THE INDEPENDENCE OF SYNTAX AND PHONOLOGY IN CLITICIZATION

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In previous work on cliticization, it has been assumed that two and only two strategies are available for clitic positioning: sentential second-position cliticization (Wackernagel's Law) and cliticization to a specified lexical class, most commonly V. Moreover, it has been assumed that the host in terms of which the clitic is positioned, i.e. the structural or lexical host, must also necessarily be the phonological host. This paper shows that the structural and phonological hosts need not be the same; i.e., clitics can simultaneously attach syntactically to a structural host, while attaching independently to a different phonological host. Thus the two-strategy assumption of clitic positioning and attachment is inadequate. Instead, three independent parameters are required. These binary parameters encode two structural notions—DOMINANCE and PRECEDENCE—and one phonological notion—LIAISON. The values of the parameters constrain possible clitics to eight types, each of which is illustrated in this paper. These parameters are encoded in the lexical subcategorization frame for clitics. It is shown that clitics are PHRASAL AFFIXES. Although languages appear to differ widely in types of clitics and cliticization, this paper shows how a unitary analysis of apparently diverse clitic types is possible in terms of the three-parameter system. Languages analysed include Classical Greek, Spanish, French, Ngiyambaa, Nganhcara, and some Uto-Aztecan languages.*

This paper proposes very restrictive universals having to do with clitic positioning and clitic attachment to a host, allowing eight clitic types for each phrasal node. The goal of a theory of cliticization is to give a unitary account of the process across languages, in the same way that the goal of a theory of morphology or syntax is applicability across languages on an abstract level. Although the existence of clitics has traditionally been recognized (cf. Wackernagel 1892, Menéndez-Pidal 1904, Sapir 1930, Matthews 1974), it is not clear that all the items which have been called clitics are similar in kind, and it is accordingly unclear at what level(s) of grammatical description they should be treated. Thus Aronoff 1976, in his discussion of the two traditional types of morphological phenomena—derivation and inflection—devotes a short section to ‘other types of morphology’ (pp. 3–4). Cliticization is the only such type discussed there; it is described as ‘‘grammatical’’ morphological phenomena which cannot be subsumed under inflection’. Aronoff recognizes in these paragraphs the formal similarities between cliticization and inflectional affixation, while acknowledging the apparently more purely syntactic (i.e. grammatical) nature of cliticization. Zwicky & Pullum 1983 give a set of tests to distinguish clitics from affixes, with particular reference to the affixal status of n't in English. Zwicky 1985 provides further tests to distinguish clitics from words. He

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argues that clitics must be distinguished from ‘particles’. Certain particles, such as discourse markers, are independent words; other particles may have simple clitic variants, but are not clitics in and of themselves.

My purpose is to explain why clitics attach where they do, and not simply to discuss the observation that they do attach to host words. My theory is a natural follow-up to other work on cliticization, since it constrains clitic positioning in a universal framework, regardless of the language-particular origins of clitics. There is no a-priori requirement that all clitics across languages must be universally generated in the same way, e.g. by phrase structure rules or by feature spell-outs. In fact, the source of clitics is probably a language-particular fact; thus what holds for Hebrew (Borer 1981) or Pashto (Tegey 1977) need not hold for Ngiyambaa (Klavans 1982) or French (Kayne 1975). However, what is strictly constrained is the position where a clitic can occur in a tree structure, i.e. the locus of cliticization, and how a clitic attaches to a host, i.e. the morphology of cliticization.

**CONSTRAINTS ON CLITIC POSITIONING**

1.1. **ON CLITIC ATTACHMENT.** It is generally assumed that, if a clitic is associated with a host syntactically, then its phonological attachment is with the same host, as in the Spanish verbal clitics, the second position enclitics of Ngiyambaa (Australia; Donaldson 1980), and the English possessive 's':

\[(1) \text{Te}=\text{lo}=\text{digo} \quad \text{ahora} \quad \text{'I tell it to you now.'} \]
\[\text{you}=\text{it}=\text{tell.1sg. now} \]

\[(2) \text{di}=\text{me}=\text{lo} \quad \text{ahora} \quad \text{'Tell it to me now!'} \]
\[\text{tell.IMP}=\text{me}=\text{it now} \]

\[(3) \text{girbadja}=\text{yanbi:}=\text{ndu} \quad \text{mamiyi} \]
\[\text{kangaroo}=\text{ADD}=\text{2.NOM catch.PAST} \]
\[\text{‘As for a kangaroo, you caught one.’} \]

\[(4) \text{the queen of England’s hat} \]

In ex. 1, the clitics te ‘(to) you’ and lo ‘(to) it’ occur before the tensed verb, and are **proclitic** to that verb; in 2, they occur after a [−Tense] verb, and are **enclitic**. In 3, the pronominal clitic = ndu ‘you’ and the particle clitic = yanbi ‘ADD[itional Topic]’ (which is discourse-dependent; this is taken out of context) occur after and are attached to the first word in the sentence. Clitics commonly occur in sentential second position (henceforth 2P), a tendency known as Wackernagel’s Law (Wackernagel 1892, Kaisse 1982). In 4, the English possessive enclitic ‘s occurs after the NP, and is enclitic to that NP.

Looking at such examples, one might assume that a clitic which occurs before a particular phrase must be phonologically **proclitic**—and conversely, that a clitic occurring after a particular phrase must be phonologically **enclitic**. This appears to be true for the clitic types given above. This assumption is schematized in Figure 1 for Spanish proclitics and enclitics.

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Notes:

1. The symbol ‘=’ is used for clitics and ‘-’ for affixes, following Zwicky 1977. The term ‘host’ refers to the word to which a clitic attaches. Admittedly, it is a vague term, and will be clarified below.
However, this model is incorrect. For simple observational adequacy, a theory of clitics must allow for a distinction between directions of SYNTACTIC and of PHONOLOGICAL attachment. That is, a clitic can be attached to a specified constituent for syntactic placement, but it need not be phonologically cliticized to that same constituent. This is schematized in Figure 2.

Fig. 2b shows the surface phonological host Y to be different from the structural host X. Examples of this type are given below. The mirror image of this is also motivated below—i.e. with syntactic placement after a specified word or constituent, but with proclitic phonological attachment to a different host.

1.2. THE THREE PARAMETERS. One of the differences between a clitic and an affix is that a clitic is generally less selective of its host. An affix like Eng. -ing attaches only to verbs; but 2P clitics, or clitics like the possessive ’s in English, seem to attach phonologically to whatever word is adjacent. Thus, for the ’s in 4, the phonological host is England; but in the boy who I saw’s mother, the phonological host is the verb saw; and in the boy I talked to’s sister, phonological attachment is to the preposition to. However, note that the node dominating the host for ’s is always NP. Similarly, the node which dominates the host word for 2P enclitics is always S. The first parameter in this system to account for possible clitic positioning refers to dominance:

(5) Parameter 1 (Dominance): INITIAL/FINAL

Parameter 1 (also referred to as P1) expresses the possibility that a clitic attaches to the initial or final constituent dominated by a specified phrase.

