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Morphology and cliticization in Chalcatongo Mixtec

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Morphology and Cliticization in Chalcatongo Mixtec

By

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This dissertation is

dedicated to the memory of

Buster Macaulay,

King of Cats

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Abbreviations

1 - First person
2 - Second person
3 - Third person
ADD - Additive
ADJ - Adjective
CAUS - Causative
CFACT - Counterfactual
CL - Clitic
COMP - Complementizer
COP - Copula
CP - Completive
EMPH - Emphatic
F - Feminine
HAB - Habitual
INCHO - Inchoative
INT - Interrogative
ITER - Iterative
M - Masculine
Mn - Mixtecan
N,n - Noun
NEG - Negative
NEG/SJ - Negative Subjunctive
NOM - Nominalizer
OM - Otomanguean
PL - Plural
pM - ProtoMixtec
pMn - ProtoMixtecan
pOM - ProtoOtomanguean
POT, P - Potential
PROG - Progressive
QU - Quotative
R - Realized
REP - Repetitive
RES - Restrictive
RESP - Respect
SG - Singular
SJ - Subjunctive
TEMP - Temporal
TOP - Topic
V - Verb
vi - Intransitive Verb
vt - Transitive Verb

Chapter 1

Introduction

1.1 General Remarks

This dissertation has two primary goals. The first of these is descriptive: to provide a partial sketch of the Chalcatongo dialect of the Otomanguean language Mixtec, with an emphasis on morphology and cliticization. The number of dialects of Mixtec which have been described in any detail is still quite small, and so this dissertation will contribute to our knowledge of the diversity of this language.

The second goal is both theoretical and descriptive. One of the main points to be made is that it is extremely important to define carefully the nature and characteristics of the morphological elements utilized in linguistic description. This dissertation includes some exploration of the characteristics of various types of morphemes, especially of the ill-defined category "clitic." Precise delineation of such categories is especially important in description of a language like Mixtec, which makes use of a wide

variety of morphological elements: from free words to fossilized remnants of previously productive forms, with a range of categories in between. The identification and characterization of these intermediate categories is one of the central tasks undertaken in this dissertation.

It is precisely the failure to identify the types and status of the morphological units of Mixtec that has been the shortcoming of previous analyses of the structure of this language.[1] Confusion of diachronic and synchronic analysis has at least in part been to blame for this failure. While we will find that Mixtec is a language whose synchronic state cannot be adequately described without some understanding of the forces which have shaped (and which continue to shape) its grammar, we will also see that it is a language for which it is of paramount importance to keep diachronic and synchronic analyses separate. This dissertation will incorporate information from both the diachronic and the synchronic dimensions, but will emphasize the importance of maintaining the distinction.

The dissertation is divided into two parts: Part I covers general introductory material, including a very abbreviated sketch of the language (minus information on morphology and cliticization), as well as discussion of theoretical issues having to do with "clitics" and "cliticization." Part II then focuses on various aspects of Chalcatongo Mixtec morphology (inflectional and derivational), as

well as on a type of clitic which we will call the "phrasal affix."

1.2 Mixtec Dialect Differentiation

Mixtec is spoken by approximately 250,000 people in south-central Mexico,[2] primarily in the state of Oaxaca, and extending also into parts of Puebla and Guerrero. The dialect to be described here is that spoken in the town of Chalcatongo, located in the Tlaxiaco district of Oaxaca (see Maps 1 and 2, p. 14).[3]

Dialect differentiation in Mixtec is extreme. The dialects make up what Terrence Kaufman[4] calls a "language complex," as opposed to a single "language." Use of this term is meant to convey the notion that it constitutes a continuous language area (in that there are no sharp boundaries over which intelligibility is lost), yet that at the same time it exhibits mutual unintelligibility between groups of dialects. (Distance between dialects is no guarantee of mutual unintelligibility, however. Geographically distant dialects may show surprising similarity, due to the "leapfrogging" nature of Mixtec territorial expansion.)[5]

The Mixtec-speaking area (known as the "Mixteca") can be divided into five gross dialect areas: Alta, Baja, Coast, Puebla, and Guerrero Mixtec, as shown in Map 3 (p. 15). Josserand 1983, a comprehensive survey of Mixtec

dialect history, makes further subdivisions of the Mixtec-speaking region (for particulars the reader is referred to her Chapter 7, especially pp. 462-471). The Chalcatongo dialect described here falls into the Mixteca Alta group (Josserand's "Western Alta").

Hinton (1987) is a pilot study of dialect distinctions in the Chalcatongo-San Miguel area (see Map 4, p. 16).[6] By tracing the distribution of a single segment ([nʸ]), Hinton shows that dialect differences are the strongest at the political boundary between Chalcatongo and San Miguel, and less strong in the centers of each area. Thus differentiation is increased when the degree of separation is the least, contrary to the assumption of classical historical linguistics that differentiation is in part due to the magnitude of the degree of separation. Hinton concludes that these dialect distinctions (along with several other cultural patterns) function as markers of group identification, and that such identification is most important at the point of contact. Some of the particulars of Hinton's phonological findings are discussed further in Chapter 2.

1.3 Classification of the Otomanguean Languages

The classification of the Otomanguean languages and language families which appears below is fairly well agreed upon at this point in time. One area in which there is some

disagreement is subgrouping within the Mixtecan languages themselves.[7] This will be discussed briefly below.

1. Mixtecan
   - Mixtec
   - Cuicatec
   - Trique

2. Popolocan
   - Mazatec
   - Popolocan
     - Popoloca
     - Chocho
   - Ixcatec

3. Chiapanec-Mangue (extinct)
   - Chiapanec
   - Mangue

4. Otopamean
   - Otomían
     - Mazahua
     - Otomí
   - Matlatzincan
     - Matlatzinca
     - Ocuilteco
   - Pamean
   - Chichimec

5. Zapotecan
   - Zapotec
   - Chatino

6. Chinantecan

7. Amuzgo

8. Tlapanec-Subtiaba

Campbell (1979) and Kaufman (class notes) both differ from the classification presented above in subdividing Mixtecan such that Mixtec and Cuicatec are grouped together,[8] and set off from Trique:

Mixtecan
  Mixtecan
    Mixtec
    Cuicatec
  Trique

Josserand (1983:99-101) summarizes the arguments which have been made for and against such internal subgrouping in Mixtecan, most of which have been based on glottochronological analyses. Her position on this topic is as follows:

> Shared innovations are the only acceptable basis of linguistic subgrouping; lexicostatistics should be used for dating separations and for indicating special relationships, not for subgrouping in the genealogical sense. To date, no one has presented an ordered set of innovations which would properly account for the sequential diversification of Mixtecan, and thus reveal the internal classification of these languages (1983:101).

