person features, whereas strong clitics are not. All clitics have in common that they are inherently specific and referential. The whole DP is generated in an argument position of the verb and thus receives case. Uriagereka assumes that 3rd person accusative clitics move either to AgrO (French) or to the functional head F above I (Spanish, Galician) which, according to him, contains features like specificity. Clitics which stay in AgrO can double unspecific DPs, clitics which move to F cannot. Indirect object clitics only move to AgrIO, hence doubling of unspecific indirect objects is more likely to be observed than doubling of unspecific direct objects. Following this assumption, indirect object clitic doubling should even be expected to be obligatory. For strong clitics, Uriagereka assumes that they move first as phrases to SpecAgrO and then as heads to F (if present). Uriagereka (this volume) suggests that the semantics of clitic doubling resembles the semantics of inalienable possession.

Sportiche (1995) proposes that clitics are base generated as heads of so-called “clitic voice” projections which are adjoined to the highest verbal element of the clause. Double DPs originate in a lower position, namely in a thematic position of that verb. To guarantee that features of DPs and clitics can be checked, the DP has to move into the specifier position of the clitic voice projection.

The difference between dative and accusative clitics results from the different nature of dative clitic voice (DatCliticVoice) and accusative clitic voice (AccCliticVoice), respectively. According to Sportiche, accusative clitics have interpretative import and their associated argument must be specific. Therefore, AccCliticVoice differs from AgrO, which is mainly the position for case assignment and participle agreement. Dative clitics do not have interpretative import and DatCliticVoice is considered to be the dative equivalent of AgrO or AgrS. Since specificity is licensed in AccCliticVoice, all specific direct object DPs have to raise to this projection at least at LF. Sportiche derives the preference of doubling with pronouns from this specificity condition arguing that ‘Since pronouns are quintessentially specific DPs, we expect that if anything is doubled (i.e. singled out as specific by a clitic marking specificity) it will at least include the archetype of specific DPs, i.e. pronouns’ (Sportiche 1996: 264). Projections are assumed to be universal and the occurrence of clitics and clitic doubling constructions is parameterised. Different parameter settings may then result in languages with undoubled clitics, doubled clitics, or object agreement. Cocchi (this volume) extends Sportiche’s analysis to Bantu agreement affixes and compares them with Romance clitics.

For Uriagereka's and Sportiche's approaches, we think that clitic doubling is a problem. First, as mentioned above, 1st and 2nd person clitics often differ from 3rd person clitics with respect to their doubling properties. However, it is not the case that 1st and 2nd person clitics always prefer to be doubled whereas 3rd person clitics do not, as one would expect from the generalisations above. In French, for example, 1st and 2nd person singular subject clitics are obligatory and 3rd person and plural clitics are optional. In the North Italian dialect Piattino (see Gerlach in prep.), in contrast, 1st and 2nd person singular clitics are optional, but 3rd person singular and 1st person plural clitics are obligatory. The differences in doubling can therefore not be attributed to a general difference between 1st/2nd person clitics on the one hand and 3rd person clitics on the other hand. For subject clitics, at least, the differences in the doubling properties seem to result from a defective verbal agreement paradigm which is re-completed by clitics (see also Auger 1993; Kaiser 1992; Miller & Sag 1997; Müller & Riemer 1998). Second, with 3rd person clitics, specificity is not the only condition which restricts doubling. For Romanian direct objects, for example, animacy is also a necessary condition for doubling structures. It is not clear how features like $[\pm\text{human}]$ can be integrated into the purely syntactic analyses above.

4.2 *Syntax at the interfaces: Optimality Theory again*

The issue of clitic doubling may also be analysed by means of conflicting OT-like constraints. Based on the common assumption that clitics in clitic doubling languages are agreement markers, we may argue that clitics are required for each argument. In conflict to this requirement are grammatical economy constraints which prohibit morphological marking for e.g. unspecific or non-human nominal referents (see, e.g., Ortmann 2000; Gerlach in prep.). The phenomenon of clitic doubling is thus no longer tied up to the clitic placement problem.

The placement of clitics has also been the subject of recent OT analyses. Especially clitic placement in Slavic languages is problematic for purely syntactic analyses, since clitics do not attach to a host of a particular category like $[+V]$. Instead, they occur in the second position in the sentence. Syntactic analyses for second-position clitics (e.g., Čavar & Wilder 1994) assume that clitics are moved to a position on the left of the sentence and that some process takes place which moves another syntactic element in front of them. As Anderson (1996) argues, these second-position clitics are problematic for syntactic approaches in several respects. First, the element to the left-hand side of the clitic is not always a whole constituent as in Serbian (31a). Two-part proper names may be interrupted by

clitics as in Croatian (31b). Under a syntactic analysis it is unclear how syntactic constituents like two-part proper names can be split up in order to host a clitic.