Not surprisingly, the second parameter, P2, encodes the other part of configurational information, i.e. PRECEDENCE: it specifies whether a clitic occurs BEFORE or AFTER the host chosen by P1. The second parameter is:

(6) Parameter 2 (Precedence): BEFORE/AFTER
The third parameter (P3) gives the direction of phonological attachment; it is a property of the clitic itself. Again, the values are binary:

(7) Parameter 3 (Phonological liaison): PROCLITIC/ENCLITIC

At first glance, P3 might seem redundant, since the value AFTER for P2 often implies ENCLITIC, and the value BEFORE often implies PROCLITIC. However, this is not a necessary relationship. The discussion below of various cliticization phenomena—e.g. encliticization in Nganhcara, proclitic NP marking in Kwakwala (Kwakiutl), and Tense Contraction in English—will show that the distinction between the syntactic parameters P1/P2 and the phonological parameter P3 is necessary on descriptive grounds.

Note that, when clitics are concatenated, parameters do not change, e.g. in Spanish:

(8) \textit{dá = me = lo}
\textit{give = me = it!}

Here the enclitic =me 'me.DAT' is still ENCLITIC. It is not endoclitic, nor proclitic to =lo 'it.ACC'. The sequences of Classical Greek particle enclitics exemplified below illustrate the same point. According to Smyth (1920:185), 'when several enclitics occur in succession, each receives an accent from the following, only the last having no accent':

(9) \textit{ei =pou = tís = tina idoi ekkhtrón}
\textit{if anywhere anyone.NOM anything.ACC saw enemy.ACC}

\textbf{(procl) (encl) (encl) (encl)}

In Classical Greek, clitics are inherently without accent. They are characterized by their property of causing a shift leftwards in accentuation. Thus, if a host has ultimate accent, when an enclitic is attached, the accent is shifted to the penultimate. Similarly, if a host is accented on the penultimate mora, then the clitic will cause the accent to occur on the antepenultimate syllable of that word.

Each member of the clitic sequence is still enclitic to its left, as shown by the fact that the accent is thrown back onto the preceding syllable from right to left. The Enclitic Throwback rule causes the accent to move one syllable to the left of where it would occur without a clitic attached:

(10) Enclitic Throwback

\textit{ei =pou = tís = tina} \Rightarrow \textit{ei =pou = tís = tina}
\textbf{procl = encl = encl = encl}

Note that the last enclitic in the sequence, \textit{tina} 'anything', is unaccented.

Lack of change in the direction of intrinsic phonological attachment is normal in affixation. Thus in a sequence of suffixes, as in Eng. ration-al-ize, the -\textit{al} is not an infix, but rather a suffix followed by another suffix.

1.3. THE DOMAIN OF CLITICIZATION. Informally, a node is the domain of cliticization if the syntactic position of a clitic is determined with respect to the

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2 A fuller treatment of the phonology of host–clitic sequences, and of the interaction between stress and cliticization, can be found in Klavans 1980.
immediate constituents of the designated node. In the Ngiyambaa example shown in Figure 3, the relevant node is S.3

![Figure 3](image)

FIGURE 3. ‘You ate a tasty fish yesterday.’

A slightly different type of example can be found in Navajo, where (according to Perkins 1974) the domain of cliticization can be any N’.4 Consider the base sentence in Figure 4.

![Figure 4](image)

FIGURE 4. ‘John lassoed a horse with a rope.’

To this the clitic = hanii ‘negative’ can be added to give:

11) Jáan = hanii líf’ tl’óól yee yizloh.
12) Jáan líf’ = hanii tl’óól yee yizloh.
13) Jáan líf’ tl’óól = hanii yee yizloh.
14) *Jáan líf’ tl’óól yee = hanii yizloh.
15) *Jáan líf’ tl’óól = hanii yee yizloh = hanii.

What is clear is that clitics seem to attach to entire phrases, not just to words. This observation is not new. For example, Perlmutter 1971 refers to the ‘constituent to which clitics attach’, implying both (a) that clitics are free and then attach, and (b) that the attachment is to an entire constituent. Kaufman (1974:514) observes that, in Navajo, ‘an enclitic may modify phrases as well as single words’. And Hale (1973:314), discussing the placement of Warlpiri

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3 Ngiyambaa is a non-configurational language (see Hale 1981), so I assume that Xmax = X’ = X’.

4 I have added the notation ‘= ’ for consistency. It is not in Perkins.
auxiliary enclitics, says: ‘I feel ... that the correct formulation of Aux Insertion will make reference to the constituents of sentences.’ Nida (1949:97) observes that certain clitics have the same sort of positional freedom as syntactic items. In contrast, an affix is always bound—and, crucially, must be related to its base semantically. He suggests that clitics should be analysed as affixes on the syntactic level, i.e. as phrasal affixes.  

1.4. ON HOSTING A CLITIC. A clarification of terminology will be useful at this point to capture the observation about phrasal nodes and cliticization. The term ‘host’, coined by Zwicky to refer to ‘the word to which a clitic attaches’, is vague. The host word is defined in terms of linear adjacency to the clitics; but host phrase is a structural notion. Thus the host phrase in the English example the queen of England’s hat is the NP the queen of England; but the host word is England. To refer to the actual phonological attachment between a clitic and an adjacent word, I use the term liaison. Clitic positioning is a matter of the occurrence of a clitic in a particular syntactic or morphological structure, whereas clitic attachment is phonological. This is shown schematically in Figure 5.

This terminology reflects the loose semantic, syntactic, and morphological relationship between clitics and hosts. As for the phonological relationship between clitics and hosts, it is loose in the sense that clitics often do not undergo rules of internal phonology. For example, in Turkish they are subject to Vowel Harmony, but cannot receive stress. In Ngiyambaa, certain clitics are immune to a rule of Nasal Assimilation which links an under-specified nasal with the following homorganic consonant. Suffixes and particle enclitics trigger this rule, but not pronominal clitics and words. Semantically, clitics are more word-like than affix-like. In particular, their meaning seems to be more like that expected of a full word. Furthermore, any semantic relation between clitic and host is often accidental; e.g.,

(16) girbadja = ndu mamiyi gambira.
kangaroo = 2.NOM catch.PAST yesterday
‘You caught a kangaroo yesterday.’

5 Klavans 1983 argues (in the framework of Kiparsky 1982) that certain facts about the phonology of cliticization follow when cliticization is viewed as post-lexical, rather than as a lexical-level phenomenon. Then the weak connection between clitic and host follows naturally.