Thus, internal subgrouping in the Mixtecan branch of Otomanguean is still an open question. Resolution of this issue, however, does not affect the material to be discussed in this dissertation.

1.4 Consultants

I first started working on Mixtec in 1981, in a Field Methods class directed by Professor Leanne Hinton. Our consultant was Luciano Cortés Nicolás, currently age 29, a native of Chalcatongo who now resides in Berkeley, California. Mr. Cortés has remained my primary consultant, and I am grateful to him for providing a large part of the data upon which this dissertation is based.

Most of the data which appear in this dissertation were elicited as single sentences, since Mr. Cortés has not been able to provide much textual material. I have also made use of a text on the origins of the town of Chalcatongo, dictated by another speaker, Crescenciano Ruíz Ramirez. With respect to these two types of data, I should state that I am not entirely in agreement with the position which holds that data from texts are the only valid language data.[9] I would agree that textual material is to be preferred, especially with respect to questions of word order and syntactic structure, but, unfortunately, a corpus derived exclusively from texts often lacks the crucial examples needed to resolve some problem, especially when it is a morphological problem. The likelihood that one will encounter all morphological possibilities in dictated texts is small, rendering the need for sentence-based elicitation all the more vital. This dissertation proceeds under the assumption that consultants' judgments about elicited data have validity, and can be relied upon.

I have made two trips to Mr. Cortés' village; one in 1982 and one in 1985. Mexican states are divided into districts (akin to our counties, and known as "ex-distritos"), and these are further divided into "municipios." Chalcatongo is the head of a municipio located in the district of Tlaxiaco. The town has approximately 1,000 residents, while the municipio of which it is the head has

approximately 8-10,000.[10] The inhabitants of the town of Chalcatongo are either bilingual in Spanish and Mixtec, or are monolingual Spanish speakers. Market day (Sunday) draws people from many of the surrounding towns and "rancherías" (small settlements of perhaps five to ten families, which are part of the municipio of Chalcatongo), some of whom are monolingual Mixtec speakers.

My main consultants in Chalcatongo have been Margarita Cuevas Cortés, age 33, and Crescenciano Ruíz Ramirez, age 56.[11] Both are bilingual natives of Chalcatongo. Because of the dialect variation noted above, I have tried to use Mr. Cortés as my central consultant for material cited in this dissertation (with the exception of examples drawn from the text mentioned above), and I have had him verify data which I gathered from others. Any instances in which this has not been possible, or in which the consultants have differed, will be noted.

1.5 Sources of Data on Other Dialects of Mixtec

There is a fairly large body of scholarship on the Mixtec language, ranging from a few grammars and dictionaries to many shorter pieces on particular topics, and including several major works on historical topics.

In this dissertation I make use of the following dictionaries and grammars:

1. Alexander 1980, Gramática Mixteca: Mixteco de Atatláhuca; probably the best and most thorough Mixtec grammar, it is concerned with the dialect spoken in Atatláhuca (a town quite close to Chalcatongo -- see Map 4, p. 16), but includes only an eight-page vocabulary.

2. Bradley 1970, A Linguistic Sketch of Jicaltepec Mixtec; a fairly thorough sketch, but no vocabulary section.

3. Daly 1973a, A Generative Syntax of Peñoles Mixtec; this study is not particularly useful due to the outdated and cumbersome formalism used, but it does contain a small lexicon.

4. Dyk and Stoudt 1965, Vocabulario Mixteco de San Miguel el Grande; a dictionary of the dialect closest to that of Chalcatongo.

5. Hinojosa 1977, Mixteco de Santa María Peñoles, Oaxaca; a grammar compiled by the Archive of Indigenous Languages of Mexico, based on data collected by Daly. It presents morphology and syntax by means of numbered sentences (with no discussion), corresponding to a questionnaire composed by members of the Archive, and it includes a 200-item word list.

6. Pensinger 1974, Diccionario Mixteco: Mixteco del Este de Jamiltepec, Pueblo de Chayuco; a dictionary of a dialect quite distinct from that of Chalcatongo.

7. Stark Campbell (et al) 1986, Diccionario Mixteco de San Juan Colorado; a dictionary of another dialect spoken in the district of Jamiltepec.

I have also made considerable use of Josserand 1983 (Mixtec Dialect History), both for its value as a source of information on Mixtec dialects, and as an indispensable source of data (the author presents 188 cognate sets, with data drawn from approximately 120 different dialects).

1.6 Outline

Part I: Chapter 2 consists of a brief sketch of Chalcatongo Mixtec phonology, including discussion of the rapid speech phenomenon of contraction.[12]

Chapter 3 provides syntactic and semantic information which will be relevant to later discussion. This includes discussion of word order, subordination, and types of predicates.

Chapter 4 presents the problem of the definition of the terms "clitic" and "cliticization." These are terms which often go undefined in linguistic descriptions, and which have been used loosely with respect to Mixtec. The problem

of careful delineation of the category (or categories) "clitic" has been the subject of a great deal of study in recent years (e.g. Zwicky 1977, Klavans 1980, Kaisse 1985, Nevis 1985, and others). In this chapter I discuss various proposals for a typology of clitics, as well as proposals for new terminology and categories. This issue is a critical one for the description of Mixtec, since the language manifests several of the distinct phenomena which have been lumped together under the term "clitic."

Part II: In Chapter 5 I describe the "phrasal affixes" (a type of clitic; to be defined in Chapter 4), of which there are several in Mixtec. Inflection and productive derivation are the subject of Chapter 6, and Chapters 7 and 8 investigate questions of the proper synchronic analysis of two types of fossilized or frozen morphology in Chalcatongo Mixtec: the noun classifiers and the aspect markers. Finally, Chapter 9 presents some concluding thoughts, specifically with respect to assessment of Pike's classic (1944) work on Mixtec, "Analysis of a Mixteco Text."

-- Notes --

1. E.g. Pike 1944; see Chapter 9.

2. Josserand (1983) says that the 1970 census showed 233,245 Mixtec speakers, and adds that "this is almost certainly a very conservative figure" (1983:102).

3. Maps 1 and 2 are adapted from Alexander (1980: 111-112), and Stark Campbell et al (1986:205-206).

4. (Class notes.)

5. See Josserand 1983:103-105.

6. Map 4 is modeled after a map drawn by Danny Klein, and is used with his permission. The dotted line indicates the approximate boundaries of the district of Tlaxiaco.

7. This classification is primarily drawn from Campbell (1979:915-916), and augmented by Josserand (1983) and Kaufman (1983 and class notes). Huave is sometimes included as a ninth branch, but its membership in Otomanguean is dubious.