- (31) a. Lav Tolstoi je veliki ruski pisak.
 Leo Tolstoi is great Russian writer
 'Leo Tolstoi is a great Russian writer.'
 b. Lav je Tolstoi veliki ruski pisak.
 Leo is Tolstoi great Russian writer.
 'Leo Tolstoi is a great Russian writer.' (Anderson 1996: 174)

Second, Anderson argues that mechanisms like prosodic inversion, i.e. the PF movement of constituent to the left of the clitics (Halpern 1995), though able to describe the facts, is not restricted enough and can neither account for the differences between (31a) and (31b).

Anderson suggests that second-position clitics may be accounted for in a similar way as Legendre's analysis (1996) of the Bulgarian clitics does (see Section 3.3). In addition to Legendre's constraints *EDGEMOST*(cl) and *NON-INITIAL*(cl), Anderson suggests the constraints *INTEGRITY*(word) and *INTEGRITY*(XP) which say that words and syntactic phrases may not be interrupted by other material. With the constraint ranking in (32) clitics have to occur in the second position, for Serbian after the first phrase (32a) and for Croatian after the first word (32b).

- (32) a. *INTEGRITY*(word), *INTEGRITY*(XP) » *NON-IN*(cl) » *EDGE*(cl)
 a. *INTEGRITY*(word) » *NON-IN*(cl) » *EDGE*(cl) » *INTEGRITY*(XP)

Anderson argues that clitic placement in Romance may be analysed in a similar way. This proposal is also made by Legendre (this volume) who argues that Romanian clitic placement also results from conflicting alignment constraints.

5. Conclusion

Clitics play a dominant role in recent linguistic research and they are a topic of much debate in phonology, morphology, and syntax, as well as in the respective interfaces. The discussion on clitics gives rise to controversial analyses and we have presented an overview of some recent developments in this field.

With respect to phonology, the prevailing view is that there is no separate prosodic category "clitic group", as originally suggested by Nespor & Vogel (1986) and Hayes (1989). Rather, it is currently assumed that clitics are adjoined to categories such as the prosodic word and the phonological phrase

(Booij 1996; Green this volume; Hall 1999; Kleinhenz 1998; Selkirk 1995; Zec & Inkelas 1991).

Morphological debates focus on the question whether clitics are a separate morphological category, or whether they are better analysed as “affixes” or “words” (e.g. Anderson 1992). This issue is still unsettled. Especially the behaviour of clitics in clitic clusters is problematic for many analyses. In the framework of Distributed Morphology, clitics are considered to be a bundle of morphological features which is subject to impoverishment rules and readjustment rules. The problem is that it is not always clear which features are subject to these rules and the framework predicts processes which are unattested. In the framework of Optimality Theory, the order of clitics in a cluster arises from the interaction of different universal constraints. Within this theory, it is possible to account for linguistic phenomena by means of constraints which refer to phonological, morphological, and syntactic categories, e.g. so-called “Alignment constraints” may require that a morphological category be aligned with the edge of a syntactic phrase. Gerlach (1998a, b), for instance, proposes to account for the order of clitics by means of faithfulness constraints, constraints on adjacency (i.e. OCP-like constraints), and alignment constraints. Recent work by Legendre (e.g. 1996, 1999, this volume) focuses not only on the order of clitics in clitic clusters, but also on the position of the clitic cluster with respect to the host. Her proposal elegantly accounts for these phenomena in Balkan languages and we expect to see future research in which her proposal is extended to other languages.

The problem for a syntactic analysis is that clitics sometimes behave as full DPs in the sense that they may absorb case, but they are also different in that they may appear together with a full DP. Escobar & Gavarró (this volume) discuss differences in the acquisition of pronouns which are full DPs and clitics. We pointed out some difficulties for the so-called “Kayne’s Generalisation” which says that doubled elements should appear affixed by a morpheme which is absent when the clitic is absent. Sportiche’s (1995) and Uriagereka’s (1995) proposals do not suffer from the same drawbacks, but they cannot account for the complicated restrictions on clitic doubling. Furthermore, these analyses might have problems accounting for the placement of clitics and clitic clusters in Slavic languages. We believe that an Optimality Theoretic account along the lines of Anderson (1996) and Legendre (1996, 1999, this volume) provide the best solution on clitic placement. They attribute the phenomena which are unique to clitics to the interaction of general constraints.