6 See Klavans 1983 for further detail on the phonology of cliticization in Ngiyambaa.
The enclitic =ndu bears no direct semantic relation to the host girbadja. If the sentence is scrambled, the point is even clearer:

(17) gambira = ndu mamiyi girbadja.
yesterday = 2.NOM catch.PAST kangaroo
‘Yesterday you caught a kangaroo.’

1.5. Some properties of cliticization domains. Here I explore certain characteristics found to hold for a given domain of cliticization. Recall that P1 refers to the first or last constituent or word under the domain of cliticization. Consider again Figure 3 from Ngiyambaa,7 where the relevant constituent N’, ngadhay guya ‘tasty fish’, is INITIAL under the domain of cliticization S. Contrast this with Figure 6, where the specified INITIAL element under S is the single N ngadhay.

\[
\begin{array}{c}
  S \\
  \quad N' \\
  \quad \text{N'} \\
  \quad V \\
  \quad N \\
  \quad \text{N} \\
  \quad V \\
  \quad \text{ADV} \\
  \end{array}
\]

\[
\text{ngadhay} = \text{ndu guya dha-yi gambira.}
\text{tasty} = 2.\text{NOM fish eat-PAST yesterday}
\]

Figure 6. ‘You ate a tasty fish yesterday.’

With another of the possible word orders, the initial node could be V or ADV:

(18) dha-yi = ndu gambira ngadhay guya.
‘You ate a tasty fish yesterday.’ (focus on ‘ate’)

(19) gambira = ndu ngadhay guya dha-yi.
‘You ate a tasty fish yesterday’ (focus on ‘yesterday’)

These examples show how a given domain of cliticization, in this case S, stays constant; but the particular node chosen by P1 can change, depending on the order of words and constituents under S. A clitic in Ngiyambaa, or in any language with 2P cliticization, attaches to a host word of any lexical category, so long as the configurational conditions stated in P1/P2 are met. Those conditions demand that, for a sentence to be well-formed, any clitics must occur after the initial constituent under S.

For the English possessive morpheme 's, the domain of cliticization is an N" node, with the feature [+GEN]. The clitic is placed on the INITIAL constituent of that N", as seen in Figure 7 (overleaf). This illustrates how the domain of cliticization may include reference to features of that node. In the English genitive construction, the necessary feature is [+GEN].8

7 The main phrase structure rules for Ngiyambaa are (i) S → X’ (Encl) X’*, (ii) X’ → X*, for all X, where ‘+’ is the one-or-more operator. Details are in Klavans 1982.

8 This cursory treatment of English possessive 's is intended only to illustrate certain points about the domain of cliticization. See Siegal 1974 for more on the matter.
Another example where a feature is necessary is with Spanish verbal clitics, illustrated in Figures 8–9.⁹ In these examples, the domain of cliticization is V, and the feature [tense] affects clitic positioning.

In Figs. 8–9, a feature requirement is placed on P1, the domain of cliticization. The effect of the feature is distinct in each case. In the English genitive construction, if the N'' is not marked [+GEN], then the occurrence of the clitic would simply be ungrammatical. However, with Spanish clitics, the feature on the dominating node actually determines whether the clitic is PROCLITIC or ENCLITIC; i.e., the value of P3 is a function of the value of P1, unlike Eng. 's which is always ENCLITIC. Thus the Romance examples are different in kind from the other clitics, a fact which is the basis for some problems to be discussed below.

Predictions of the Three-Parameter System

2. The three binary parameters can be viewed as a set of conditions which, when varied, give different types of cliticization. Among the predictions that the three-parameter system makes are these:

(20) a. There are exactly eight cliticization possibilities.
   b. The direction of syntactic clitic attachment can differ from that of phonological attachment.

⁹ Romance clitics present problems for my theory, since the domain is a non-phrasal node V. I return to this matter below. What is worse, not only does the parameter PROCLITIC/ENCLITIC vary, but so does the parameter BEFORE/AFTER.
The system also has three other implications. They include an account for the observed historical path of clitics becoming affixes (Givón 1971), the ruling out of certain possibilities such as endocliticization—and most importantly, clarification of the correct way to represent clitics in the lexicon. The following sections deal with some of these predictions and their implications.

2.1. Possible Clitic Types. Assigning values to the set of binary parameters yields eight possibilities for cliticization. Table 1 shows in outline form the eight predicted clitic types. In subsequent sections, I discuss examples cited in this table.

<table>
<thead>
<tr>
<th>PARAMETER 1</th>
<th>PARAMETER 2</th>
<th>PARAMETER 3</th>
<th>EXAMPLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>INITIAL/FINAL</td>
<td>BEFORE/AFTER</td>
<td>PROCLITIC/ENCLITIC</td>
<td></td>
</tr>
<tr>
<td>Type 1 Initial (under N')</td>
<td>Before</td>
<td>Enclitic</td>
<td>Kwakwala NP markers</td>
</tr>
<tr>
<td>Type 2 Initial (under N')</td>
<td>Before</td>
<td>Proclitic</td>
<td>Greek article</td>
</tr>
<tr>
<td>Type 3 Initial (under S)</td>
<td>After</td>
<td>Enclitic</td>
<td>Ngiyambaa enclitics</td>
</tr>
<tr>
<td>Type 4 Initial (under S)</td>
<td>After</td>
<td>Proclitic</td>
<td>Tepecano = an</td>
</tr>
<tr>
<td>Type 5 Final (under S)</td>
<td>Before</td>
<td>Enclitic</td>
<td>Nganhcara clitics</td>
</tr>
<tr>
<td>Type 6 Final (under S)</td>
<td>Before</td>
<td>Proclitic</td>
<td>Sanskrit pre-verbs</td>
</tr>
<tr>
<td>Type 7 Final (under V[-T])</td>
<td>After</td>
<td>Enclitic</td>
<td>Spanish pronominal clitics</td>
</tr>
<tr>
<td>Type 8 Final (under S)</td>
<td>After</td>
<td>Proclitic</td>
<td>Greek negative ou=</td>
</tr>
</tbody>
</table>

To show how Table 1 is to be understood, consider Type 3 clitics, which have the following values:

(21) P1: INITIAL (under S)
P2: AFTER
P3: ENCLITIC

The example cited is from Ngiyambaa. I showed above that Ngiyambaa clitics occur in 2P—i.e. after, and enclitic upon, the initial word or constituent under the domain of cliticization S.

The most interesting prediction of this system concerns Types 1, 4, 5, and 8 clitics; these are cases where a tension exists between the directions of syntactic and phonological attachment, as reflected in the values of P2/P3. The relevant section of Table 1 is repeated as Table 2.