8. Earlier classifications (e.g. Swadesh 1960) claim that Mixtecan is composed of Mixtec, Cuicatec, and Amuzgo, with Trique a branch on the level of Mixtecan. Longacre (1966) argues against the inclusion of Amuzgo in Mixtecan. See Josserand 1983:95-101 for extensive discussion of theories of Otomanguean diversification.

9. E.g. Heath 1984, who says:

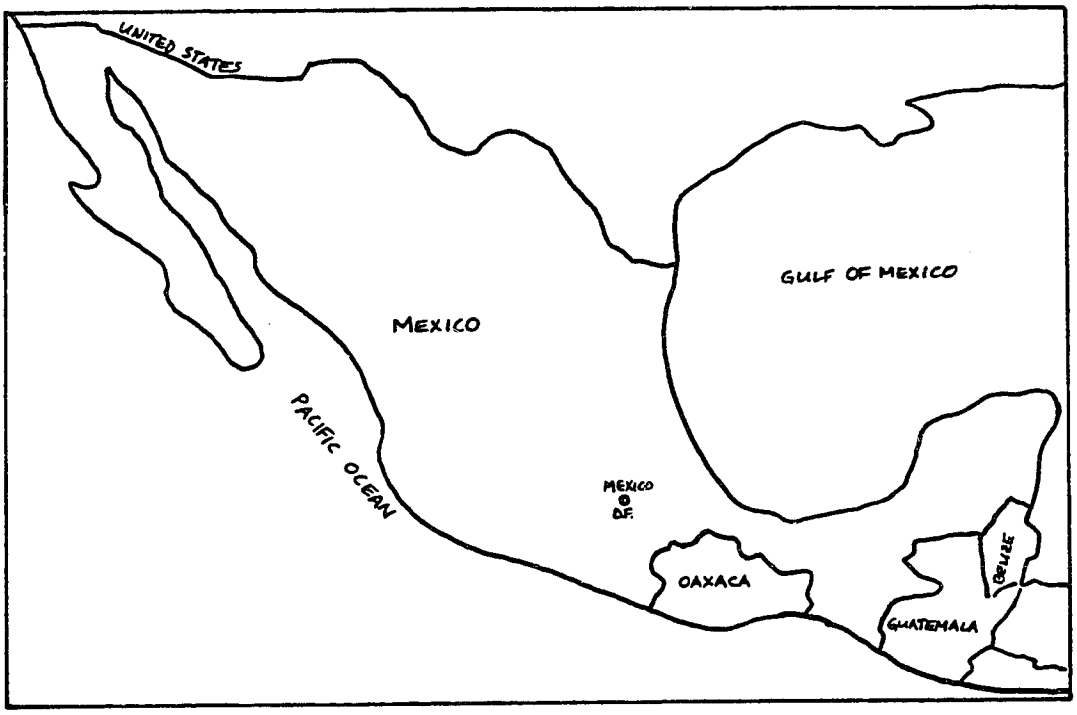
> [My concern with documentation] reflects my experience that most published grammars are based on material obtained in unreliable direct-elicitation (sentence-translation) sessions (1984:5).

Even Heath acknowledges, however, that one must make use of elicited data "in various places where no suitable textual [example] was available or for other reasons" (1984:5).

10. These figures are based on Ayre 1977, as well as Mr. Cortés' own estimates. Ayre's data is from the 1970 census, so the figures quoted can only serve as very rough estimates of the current population.

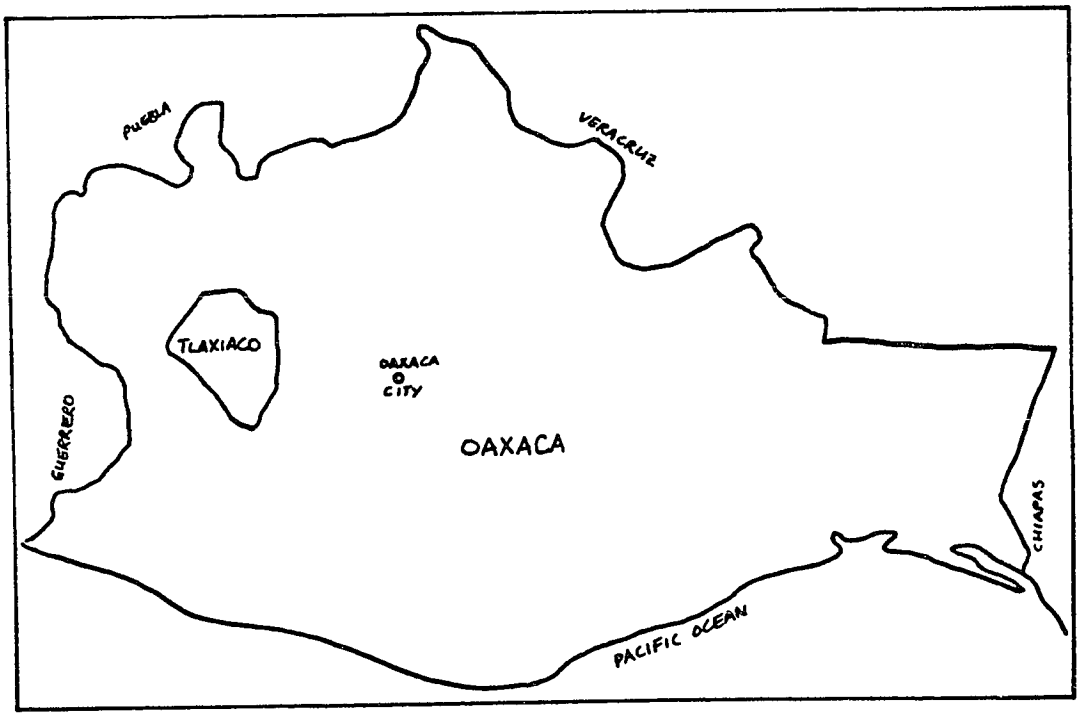
11. These are their ages as of 1985, my most recent contact with them.