Notes

1. "Directional clitics" differ from other clitics in that the phonological dependence on an element to the left or right is an inherent property of directional clitics, but not of other clitics (which may find their host either to the left or to the right).
2. In the examples below, the following abbreviations are used: DEF = definite; MASC = masculine; P = preposition; ACC = accusative marker; O = object; DO = direct object; IO = indirect object; IMPERS = impersonal; REFL = reflexive; LOC = locative; PART = partitive; PL = plural; SG = singular; AUX = auxiliary; NEG = negative; Q = question; PCP = participle; ARG = argument; OBL = oblique.

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The tonal phonology of Yoruba clitics

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Abstract

This paper examines the tonal behavior of six types of enclitics in Standard Yoruba, and shows that in all six cases, a constraint applies preventing the last syllable of the host and the adjacent clitic syllable from having the same (High or Low) tone. There are no other host+clitic cases in Yoruba for which such a constraint would be relevant. Potential violations of the constraint are avoided by one of five different methods, depending on the case: failure to link a floating tone, deletion of a tone belonging to the clitic, deletion of a tone belonging to the host, insertion of a toneless vowel, or failure to delete an otherwise optional toneless vowel. This pattern is thus a morphophonemic “conspiracy” in the classical sense. However, Yoruba does not have a more general constraint against same-tone sequences in underlying or derived environments.

1. Introduction

In this paper we examine the tonal behavior of six types of Yoruba enclitics: the subject marking High tone morpheme, the object pronouns, the emphatic particle, the short subject pronouns, the exclamatory/vocative particle, and reduced forms of the possessive pronouns. We show that in Standard Yoruba, an Obligatory Contour Principle (OCP) constraint applies to all six types of enclisis, preventing the last syllable of the host and the adjacent clitic syllable from having the same tone. There are no other host+clitic cases in Yoruba for which this constraint is relevant, and thus it is an exceptionless generalization that Yoruba enclisis is subject to the tonal OCP.

This application of tonal OCP across six cases of enclisis is a morpho-phonemic “conspiracy” in the classical sense. Potential violations of the constraint are avoided by one of five different methods, depending on the case: failure to link a floating tone, deletion of a tone belonging to the clitic, deletion of a tone belonging to the host, insertion of a toneless vowel, or failure to delete an otherwise optional toneless vowel. Thus this phenomenon adds to the considerable body of evidence in favor of the role of constraints such as the OCP in morphophonology. However, there are interesting conceptual and technical difficulties in the way of providing a formal solution in terms of current domain- and constraint-based theories.

To start with, a constraint against derived sequences of like tones is not generally applicable in Yoruba. Although it applies with complete generality to host + enclitic combinations, it does not apply at all to combinations of stem + suffix, prefix + stem, stem + stem, or proclitic + host. Nor is there any evidence of any constraint against sequences of like tones in the lexical representation of individual Yoruba morphemes. In this last case, it is natural to represent apparent sequences of High or Low tones as multiple linkage of single tonal feature. However, we must still explain the limitation of a tonal OCP constraint in derived environments in Yoruba to all and only the cases of enclisis.

We can appeal to the difference between lexical and phrasal levels to deal with the lack of a tonal OCP constraint in affixal and compounding cases; and we can appeal to an order-dependent definition of phonological domains in order to distinguish between the clitic + host and host + clitic cases. Some evidence for this approach can be found in an examination of the patterns of vowel harmony, which in Standard Yoruba also fails to apply between proclitic and following host. Alas, in Oyo and Ibadan dialects, vowel harmony applies in the proclitic + host case, while the tonal OCP does not. These phonological phenomena clearly embody generalizations about clitic structure, and yet a clear picture of a clitic group or phonological word domain, governing all clitic-related phonological activity in a uniform way in a given dialect, does not emerge.

In the second place, although the uniform lack of adjacent matching tones across host + clitic boundaries is a clear and simple goal, easily expressed as a constraint, this goal is achieved by a complex pattern of repairs, replacements and avoidance of normal processes, whose details and distribution do not follow from any obvious combination of constraints otherwise motivated in the language. A variety of solutions are possible, as always, but in this paper we will limit ourselves to establishing the basic descriptive generalizations and discussing some of the issues that will arise in modeling them formally.