<table>
<thead>
<tr>
<th>TYPE</th>
<th>BEFORE</th>
<th>ENCLITIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type 1</td>
<td>Before</td>
<td>Enclitic</td>
</tr>
<tr>
<td>Type 5</td>
<td>Before</td>
<td>Enclitic</td>
</tr>
<tr>
<td>Type 4</td>
<td>After</td>
<td>Proclitic</td>
</tr>
<tr>
<td>Type 8</td>
<td>After</td>
<td>Proclitic</td>
</tr>
</tbody>
</table>

Table 2.
Recall the widely held assumption about cliticization, that 'placed before a host' commonly implies 'proclitic on that host'. This relationship does exist for many clitics—namely for Types 2, 3, 6, and 7, as shown in Table 3.

<table>
<thead>
<tr>
<th>Type</th>
<th>Before/After</th>
<th>Proclitic/Enclitic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type 2</td>
<td>Before</td>
<td>Proclitic</td>
</tr>
<tr>
<td>Type 6</td>
<td>Before</td>
<td>Proclitic</td>
</tr>
<tr>
<td>Type 3</td>
<td>After</td>
<td>Enclitic</td>
</tr>
<tr>
<td>Type 7</td>
<td>After</td>
<td>Enclitic</td>
</tr>
</tbody>
</table>

**Table 3.**

The following sections illustrate the clitic possibilities, and show how their apparent peculiarities can be characterized in the three-parameter system.

### 2.2. CLITICS WITH DUAL CITIZENSHIP: ENCLITICS IN NGANHCARA.

'Dual citizenship' refers to a situation in which a clitic is structurally a member of one constituent but phonologically a member of another, as characterized by Types 1, 4, 5, and 8. Exactly such a case of dual citizenship is found in Nganhcara, an Australian language (cf. Smith & Johnson 1979:6–7):

(22) nhila pama-ng nhingu pukpe-wu ku?a wa:=ngu.

he.NOM man-ERG him.DAT child-DAT dog give = DAT.3sg.

'The man gave the dog to the child.'

(23) nhila pama-ng nhingu pukpe-wu ku ?a = ngu wa:.

(24) nhila pama-ng ku ?a nhingu pukpe-wu = ngu wa:.

(25) nhila pama-ng ku ?a pukpe-wu nhingu = ngu wa:.

(26) ku ?a nhingu pukpe-wu nhila pama-ng = ngu wa:.

(27) ku ?a nhingu pukpe-wu pama-ng nhila = ngu wa:.

The meaning of all these sentences is the same. The verb *wa:* is in S-final position. Note that the enclitic =ngu appears *after* the verb in the first example, but *before* the verb in the others. Since the verb appears always to be *final,* then within the system given thus far, enclitics in Nganhcara might be preliminarily characterized as follows:

(28) P1: **FINAL** (in S)
     P2: **AFTER/BETORE**

This says that the clitic attaches to the final constituent dominated by S, so the value of P1 is **FINAL**. The clitic occurs after the final constituent in ex. 22, but before that same constituent in 23–27. That is, P2 is not specified, so both options are allowed.

A closer look at 23–27 reveals a curious fact: even though the clitic precedes the verb, it encliticizes phonologically to any constituent, so long as that word or constituent immediately precedes the verb. Evidence that the clitic is phonologically attached to the left is found in word-initial phonotactic constraints in Nganhcara:

(29) nhila pama-ng nhingku ku?a = ngku wa:.

he.NOM man-ERG 2sg.DAT child.DAT = 2sg.DAT give = DAT

'The man gave a dog to you.'
SYNTAX AND PHONOLOGY IN CLITICIZATION

(30) nhila pama-ng nganhcara ku?a = nhcara wa:
1pl.EXC.DAT 1pl.EXC.DAT
‘The man gave a dog to us.’

The enclitics are = ngku ‘you’ and = nhcara ‘us’, but the clusters ngk and nhc are not possible word-initial clusters (Ian Smith, p.c.) The enclitics thus attach phonologically to the left by phonotactic necessity, despite the fact that their syntactic host occurs to the right. And as the variants in 22–27 show, word order is fundamentally free in Nganhcara, except for the V-final constraint mentioned above. Enclitics blindly attach to whatever word is on their left, regardless of that host’s category.

These examples illustrate the need to distinguish between the syntactic and phonological features of cliticization. Given that the syntactic domain of Nganhcara cliticization is S, the full set of values for the binary parameters is:

(31) P1: FINAL
P2: AFTER/BEFORE
P3: ENCLITIC (phonological)

Note that, for P2, Nganhcara allows the choice of either parameter. (This is much like Spanish, where the same clitic forms can be BEFORE or AFTER the verb, depending on tense). Thus clitics in Nganhcara are examples of Type 5 cliticization.

In these examples, syntactic placement refers to an element on the right, namely V; but the clitic does not lean to the right, as would be predicted in a simpler model of cliticization. Instead, the clitic leans phonologically to the left; i.e., it is enclitic on whatever happens to precede it. The surface phonological host is different from the structural host X, as shown in Figure 10.

This reveals the motivation for P3, PROCLITIC/ENCLITIC. These examples show that, for descriptive adequacy, the phonological parameter must be distinct from the two structural parameters. A two-strategy theory of clitic attachment fails to characterize these enclitics: they are certainly not 2P clitics, because no analysis would allow the string to the left of the enclitic to be called a single word or a single constituent. Neither are they verbal clitics, like those in Spanish or French. What seems to be peculiar about Nganhcara clitics is that they are doggedly enclitic; they blindly lean to the left—regardless of the lexical category of the host, as would any 2P ENclitic—but at the same time they are structurally PROclitics.
2.3. The object noun phrase clitic in Kwakwala (Kwakiutl) shows a similar system, in which the occurrence of clitics depends on the phrasal syntax in one direction, but phonological attachment is in another direction. Kwakwala is a VSO language in which object and oblique NP's follow the subject NP. The \([-\text{NOM}]\) NP's contain particles to identify their grammatical function as 'object', 'oblique' etc. The particles are part of the NP, as shown in the following example from Levine 1980:

\[(32) \text{ndp'idi-da } g\text{anam } xa \text{ guk}^w \text{ sa } t'isam\]
\[
\text{throw-DEIC child OBJ house OBL rock}
\]

'The child hit the house with a rock by throwing.'