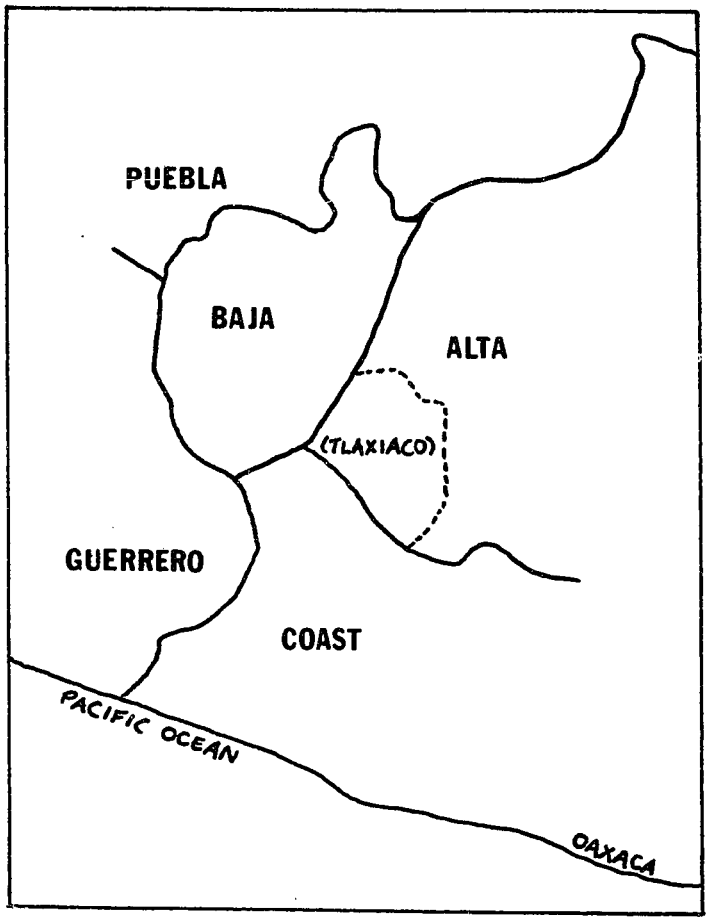
12. This process is sometimes termed "cliticization" (e.g. in Pike 1944). For reasons which will become obvious, I want to avoid use of this term for now.



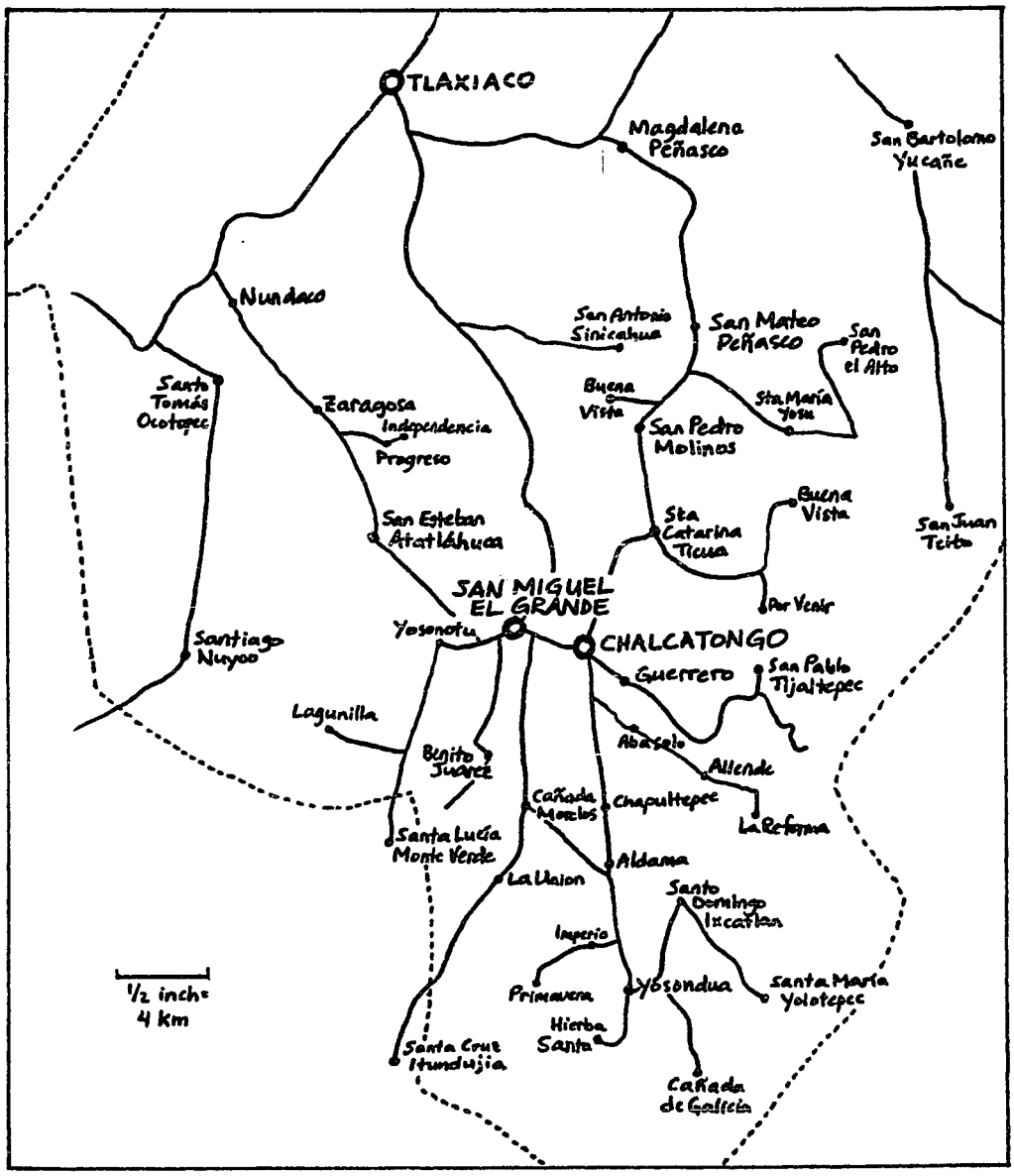
MAP 1: REPUBLIC OF MEXICO

MAP 2: STATE OF OAXACA





MAP 3: MIXTEC DIALECT AREAS



MAP 4: CHALCATONGO AND SURROUNDING AREA

Chapter 2

Phonology

This chapter presents a sketch of the phonology of Chalcatongo Mixtec which attempts to describe the phonological system of the typical Chalcatongo speaker. However, as discussed in Chapter 1, dialect variation exists even within the town of Chalcatongo. Instances of such variation are noted below.

2.1 Vowels

Table I shows the vowel phonemes of Chalcatongo Mixtec. /e/ and /o/ occur much less frequently than the other vowels do, and have no phonemically nasal counterparts.[1] /e/ has the variant [ɛ], and /o/ has the variant [ɔ].