A fuller survey of clitic-related phenomena across Yoruba dialects should

provide a clearer verdict on the existence and nature of clitic-related prosodic domains, and on the basic characteristics of clitic-related morphophonemics.

2. Background on Yoruba tonal phonology

Yoruba has three phonemically distinctive tones — H(igh), M(id), and L(ow). H occurs in word-initial position only in marked consonant-initial words, which reveal an implicit initial vowel when preceded by another word in genitive construction. Most words start with a vowel, which is L or M but not H. Except for this minor tonotactic restriction, tones occur freely in lexical representations, without apparent restrictions on word melodies. So there are three possible tonal patterns for monosyllables, nine possible tonal patterns for disyllables, and so on, as in (1).¹

(1) Lexical tone contrast

rá H	ra M	rà L
‘to disappear’	‘to rub’	‘to buy’
ọkọ MH	ọkọ MM	ọkọ ML
‘hoe’	‘husband’	‘vehicle’
ìlú LH	ìlu LM	ìlù LL
‘town’	‘opener’	‘drum’
pákó HH	kése HM	pákò HL
‘plank’	mythological place name	‘chewing stick’

2.1 *Non-specification of the Mid tone: Mid tone is no tone*

The Yoruba mid tone has been analyzed as underlying tonelessness since Akinlabi (1985) and Pulleyblank (1986a). In both Akinlabi’s and Pulleyblank’s works, several arguments are given for this hypothesis. For reasons of space, we will briefly sketch one example, relating to *tonal stability*. When an object noun follows a verb in Yoruba, the two words are combined phonologically by deleting either the final vowel of the verb or the initial vowel of the object. Any High or Low tones of the deleted vowel are retained in the result. However, Mid tones are not stable in this sense, but instead behave in various combinations with other tones as if they were simply not there. Thus a Mid tone verb followed by an object whose initial vowel is Low will yield a combined form whose first vowel is simply Low, not some sort of Mid-Low contour, or a Mid with a following downstep, or anything else of the sort.

The crucial cases are exemplified below. The tone patterns in each of the (a) and (b) examples in (2)–(6) are the same; in the (a) examples the vowel of the verb is deleted whereas in the (b) examples the vowel of the noun is deleted².

H verb + L initial noun

- | | | | | | | |
|-----|----|------------|-----------|---|----------------------|--|
| (2) | a. | wa H | ẹkọ L H | → | wẹkọ H LH | |
| | | look (for) | education | | ‘look for education’ | |
| | b. | mu H | iwe L H | → | muwe H LH | |
| | | take | book | | ‘take a book’ | |
| (3) | a. | wa H | ọnọ L L | → | wọnọ H L | |
| | | look (for) | way | | ‘look for a way’ | |
| | b. | wa H | imọ L L | → | wamọ H L | |
| | | look (for) | knowledge | | ‘look for knowledge’ | |
| (4) | a. | ji H | ọbẹ L M | → | jọbẹ H (L) M | |
| | | steal | knife | | ‘steal a knife’ | |
| | b. | fẹ H | iwo L M | → | fẹwo H (L) M | |
| | | want | horn | | ‘want a horn’ | |

H verb + M initial noun

- | | | | | | | |
|-----|----|------------|---------|---|--------------------|--|
| (5) | a. | wa H | owo M H | → | wowo H H | |
| | | look (for) | money | | ‘look for money’ | |
| | b. | wa H | ile MH | → | wale H H | |
| | | look (for) | house | | ‘look for a house’ | |

M verb + L initial noun

- | | | | | | | |
|-----|----|----------|-------------|---|--------------------|--|
| (6) | a. | jọ M | ajẹ L H | → | jajẹ L H | |
| | | resemble | witch | | ‘resemble a witch’ | |
| | b. | sin M | oku L H | → | sinku L H | |
| | | bury | dead (body) | | ‘bury the dead’ | |

A few remarks are necessary for the motivation behind the selection of the above forms. First, as noted above since V-initial nouns cannot start with H in Yoruba, no examples of the form X + HX can arise. Second, when a L-tone verb precedes its object, the tone always deletes even if the vowel is preserved, so the case L + XX offers no evidence in this matter.

Extracting the tonal input and output alone from the above examples, we have the following:

Summary of Tonal Input and Output:

- | | | | |
|--------|---------|---|-------|
| (2a–b) | H + L H | → | H L H |
| (3a–b) | H + L L | → | H L |