Here the function-marking particles are \(xa\) 'object', which marks \(guk^w\) 'house', and \(sa\) 'oblique', which marks \(t'isam\) 'rock':

\[(33) [xa \text{ guk}^w]_N,\]
\[
\text{OBJ house}
\]

\[(34) [sa \text{ t'isam}]_N,\]
\[
\text{OBL rock}
\]

Ex. 33 shows how the particle \(xa\), marking objective function, is syntactically part of the noun \(guk^w\) 'house'. In 34, \(sa\) marks the noun \(t'isam\) 'rock' as oblique, 'with a rock'. But such particles, which precede a given noun syntactically, are not attached phonologically to that noun, but to the \(N'\) on the left, as shown schematically in Figure 11.

\[
\text{FIGURE 11.}
\]

To illustrate the point again, compare Fig. 10 above, for Nganhcara, with the analogous Figure 12 for Kwakwala. Since the Kwakwala nominal markers have the option of being enclitic on the word preceding them, they differ in only one respect from Nganhcara: in Kwakwala, instead of \(V\), we find a \([-\text{NOM}]\) NP. The constituent represented by \(X\) is again any leftward adjacent word.

---

10 The data from Kwakwala were brought to my attention by Judith Aissen.
Similar observations are made by S. Anderson 1981. In fact, his P-markers for Kwakwala simple sentences incorporate the facts about bi-directional clitic attachment that are given in this paper. Anderson comments that, because the primary determiner element appears as a clitic attached to the preceding word of the clause, each element appears to be marked not for its own case and/or deictic status, but rather for that of the following element. However, he correctly observes that once these demonstratives are recognized as clitics, rather than inflectional endings, their behavior is less puzzling. Figure 13 shows how Anderson illustrates the properties of the Kwakwala determiner constituent.

![Figure 13](image)

It is perhaps useful at this point to examine some implications of the controversial claim that a clitic can exhibit phonological allegiance to a word other than its host. Ellen Kaisse (p.c.) has commented that, although a clitic can have phonological interaction with something which is not its syntactic host, the clitic cannot be more interactive with that (syntactic) non-host than with its syntactic host. However, degree of interaction is difficult to determine. Suppose a clitic triggers phonological (not phonetic) assimilation in one direction, and epenthesis in another. By what measure could one determine which is 'more' or 'less' interactive? In this paper, clitics like those in Kwakwala and Nganhcara show stress dependence in one direction, but little evidence for phonological attachment in the other. Nganhcara does show some clear evidence of leftward attachment, viz. the phonotactic facts of 29–30; and these lead me to support the claim I am defending here. However, Kaisse further suggests that perhaps the correct constraint would be to say that if a clitic undergoes ANY phonological process with a non-host, it might also undergo that process with its host. She adds that if we can determine that a process are word-internal, we could say that, if a clitic undergoes that process with a phonological (non-syntactic) host, then it must also be able to undergo that process with its syntactic host.

For Kaisse’s suggestion to work, the situation in Figure 14 (overleaf) would have to exist. At both points indicated by A, the same phonological rule would have to apply. Consider assimilation, a rule generally involving one or more feature changes to match the feature array of an adjacent segment. To test Kaisse’s idea, the clitic would need to be phonologically symmetrical, such
that the structural description for that rule could be met at both points labeled A in Fig. 14. Although Kaisse's suggestion is a possible way to characterize clitics with split allegiance, I find it difficult to envision a situation where the claim could be tested, since word-initial phonological processes tend to differ from word-final ones in a given language.

2.4. An alternative view. An anonymous referee has made the point, concerning my analysis of 'dual citizenship', that the separation of syntactic placement from phonological liaison is forced by my treatment of the other syntactic parameters. This scholar suggested that perhaps initial and final are not the only possibilities, but that there might be four: initial, second, penultimate, and final. Nganhcara clitics could be viewed as attaching to the penultimate element syntactically, and still be enclitics. This would eliminate the need for specifying the domain of cliticization, since only linear position would need to be stated. The suggestion was made that cliticization might be handled by formally passing features down from the domain node onto the lexical node to which the clitic is attached. Given four locations for clitic positioning, clitics would be spelled out as an outer layer of morphemes associated with the lexical node. This suggested analysis is similar to one made by Susan Steele in personal conversation, several years ago, in proposing four possible positions for clitics across languages.

To schematize, the proposal is that clitics in Nganhcara attach as in Figure 15.

Figure 16 shows how the four-position analysis would simply specify that the clitic be attached to the penultimate node, whereupon it would be in place for encliticization to that node. Compare this to the two-feature proposal of Fig. 15. My analysis requires an additional step to ensure that the clitic feature appear on the penultimate node. This is the step that is equivalent to 'liaison'.

From this one example, it appears that there is no way to choose between
analyses on the basis of economy. Indeed, much more data are needed to compare these unusual cases. The only problem that I can see with the four-feature proposal is that it allows a type of cliticization in which a clitic attached to a second or penultimate element must be proclitic or enclitic, respectively, as shown in Figure 17.

In the extensive data that I have gathered on clitics, I have never come across such a type. This is not to say that it does not exist. Although I doubt such clitics would be found, no theory can be built on doubts. The two-feature system for which I argue here is more restrictive than the four-feature proposal—and, I believe, in exactly the correct way. However, these speculations can be substantiated only with further research.

2.5. Stranded proclitics in Classical Greek. Now consider another of the clitic types determined by the three-parameter system: Type 8. This clitic would be phonologically proclitic, and would appear after the final constituent or word under a given domain of cliticization. Schematically, this type of clitic would meet the description shown in Figure 18.

At first glance, this possibility might seem odd: if a proclitic is attached to the end of a phrase, phonological procliticization will have to occur across phrase boundaries—an unlikely situation. However, an example of proclitics
in the configuration of Fig. 18 can be found in Classical Greek. Proclitics in Greek are unaccented, and depend on a host word for accent. The following examples illustrate how, with the three-parameter system, syntactic attachment to the left can be independent from the phonological attachment to the right:

(35) ou lúei ‘he does not loosen (reins)’
(36) pós gár ou? ‘for why not’
(37) ek Spártès ‘out-of Sparta’
(38) kakón eks ‘out-of (the) evils’

In 35–36, the negative ou normally is proclitic, as in 35; but in 36, it is in phrase-final position. Similarly, the preposition eks normally precedes the noun it governs, as in 37; but can also be proclitic on the leftmost word in the object NP, as in 38. So eks is ‘stranded’ on the right, with no phonologically appropriate rightward host with which to affiliate.

It has been argued (e.g. by Sommerstein 1973) that Greek proclitics are atonic. However, in certain syntactic configurations, e.g. as when a proclitic has no suitable syntactic host to its right, it may be accented. Sommerstein argues that accentuation in such examples results from a rule of Sentence Accentuation which assigns an acute accent to any pre-pausal syllable, regardless of its lexical status. He suggests that this rule is so automatic that the acute accent is normally not even marked—except where it is unusual, as on proclitics, which are usually unaccented. Thus the underlying unaccented proclitic property of a clitic like ou is obscured by a more general accentuation rule, and there is no way to tell if the proclitic is truly attached to the following sentence—or, when no sentence follows, is simply stranded. Given Sommerstein’s analysis and given what is known about cliticization and pauses between non-conjoined sentences, it would be improbable, although not impossible, for procliticization across sentence boundaries to occur. The three-parameter system shows how, with ‘stranded’ proclitics in Greek, syntactic attachment to the left is independent of the phonologically rightward dependence of proclitics.