2.2 Consonants

Table II illustrates the consonant phonemes of Chalcatongo Mixtec. Discussion of consonant distribution and allophonic variation follows the tables. A series of minimal pairs is presented in Appendix A.

i ĩ	ɨ ɨ̃	u ũ
e		o
	a ã	

TABLE I: VOWELS

Stops					
Voiceless		t	k	kW	?
Voiced	b	nd			
Nasals	m	n	ñ		
Lateral		l			
Flap		r			
Fricatives					
Voiceless		s	š		h
Voiced			(nž)		
Affricate			č		
Continuants			y	w	

TABLE II: CONSONANTS

2.2.1 Distribution

The consonant inventory presented in Table II constitutes a remarkably asymmetric system; most specifically in the pattern (or lack thereof) in voicing and pre-

nasalization of stops. Two points are relevant here. First, when allophonic variants of several of the segments are considered (these are presented below), many of the gaps in the table are filled in. Second, this kind of asymmetry is characteristic of the consonant inventories of Mixtec dialects in general. This is illustrated in Appendix B, which presents for comparison the consonant charts of six other Mixtec dialects. Comments on the data in this appendix appear below where relevant.

Stops: /b/ is occasionally realized as [mb] or [p] word-initially, and becomes [β] intervocalically.[2] As the reader may have noticed from Appendix B, in all of the other dialects voicing entails prenasalization. This analysis would be misleading for Chalcatongo Mixtec, however, since the behavior of /b/ and /nd/ both initially and intervocalically is not parallel. /nd/ is always prenasalized, and has no fricative allophone. Some authors use /β/ in place of /b/ (usually orthographic "v"), but in the Chalcatongo dialect this would simply move the asymmetry to a different row: at least in the speech of some Chalcatongo speakers, the only voiced fricative is a prenasalized one. (Also note that two of the dialects in Appendix B show both /β/ and /mb/.)

/t/ is dental and unaspirated, and /k/ is optionally aspirated. The latter has the allophone [ŋg] between nasalized vowels (cf. /čɨ̃kɨ̃/ [čɨ̃ŋgɨ̃] 'curly' and /čɨkɨ/ [čɨkɨ]

'prickly pear'). /?/ appears intervocalically, and word-medially preceding /m/, /n/, or /l/: ba?a 'good', ká?mu 'to burn', ká?nu 'big', tí?lu 'small'.[3] /nd/ is considered a unit phoneme, and varies between [nd] and [nt] for some speakers.[4]

Fricatives: Josserand (1983:265-266) shows that Chalcatongo is located within the geographical area in which Proto-Mixtec *s > š preceding *i (and possibly preceding other front vowels). The existence of some instances of /s/ before /i/ and /š/ before other vowels in the present-day lexicon of Chalcatongo Mixtec reflects the fact that this rule is no longer productive.

/s/ is found before /i/ in words borrowed from Spanish (e.g. [siya] 'chair', from Spanish "silla"), and in derived words in which causative s- precedes a verb with first syllable hi-: hínu 'finish (vi)', sínu 'finish (vt)'.[5] /š/ is found preceding vowels other than /i/ in a small number of examples, such as šá?ba 'ravine', šã?ã 'grease', šuù 'buttocks', and šú?ú 'money'. Examples of /s/ before /i/ and /š/ before other vowels are still relatively rare, however.[6]

/nž/ will be discussed in the next section. Finally, [x] is in free variation with [h], and choice of /h/ as primary is based on frequency of occurrence.[7]

Continuants: /y/ varies freely between [ǰ], [ž], and [y] word-initially, and between [ž] and [y] intervocalically. /nž/ is phonemic (and distinct from /y/) in the speech of some Chalcatongo speakers; those who do not have /nž/ have /y/ (or /ñ/ - see below) in all instances. Thus we find in the Chalcatongo dialect both tunža and túyáa 'to roll (vt)'. Hinton (1987) traces the development and distribution of /nž/, /y/, and /nǰ/ in Chalcatongo and San Miguel Mixtec. Her findings indicate that there was a sound shift in both of these dialects such that *nd > nǰ/__*æ. San Miguel speakers have retained /nǰ/,[8] but this segment is in the process of merging with /y/ (and /ñ/) for Chalcatongo speakers. /nž/ is one of the artifacts of this process, and is only present in the speech of some speakers.[9]

As mentioned above, both [y] and [ñ] take part in the alternations associated with /nž/. This is demonstrated in the word 'to cut', pronounced [ká?ya] and [ká?ña] by different Chalcatongo speakers, as well as in the differing pronunciation of the word for 'fingernail' by Chalcatongo speakers ([tĩyṹ]), as opposed to San Miguel speakers ([tíñu]). Kaufman (1983:13) points out that "[i]n some kinds of Mixtec /y/ has an allophone [ñ] before nasal vowels." However, in Chalcatongo Mixtec nasalization of the following vowel is not necessarily present in words with [ñ] -- in fact, the correspondence between vowel nasalization and occurrence of [y] or [ñ] in the word for 'fingernail'

just cited is precisely the opposite. It is perhaps significant with respect to Kaufman's observation that there are no words in my corpus in which /y/ is followed by a nasal vowel, but /ñ/ is nonetheless found to be followed by both nasal and oral vowels. For example, we find minimal pairs such as [ñą?ą] 'woman' and [yą?ą] 'here, this', which indicate that /ñ/ and /y/ are synchronically separate segments in this dialect of Mixtec. Different speakers have apparently assigned the reflex of the sound shift described by Hinton (*nd > nʸ/__*æ) to different phonemes; some to /y/, and others to /ñ/.

Consonants with extremely limited distribution: /m/ occurs in initial position, in the context V?__V, and intervocalically, but is quite rare, appearing in only a few native words . /l/ appears word-initially in a small number of words, intervocalically in a few other cases, and after /?/ in one word (tí?lu 'small').[10] /r/ appears in three pronouns, and in two other words. It is realized as a flap in the first and second person pronouns: ru?u - 1Sg (corresponding clitic -ri) and ro?o - 2Sg (corresponding clitic -ro). The variant [ð] appears in the third person masculine clitic [-ðe] (which is phonemicized as /-re/ in all data to follow).[11] /r/ has one other allophone: a retroflex fricative for some speakers, and a trill for others. It only appears before /±/, in [r̥±±] (or [r̃±±]) 'sheep' and [r̥±k±] (or [r̃±k±]) 'sound of a woodpecker'.[12]

/w/ occurs only in two demonstratives, wãã́ 'that one', and wáã̃ 'over there, then'.