2.6. TENSE CONTRACTION IN ENGLISH. English Tense Contraction has been mentioned as a possible example of Type 1 cliticization. Consider how the problem of Tense Contraction might be handled in the three-parameter system. Take such sentences as:

a. that it will have on you.
b. that it will ___ on you.
c. that it’ll have on you.
d. *that it’ll ___ on you.

(39) This won’t have the effect on us

Bresnan 1971 attempts to account for such sentences by claiming that Tense Contraction is PROCLITICIZATION, because it is sensitive to the ‘gap’ on the right. Against Bresnan, Lakoff 1972 points out that Tense Contraction is clearly phonologically ENCLITICIZATION, as evidenced by voicing assimilation:

(40) Jack’s a fool. (/dʒæks/, */dʒækz/)
(41) Ray’s a fool. (/reiz/, */reis/)
Further, Wood 1979 points out that other phonological processes—such as Vowel Reduction and Glide Reduction—provide additional evidence that auxiliary reduction in English is encliticization. She shows that an explanation of auxiliary reduction in terms of extraction sites and procliticization accounts for only a subset of cliticized auxiliaries. In particular, some auxiliaries can cliticize before extraction sites:

(42) *I sent Mom a birthday card, and you shoulda ___ too.*

Bresnan would have to claim either that auxiliaries like *have* cliticize to the preceding, not the following, material—or that, in such cases, it is possible to delete or move part of a word, thus leaving a clitic behind. Thus Wood argues against Bresnan that auxiliary reduction is encliticization.

The problem here seems to be the apparently conflicting proclitic/enclitic behavior of tense elements in English. The parameters as applied to Tense Contraction might be:

(43) P1: INITIAL (under V’)
    P2: BEFORE
    P3: ENCLITIC

Note that the parameters for Tense Contraction are the mirror image of what was seen to hold for the Greek proclitics. In English, the enclitic has no suitable phonological host unless it reaches across phrase boundaries, which is apparently possible. In Greek, if the proclitic has no host to its right, it cannot reach outside its syntactic phrase. Consider Figure 19 as a partial structure of ex. 39.

![Figure 19](image)

In this example, all the conditions given in the three parameters are met, so cliticization is grammatical. Compare this with Figure 20 (overleaf), where deletion has occurred.

---

111 Part of the reason might be that English has stress, while in Classical Greek the suprasegmental information is encoded with pitch-accent—although I very much doubt that this would provide an explanation. In any event, in Greek, a proclitic would have to reach across a sentence boundary; but in English, the boundary is between VP and NP.
The ungrammaticality of 39d results from the fact that, with the deletion of *have*, the parameter INITIAL/FINAL becomes ambiguous. Since V [+AUX] is the only remaining constituent of V', the value will be FINAL; in such a case, the conditions for cliticization will not be met, and cliticization is impossible. This outline of a possible way to analyse Tense Contraction shows how the three-parameter system for clitics might also provide a framework in which to understand other puzzling phenomena.

My analysis of Tense Contraction differs from that of Steele et al. 1981. I have suggested that it is a synchronic reduction rule, subject to certain well-formedness constraints which arise from lexical requirements on tense-contracting items. In contrast, Steele et al. argue that a tense-contracted element like *'s* is actually in the process of being re-analysed as a marker of 3sg. present tense whenever the main verb of the verb complex is non-tensed. Thus they view *'s* as a 2P clitic, expressing person and tense, attached to the first element in the sentence. Translating this hypothesis into my system would mean that the parameter for *'s* would be:

(44) P1: INITIAL
    P2: AFTER
    P3: ENCLITIC

Here the domain of cliticization for *'s* is S', rather than V'. Although Steele et al. may well be correct for the 3sg. marker, my analysis is more general and applies to all contracted tense elements in English. Of course, it could still be the case that the *'s* is undergoing certain changes toward being a marker of inflection, which will eventually distinguish it from other examples of Tense Contraction in English. If this does occur, the analysis of Steele et al. might turn out to be an indicator of the direction of change.

2.7. SANSKRIT PRE-VERBS. I have already given examples of several of the eight possible types as indicated in Table 1. One type not yet illustrated is Type 6, which must occur in the structure of Figure 21. This could be a verbal
proclitic in a V-final language, or a nominal proclitic in a language where N’s end in N.

I have been unable to find a clear example of this type. The only instance that I have come across that might qualify is from a description of Sanskrit pre-verbs by P. Anderson 1979. He gives the two positions for Proto-IE pre-verbs as follows (where P = pre-verb and V = verb):

(45) a. # P V #  
    b. # ... PV #

In the latter case, when the verb is accented, as in subordinate clauses, then the pre-verb can be proclitic to the verb; e.g. (p. 31),

(46) ga anu = gmán  ‘They followed the cows.’  
cows clitic = followed.3pl.

This suggests that certain PIE pre-verbs might be Type 6 clitics in certain syntactic configurations, e.g. embedded clauses.

2.8. COMMENTS ON HISTORICAL CHANGE AND THE THREE-PARAMETER SYSTEM. In addition to predicting that there are exactly eight possible configurations in which clitics can appear, the system also predicts that a single change in value for a clitic will characterize certain observed historical changes. This section gives some examples where changes in features of a single parameter are reflected in historical change.

In the examples thus far, parameters vary in terms of their binary values. There is the possibility that parameters might vary in other ways. For example, assume that optional/obligatory features were added to parameters. Then a distinction would be predicted between, for example, 2P clitic placement and enclisis occurring in that position. Consider now some facts from Indo-European. Wackernagel (37) describes IE particles as ‘Quasi-Enklitika’, and explains: ’it seems that many particles were optionally enclitic but still occurred in Second Position.’

In terms of the three-parameter system, changes in the phonological aspect of enclitization are encoded in P3. What may have happened in IE is that P1 and P2, the configurational placement parameters, were operant; but the phonological P3 was optional. Thus positioning of enclitics was permitted without the required phonological attachment to a host. Over time, P3 became obligatory, and 2P particles changed from being ‘Quasi-Enklitika’ to ‘Enklitika’. Of course, this entails that clitic positioning can occur without clitic attachment. If this system is to operate on clitics, then the obligatory/optional feature on P3 would permit clitics without a phonological host, which seems like a contradiction. A possible way to handle this problem would be to constrain the optional/obligatory feature to P3.

Another example where clitics progress from free words into 2P, and then phonologically encliticize, is found in the Type 4 clitics of Tepecano (Uto-Aztecan, Mexico). Steele 1977 describes the clitic as both proclitic to the verb and enclitic to the NP:
This example is from a short grammar of Tepecano written in 1916, which raises some doubts as to the reliability of the data. Nonetheless, the claim is that the clitic pronoun =an= needs two characterizations:

(48) P1: INITIAL     FINAL
P2: AFTER       BEFORE
P3: ENCLITIC    PROCLITIC

These correspond to Type 3 and Type 6 clitics, and they are different on every parameter.

However, rather than proposing two polar characterizations of the same clitic, there is an alternative possibility that Tepecano clitics are of Type 3, but have both values of P3. Another possible analysis is that =an= is Type 4, also with both values of P3 assigned. Consider the implications of each choice. One claims that Tepecano clitics are 2P clitics which can also lean to the right. The other claims that Tepecano clitics are verbal clitics, leaning to the left as well as to the right. Now consider the origin of the clitics as words in initial position. It seems that Tepecano clitics were once positioned where Type 2 clitics appear, with no value for P3. My hypothesis is that Tepecano clitics underwent change from Type 2, with no P3, to Type 4, and then to Type 3. This involves a change in only one parameter at each step, as shown in Table 4.

<table>
<thead>
<tr>
<th></th>
<th>Type 2 →</th>
<th>Type 4 →</th>
<th>Type 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>P1:</td>
<td>initial</td>
<td>initial</td>
<td>initial</td>
</tr>
<tr>
<td>P2:</td>
<td>before</td>
<td>after</td>
<td>after</td>
</tr>
<tr>
<td>P3:</td>
<td>(proclitic)</td>
<td>proclitic</td>
<td>enclitic</td>
</tr>
</tbody>
</table>

I have exemplified clitics of Type 4 with Tepecano =an= on the basis of the assumptions set out in this section. I suggest that this view of the change in the Tepecano clitic is a reasonable possibility, and would explain the seemingly aberrant phonology.

2.9. IMPOSSIBLE CLITICIZATION: INFIXATION AND ENDOCLITICIZATION. Logically, three morphological positions could exist for clitics: the beginning of the word for proclitics, the end of the word for enclitics, and within the word for endoclitics. The first two terms are standard, but the last was introduced by Zwicky 1977. However, since clitics attach to already formed words, they are always extra-inflectional, in the sense that they attach to the rightmost or leftmost extreme of the word. I have shown (Klavans 1979) that clitics can never be ‘infixed’, contrary to Zwicky’s suggestion, and will summarize my argument here.
Pullum & Zwicky,\textsuperscript{12} in some early speculations on the extra-inflectional nature of cliticization, proposed the following general constraint (analogous to that on inflectional affixation in Moravcsik 1977):

\begin{equation}
\text{(49) A rule that attaches an inflectional affix or clitic } C \text{ to a lexical item } L \text{ or a category } A \text{ can only attach it externally, and the resultant configuration must be either (i) or (ii):}
\end{equation}

\begin{enumerate}
\item \( [A \ C = [A \ L]] \)
\item \( [A [A \ L] = C] \)
\end{enumerate}

Pullum & Zwicky then suggested that cases of endocliticization would arise as a result of a Morph Metathesis Operation:

\begin{equation}
\text{(50) All cases of infixation and endocliticization at the phonological level arise from the operation of morph metathesis rules.}
\end{equation}

This would allow endoclitics to be derived as in Figure 22, where a lexical item \( L \) is divided into \( L_1 \) and \( L_2 \) for the purpose of clitic insertion.

\begin{figure}[h]
\centering
\begin{tabular}{c c}
\hline
a. \( [A \ C \ [A \ L]] \) & \( [A \ [A \ L] \ C] \) \\
\hline
b. \( [A \ [L_1 \ C \ L_2]] \) & \( [A \ [L_1 \ C \ L_2]] \) \\
\hline
\end{tabular}
\caption{Figure 22.}
\end{figure}

Klavans 1979 argued against this type of analysis; I showed there that clitics which have class membership (such as a pronoun, verb, or adjective) can be morphologically complex in the same way as other non-clitic words of the same category in the same language. These inflected clitics then bring their affixes along with them when they attach to the host, creating what are apparently endoclitics. To exemplify, take pronominal clitics in Ngiyambaa. The morphological suffix for ‘duality’ in Ngiyambaa is \(-bula\), which can occur with nouns, pronouns, and enclitic pronouns:

\begin{equation}
\text{(51) bura:y-bula dhi:ra-wa-nha } ngiyambaa \text{ ngiya-li.}
\end{equation}

\begin{tabular}{l}
child-DUAL know-getting-PRES Ngiyambaa speak-PURP \\
‘The two children are learning how to speak Ngiyambaa.’
\end{tabular}

\begin{equation}
\text{(52) ngindu-bula dhi:ra-wa-nha } ngiyambaa \text{ ngiya-li.}
\end{equation}

\begin{tabular}{l}
2.NOM-DUAL know-getting-PRES Ngiyambaa speak-PURP \\
‘You two are learning how to speak Ngiyambaa.’
\end{tabular}

\begin{equation}
\text{(53) dhi:ra-wa-nha = ndu-bula } ngiyambaa \text{ ngiya-li.}
\end{equation}

\begin{tabular}{l}
know-getting-PRES = 2.NOM-DUAL Ngiyambaa speak-PURP \\
‘You two are learning how to speak Ngiyambaa.’
\end{tabular}

Taking ex. 53 in purely unanalysed linear terms, there is indeed apparently an ‘endoclitic’, i.e. a host–clitic–suffix sequence. However, the suffix \(-bula\) does

\textsuperscript{12} These speculations were part of a very early draft of Pullum & Zwicky 1984. Although they might not still hold to their original positions, I have chosen to cite their proposed analysis nonetheless. Through their careful work, my own position was clarified.
not arise from the host:

(54) $*[\text{dhi}:rba-wa-bula] \ [= \text{ndu}]$

Instead, -bula is part of the morphologically complex pronoun = ndu, so the correct bracketing is:

(55) $[[\text{dhi}:rba-wa-nha] \ [= \text{ndu-bula}]]$

That is, the clitic = ndu has the dual marker -bula suffixed to it, and the entire clitic–suffix complex is cliticized to the host verb dhi:rba-wa-nha ‘know-getting-PRES’.

The morph metathesis analysis is an unfortunate by-product of viewing cliticization in terms of an unparsed linear string of host–clitic–suffix, without taking into account the fact that the internal structure of the clitic node is [host = [clitic–suffix]]. Portuguese, Turkish, and Beja (a Cushitic language of the Sudan) contain apparent endoclitics which are in fact spurious. In each case, the analysis proceeds as for the Ngiyambaa example above: thus the extra-inflectional requirement on cliticization can be maintained in its strictest form. An endoclitic analysis, requiring a split in the host lexical item, becomes untenable.