Loans: A few loan phonemes occur which are not listed in Table II. /p/ is found in the words páa 'godfather' (which may be related to Spanish "compadre"), pero 'but' (Spanish "pero"), primá/primú 'cousin' (Spanish "prima"/ "primo"), and pañú 'shawl', which presumably has as its source Spanish "paño" 'cloth, drapery', or perhaps "pañuelo", 'shawl, handkerchief'. In addition to /p/, there is at least one borrowing with /ɸ/: ɸuersá 'strength, force', from Spanish "fuerzo". Finally, /ɣ/ occurs medially in at least one loanword: [triɣú] 'wheat' (Spanish "trigo").[13]

2.2.2 Consonant Clusters

Consonant clusters are generally disallowed in all varieties of Mixtec. By far the most common clusters which do occur are those which are stem-initial and consist of /s/ plus another segment. Only /st/ and /snd/ are found in monomorphemic words in Chalcatongo Mixtec, with various other combinations being produced by prefixation of the causative s- to a consonant-initial verb. Some examples are: staà 'tortilla', sndɨkɨ 'bull', s-kee 'make-eat'

("feed"), s-ndáhi 'make-wet' ("wet," vt), and s-čó?o 'make-cook' ("cook," vt).[14]

In addition to clusters with initial /s/, there are a few instances of [nč]; all of these occur in what Hinton (1987) calls "disguised Spanish loans." She lists the following:[15] tilúnči 'papalomey - type of edible maguey' (Spanish "golosina" plus prefix), túnči 'deep hole' (Spanish "tunel" plus suffix), lánči 'sheep, sheep corral' (Spanish "lana" plus suffix), and sančao 'Yosondua' (a town near Chalcatongo; Spanish "Santiago").

Consonant clusters in borrowings from Spanish are retained, even when the particular combination is not found in native words. For example: /tr/ in triɣú, 'wheat' (Spanish "trigo"), /ðr/ in peðrú 'Pedro', etc.

2.3 Syllable and Stem Canon

Syllable structure in Chalcatongo Mixtec is restricted to V, CV, non-final CCV (in the few cases where clusters are allowed (see above)), or non-final CV?. Josserand (1983:176-179), following Bradley,[16] analyzes /?/ as a prosodic feature of the vocalic nucleus, resulting in a distinction between open and checked syllables. This results in four parallel series of vowels when nasalization is taken into account: plain oral, plain nasal, checked oral, and checked nasal.[17] The apparent motive for this analysis is

the resultant simplification of generalizations about variation in Mixtec syllable structure, as well as ease of reconstruction of protoforms. I will continue to consider /?/ a member of the consonant inventory, but its peculiar distributional characteristics should be kept in mind.

All stems are formed of at least two syllables, with possible disyllabic combinations restricted to the following types:[18]

(1) VV: uù 'two', uá 'bitter'
CVV: čàà 'man', saù 'rain'
CVCV: kɨ̱tɨ̱ 'animal', ba?a 'good'
VCV: una 'eight', u?ù 'to hurt'
CV?CV: ká?nu 'big', kó?lo 'turkey'

Stems of more than two syllables are also found, and their composition is a major issue in the chapters of Part II.

2.4 Tone and Tone Sandhi

Chalcatongo Mixtec has three tones, high (´), mid (unmarked), and low (`).[19] Phonetically long vowels (e.g. the VV sequences in (1), above) are analyzed as disyllabic, and each vowel carries a single level tone. Tonal contours over such phonetically long vowels are analyzed as sequences of distinct level tones.[20]

Tone sandhi is extensive in all dialects of Mixtec. A preliminary survey of tone sandhi in the Chalcatongo dialect

is made in Faraclas 1983, but I have not been able to replicate his results. (One set of these results is presented below.) In fact, I have not been able to find any consistent sandhi patterns in the Chalcatongo data at all. It may be that the sandhi rules are so complex that I have not yet been able to see the regularities in them -- this would not be surprising, considering the complexities of the tone systems of Peñoles and Diuxi Mixtec as presented in Daly 1973a and 1978. Another possibility is that the tone system is beginning to erode. There appear to be complex interactions of tone and stress in Mixtec, which may bear on this issue, and certainly comprise an important area for future research.

I have investigated the tone sandhi effects of all of the bound morphemes (affixes and clitics) to be discussed in this dissertation. In most cases, the results are inconclusive. I will present here as an example of the apparent inconsistency of tone sandhi in Chalcatongo Mixtec the results of one such investigation: the effects of the Completive prefix ni- on following verb stems.[21] In the interest of saving space, tone sandhi will only be mentioned in subsequent chapters when there is some regularity to report, a fairly rare occurrence.

Most studies of tone sandhi in Mixtec[22] have documented the tone perturbations which one disyllabic word causes on another. It is not surprising that such studies tend to

focus on this configuration, since many of these authors believe that there is a full (disyllabic) word underlying all monosyllables in the language.[23] Alexander (1980) and Faraclas (1983), however, describe the perturbing qualities of inflectional affixes on following material, as well as those of full words on other full words. Alexander's account of tone sandhi in Atatláhuca Mixtec (spoken less than ten miles from Chalcatongo) first sets up classes of disyllabic words corresponding to the pattern of the word's two tones (the "tone couplet" of Pike 1948). Sandhi is then predicted by the regular interaction of the various classes. Alexander says that Completive ni- behaves like a disyllabic word of class "C",[24] which has the following sandhi effects:

(2) H-H > L-H
H-M > MH-M
H-LL > MH-LL
M-x > L-x

[Tones: H = High, M = Mid
L = Low, LL = Extra-low,
MH = Mid-high rise,
x = any tone]

Thus, a high-high stem prefixed with ni- is perturbed to low-high, a high-mid stem is perturbed to (mid-high) rise-mid, and so on. The net effect is to lower the first tone of the following word to some degree, if its tone pattern is one of those listed. In all other cases, the original tone pattern is preserved.

While one would not expect to find precisely the same results in another dialect, the fact that the sandhi conditioned by ni- is so regular in a dialect spoken only a few miles from Chalcatongo would undoubtedly lead one to

expect some kind of regular result in that dialect as well. Indeed, Faraclas, who includes ni- in the group of five preverbal monosyllables whose sandhi effects he presents, generalizes that ni- has the effect of perturbing one of the tones of the following verb downward. Specifically, his Table 9 (1983:331) includes the following results:[25]

(3) ni- + H-M > L-M
ni- + H-H > L-H
ni- + M-H > M-L

As I said above, I have not been able to replicate Faraclas' results.[26] My study of the perturbing effects of ni- in the Chalcatongo dialect involved 174 instances of sentence-initial verbs in Completive aspect. (Sentence-initial verbs were chosen to avoid the possibility of sandhi effects from preceding words). Tables III and IV illustrate my results; Table III with disyllabic verbs, and Table IV with trisyllabic verbs. In each table, the horizontal axis represents the original tone pattern of the verb stem. The vertical axis is the tone pattern which results after prefixation by ni-.