Tegey has argued that a Pashto clitic such as de ‘you’ can occur intra-morphemically after the first stressed vowel, as in:

(56) $\text{axista} = \text{de}$

(57) $\hat{\text{a}} = \text{de} = \text{xiستa}$

‘you were buying it’

The root ‘buy’ is $\text{axista}$. The clitic $= \text{de}$ can appear following the verb, $\text{axista}$, as in 56, or following $\hat{\text{a}}$, as in the variant 57. Tegey argues that $= \text{de} =$ appears intra-morphemically. On the basis of a few examples like these, he argues that a syntactic rule of clitic placement must be sensitive to stress and to the internal morphological structure of words. However, Kaisse 1981 argues against Tegey, claiming that the segment $\hat{\text{a}}$, as in 57, is a prefix and thus an independent morpheme. According to Kaisse, clitic placement in Pashto need not reach into the intra-morphemic structure of the word. Rather, clitic placement is inter-morphemic.

The endocliticization facts follow from the three-parameter system in the following way. Consider that each parameter is binary, and specifies a particular attachment to the periphery of a specified element within a phrase. The notion of periphery is encoded in P2, BEFORE/AFTER. Note that there is no choice WITHIN. The result is that clitics can attach only to the right or left of a chosen lexical item, never inside the host.

**Lexical representation of clitics**

3. Thus far I have assumed that the items used to exemplify the category ‘clitic’ are in fact clitics. However, I have given no definition of exactly what counts as a clitic, or of what does not qualify. This is a serious problem which prevails in much of the work on clitics (see Zwicky 1977, Zwicky & Pullum
There is no criterial definition, but rather a list of tendencies, general characteristics, and typical features such as 'are loosely phonologically bound to a word' or 'occur in second position'. Therefore it is unclear whether problem cases, such as clitics in Romance, can be dismissed as non-clitics. Clearly, a constrained characterization is needed to determine what items fall within the domain of a theory, and what items are excluded. Here I formulate the preliminary outline of an analysis leading to a more explanatory theory of clitics within a theory of morphology (see also Klavans 1983).

I have shown how certain clitics attach to host words via phrasal nodes. In Table 1, note that the domain of cliticization for the first parameter is most often S or N'. Only in the Romance case is the domain V. This observation has led me to propose that cliticization is actually affixation at the phrasal level. Translating this into a theory of morphology, such as that of Lieber 1980, the key difference between word-level affixes and clitics is that affixes subcategorize at the lexical level. For example, a prefix like Eng. in- will have a lexical representation which includes this frame:

\[
(58) \text{PREFIX: \textit{in-} category/subcategorization } [A \rightarrow [A]
\]

Similarly, a suffix like -ive, which attaches to Latinate verbs, will have this frame:

\[
(59) \text{SUFFIX: \textit{-ive} category/subcategorization } [V \rightarrow \text{[+Lat]}]_A
\]

In contrast, clitics subcategorize for phrasal hosts, so the subcategorization frame includes a phrasal element. The form of an enclitic frame would be:

\[
(60) x'\left[\text{[---]}_x = \text{enclitic}\right]
\]

Given this format, Wackernagel's Law follows from the lexical subcategorization frame for 2P clitics. Consider again clitics from Ngiyambaa; e.g.,

\[
(61) \text{ngadhay = ndu guya dha-yi.} \quad \text{tasty = 2.NOM fish eat-PAST} \quad \text{‘You ate a tasty fish.’}
\]

\[
(62) \text{ngadhay guya = ndu dha-yi.} \quad \text{tasty fish = 2.NOM eat-PAST}
\]

For a clitic like = ndu, the subcategorization frame as applied to 61 is:

\[
(63) [s \left[\text{[\text{ngadhay]}_N, \text{[ndu]}_N' = \text{ndu}\right] \ldots ]
\]

When the host is truly a phrase, as 62, the subcategorization frame is instantiated as:

\[
(64) [\left[\text{[ngadhay guya]}_N, \text{[ndu]}_N' = \text{ndu}\right] \ldots ]
\]

The same subcategorization frame is applicable to any other phrasal enclitic, such as the possessive enclitic in English, or for a negative enclitic like Navajo = hanii, an NP modifier.

In contrast, a frame for a proclitic will have the form:

\[
(65) \text{[proclitic = } x'\left[\text{[---]} \right] \text{]}\]

An example of a proclitic is the Greek article ho:

\[
(66) \text{hoi agathoi Spartioi ‘the strong Spartans’}
\]
The lexical entry for a phrasal proclitic like this will include a frame looking something like:

\[(67) \left[ [\text{DET hoi}] = \text{N} \right] \text{agathoi Spartioi} \]

By expressing the phrasal aspects of cliticization within the lexical entry for a clitic, P1/P2 are directly expressed in the entry itself. In this way the morphosyntactic aspects of clitic attachment are separable from the phonological ones.

Since I claim that cliticization is actually phrasal affixation, a reflection of this fact would naturally be expected to appear in the lexical representation of all true clitics. Most of the clitics that I have researched do, in fact, attach to phrasal nodes. The only thorny exception thus far is found in Romance verbal clitics, which appear to have V, not V', as the relevant domain. In earlier work, I proposed a constraint on the lexical representation of clitics, arguing that a phrasal requirement on the domain of cliticization was by necessity part of the lexical representation of clitics. However, my later work indicates that the phrasal requirement might be too strong, because it would eliminate the Romance type of verbal clitics. I now hold that the non-phrasal domain for just these clitics reflects that they are in fact truly verbal features (Borer 1981). This change in the label of the subcategorizing bracket from V' to V indicates that these clitics are becoming affixes, which is reflected in the fact that they have insertion requirements resembling those for other verbal affixes.

**Conclusion**

4. I propose an analysis of clitics in terms of three binary parameters. Previously, it has been claimed that two and only two strategies are available for clitic placement: sentential second placement position, or attachment to a specified lexical item. This paper shows that those two strategies are inadequate. Examining a variety of clitics from a typologically diverse set of languages shows the value of the three-parameter system, which encodes the structural notions DOMINANCE and PRECEDENCE, and the phonological feature LIAISON. I have demonstrated how this system provides a way to analyse previously perplexing phenomena—such as clitics with dual citizenship, or the observed historical drift of clitics from words to affixes. I suggest that cliticization is phrasal affixation, and that this property follows from the form of the lexical subcategorization frame of clitics.

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SYNTAX AND PHONOLOGY IN CLITICIZATION


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