Stem Tone:		HH	HM	MH	MM	ML
Result:	HH	15	11	1	2	-
	HM	1	22	1	3	1
	HL	-	-	-	-	-
	MH	4	3	6	1	-
	MM	6	16	5	8	-
	ML	-	2	-	1	2
	LH	-	-	-	-	-
	LM	1	1	2	-	-
	LL	-	1	1	1	1
	n=	27	56	16	16	4

TABLE III

Stem Tone:		HHM	HMH	HMM	HML	HLL	MHH	MHM	MMH	MMM	MLL	LLL
Result:	HHM	2	-	1	-	-	-	1	-	-	-	-
	HMH	-	1	-	-	-	-	-	-	-	-	-
	HMM	-	-	1	-	-	-	-	-	-	-	-
	MHH	1	-	2	-	-	7	1	-	1	-	-
	MHM	1	2	4	-	-	1	7	-	-	-	-
	MMH	-	2	1	-	-	-	-	2	-	-	-
	MMM	1	-	4	-	2	-	-	-	1	-	-
	MML	-	-	-	1	-	-	-	-	-	-	-
	MLL	-	-	2	-	-	-	-	-	-	2	-
	LHM	-	-	-	-	-	-	1	-	-	-	-
	LMH	1	-	-	-	-	-	-	-	-	-	-
	LMM	-	-	1	-	1	-	-	-	-	-	-
	LML	-	-	1	-	-	-	-	-	-	-	-
	LLL	-	-	-	-	-	-	-	-	-	-	1
	n=	6	5	17	1	3	8	10	2	2	2	1

TABLE IV

The best generalization one can make from these tables is that verb stems tend to retain their tone pattern after

ni-. However, given the number of cases in which this is not true, these tables would seem to indicate that there is really no consistent tonal perturbation conditioned by this prefix. As an example, consider the result of attaching ni- to a stem with high-mid tones (see Table III). There are seven possible outcomes: high-high (11 instances), high-mid (or, no change -- 22 instances), mid-high (3 instances), mid-mid (16), mid-low (2), low-mid (1) and low-low (1).[27]

Comparing the data in Table III with Faraclas' results (as illustrated in (3)), we find that there is only one instance of the predicted HM > LM, and that there are no instances of either HH > LH or MH > ML, as his analysis predicts that there should be.

The issue of tone sandhi in this dialect of Mixtec clearly needs a great deal more study. I am unwilling to concede that there is no pattern at all to the sandhi effects of one morpheme upon another; yet up to this point I have not been able to find any regularities in the data.[28]

2.5 Contraction

As mentioned above, stems in Mixtec are formed of at least two syllables, sometimes three, and occasionally four. This strict requirement on stem canon (that stems must be of at least two syllables) is obscured, however, by a strong tendency to abbreviate forms with like vowels in rapid

speech, often resulting in monosyllabic surface forms. This "contraction" occurs according to the following rules:

(4) Glottal Stop Deletion

$$(C)\ V^{i}\ ?\ V^{i} \rightarrow (C)\ V^{i}\ V^{i}$$

(5) Vowel Deletion

$$(C)\ V^{i}\ V^{i} \rightarrow (C)\ V^{i}$$

(6) Initial Syllable Deletion [$C^{k} \neq$?]

$$C^{j}\ V^{i}\ C^{k}\ V^{i} \rightarrow C^{k}\ V^{i}$$

Examples of rules (4) through (6) with single lexical items are as follow.[29] Note that a word of the form (C)V?V has two possible rapid speech forms: (C)VV (by (4)) and (C)V (by (4) and (5)).

(7a) From (4): ba?a --> baa ('good')

u?ù --> uù ('to hurt')

(7b) From (5): uù --> u ('two')

čàà --> čà ('man')

(7c) From (4) and (5):

ba?a --> baa --> ba ('good')

u?ù --> uù --> u ('to hurt')

(7d) From (6): k±t± --> t± ('animal')

nd±y± --> y± ('corpse')

Examples (8) and (9) illustrate the operation of some of these rules in connected speech. Note that the full forms underlying abbreviated roots can always be elicited

from the speaker in slow speech, as is indicated by the second line in each example.

(8) tú-ní-ta-ndà-ri hà-ta-nda ba-rì
tú-ní-ta-ndà?a-ri hà-ta-nda?a ba?a-rì
NEG-CP-QU-hand-1 COMP-QU-hand well-1
I didn't marry [then] that I might marry well [later]

(9) s-ndɨ?ɨ bikó-yo ha-kú ñu-yò ya
s-ndɨ?ɨ bikó-yo ha-kúu ñuù-yo ya?a
CAUS-finish fiesta-1PL COMP-COP town-1PL this
We finish our fiesta that is of this, our town

-- Notes --

1. The verb kéĩ 'to put' (héĩ in Realized aspect) is the only exception to this rule of which I am aware.

2. In one word, /b/ appears as [ɸ] intervocalically. This is in the word [yuɸé?é], 'door', which is historically derived from the noun + noun construction yu?u be?e 'mouth house', and is the only example I have of /b/ following a derivational prefix. The allophone [β] is found when /b/ occurs between vowels in a single morpheme, or when it follows a fast speech clitic, or other word boundary. Thus, it is possible that these two allophones are conditioned by the type of boundary that precedes them, but unfortunately the evidence consists of only this one example.

3. When /?/ precedes /l/ or a nasal, an echo vowel may intervene, this vowel being identical to the preceding vowel.

4. It is my impression that speakers from some of the surrounding rancherías have invariant [nt]. This is something which needs to be investigated more thoroughly, however.

5. In addition, Hinton (1982:360) claims that causative s- plus a stem with initial yu in this dialect also results in si: yú?u 'afraid, frightened', sí?ú 'to scare or frighten (vt)'. However, as will be discussed in Chapter 8, causative s- plus a stative in y- can be claimed to result in a form in č-. Since the yú?u/sí?ú case is unique, I prefer to think of it as suppletion.

6. The sources of these somewhat exceptional cases are apparently quite diverse. (One which can be ruled out is *x, which is a source for /š/ in other parts of the Mixtec-speaking area, but which was retained in the Western Alta dialects, of which Chalcatongo is one (Josserand 1983:267).) The palatalization of *s to š appears to have been quite uniform before *i in this dialect, but less so before other front vowels. Only one of the words in Chalcatongo Mixtec in my corpus with /š/ before a vowel other than /i/ is listed in Josserand's cognate sets, and it does indeed derive from *s. This is the word for "grease" or "lard"; *se?ẽ > šã?ã. Unfortunately, I don't have the data to determine the Proto-Mixtec form for the others. Finally, some words in this dialect with /s/ before /a/ (instead of

the expected /š/) derive from *l, although others do have *s as their source.

7. Unfortunately there is possible orthographic interference whether we choose to use "h" or "x" for this segment. The former is used in the practical orthography for Mixtec developed by the Summer Institute of Linguistics for /?/, while the latter is used for /š/.

8. Orthographically "nch" in Dyk and Stoudt 1973.

9. [nj] appears in a very few words for some Chalcatongo speakers, e.g. [lan^{Y}ȁȁ] 'type of bird'. Hinton (p.c.) says that this may be a disguised borrowing parallel to those discussed in the section below on loan words.

10. There is one word with /l/ which does not fit this description: čílya 'lizard' (from ProtoMixtecan *wilu: Longacre 1957, Set 273). If we were to analyze this word as containing the sequence /ly/, we could syllabify in two ways: číl-ya, or čí-lya. The former would be problematic in that it would violate the syllable canon of all Mixtec dialects, which only allows syllables to be closed by /?/ (see §2.3). The latter syllabification would be somewhat more plausible, and apparently other authors have made such analyses; Mak (1953:86, fn. 2) mentions rare instances of /y/ as "second member of a consonant cluster" in San Miguel Mixtec. Finally, we could also analyze the offending material as palatalized /l/, although it would be the only instance of such a segment in this dialect. This last analysis is probably the most preferable, however, for two reasons. One is that palatalization following /i/ is quite plausible, and the second is that other dialects of Mixtec do have palatalized consonants, including /l/. This is a very interesting word, and I wish I had more comparative data.

11. This is a case in which the synchronic and the diachronic account must diverge. Since flap [r] only appears in the pronouns ru?u, ro?o, -ri, and -ro (that is, before /u/, /o/, and /i/), while [ð] occurs in a single lexical item (also a pronoun), which happens to have /e/ as its vowel, I have chosen here to consider [ð] an allophone of /r/. This classification is merely for convenience -- to have a neater phonemic inventory. The other choice, obviously, would be to have a phoneme /ð/, which appears in only one clitic. No important points rest on which choice the linguist makes here. Diachronically, however, one has to acknowledge that it is unlikely that this [ð] is related to the [r] of first and second persons. To see this, note first that there are two pronouns each for first and second person: the informal ru?u and ro?o, and the polite na?a and ni?i. Terrence Kaufman (p.c.) points out that the latter

can be traced to ProtoOtomanguean (pOM), but that the former are innovations. Thus the source of the [r] in these items is unknown. Furthermore, note that most third person pronominal clitics in Mixtec are transparently related to a corresponding noun (just as the first and second person clitics are related to the corresponding full pronouns) -- e.g. -ña 'she' and ña?a 'woman'. [-ǰe], however, is synchronically related only by suppletion to the noun čàà 'man'. In this case Kaufman claims that the pOM form is *tææ, and that the [ǰ] and the [č] represent different developments from the first segment of this form. Thus it is highly unlikely that [r] (whose source we do not know) and [ǰ] are diachronically related. As a final bit of evidence for considering them allophones of the same phoneme synchronically, however, note that one or two of my consultants occasionally have [-ǰi] for -ri, first person, indicating that speakers may be changing the [r]'s in favor of [ǰ].

12. Josserand (1983:219) says that the trilled /r̃/ is a "certain loan". One of these two words is imitative and the other (r̃ɨ±) is plausibly a borrowing of the Spanish "borrego" ('sheep').

13. Note that disyllabic loanwords tend to have a mid-high tone pattern.

14. Josserand (1983:231-232) points out that consonant clusters with initial /s/ are invariably analyzable as derived from an earlier form with a vowel following the /s/.

15. She gives variant pronunciations for the first three of these words, which I have not reproduced.

16. The reference she gives is: C. Henry Bradley (1977), "Toward a Definition of the Mixtec Languages," unpublished manuscript. I have not been able to obtain a copy of this paper.

17. Josserand (1983:228) points out that checked syllables may occur only initially in all but two of the Mixtec dialects she surveyed. She gives the fact that these two dialects do show word-final /?/ as evidence of a uniform syllable pattern (checked oral or nasal) for initial and final syllables in Proto-Mixtec.

18. I treat consonant clusters as a single "C" in (1), simply for ease of presentation.

19. The San Miguel dialect is analyzed by Pike (1944, 1948) as having three level tones, and this is the obvious analysis for the Chalcatongo dialect as well. Daly (1973a, 1978), however, has shown that a two-tone analysis is

preferable for the dialects of Peñoles and Diuxi Mixtec. Given the problems I have had with tone sandhi (discussed below), it is an open question at this point whether a Daly-style analysis would be preferable for the Chalcatongo dialect as well.

20. For discussion see Faraclas 1983:310.

21. Pike (1944:137-138) gives an analysis of the sandhi characteristics of ni- in San Miguel Mixtec in note 307-8.

22. E.g. Pike 1948, Mak 1950, 1953, Daly 1973a, 1978, Faraclas 1983, and others.

23. My disagreement with this position is presented in Chapter 9.

24. Alexander has four tones in her analysis: 1 (high), 2 (mid), 3 (between mid and low -- called "low" in (2)), and 4 (low -- "extra-low" in (2)). Tone 3 is not a lexical tone; it is only found in derived environments. My presentation uses the letters H, M, L, and LL to facilitate comparison with the Chalcatongo data. Also note that Alexander's analysis differs from mine in that she allows tonal contours on single vowels (i.e. her MH is a rising tone on a single syllable). The Chalcatongo data does not include rising or falling tones (except phonetically, as noted earlier). Each syllable bears one and only one level tone, in the Chalcatongo dialect.

25. Faraclas' data shows ni- itself with low tone in all cases, while mine indicates that it tends to carry mid tone. Also note that Charles Fillmore (p.c.) has pointed out that the correct generalization might be that ni- has the effect of perturbing the first following high tone to low. Since I reject Faraclas' data, I will not pursue this further.

26. My guess as to the reason for this discrepancy involves the structure of Faraclas' study. I believe (although I am not certain) that he collected his data under rigidly controlled conditions, recording single instances of various patterns in a sound booth. If I am right about this, the flaw in his study was collection of only one instance of each combination. Had he collected more instances of each, during different elicitation sessions, I am sure he would have found the kind of variation to be described below.

27. In the Chalcatongo data the tone changes may be on the first syllable, on the second, or on both (unlike the situation described by Alexander, in which only the first tone is perturbed).

28. One other hypothesis which must be rejected is that presented in Longacre 1957: "...a further form, the completitive [sic], consists in [San Miguel Mixtec] of a preposed ni followed by [a] verb with the segmental phonemes of the [Realized stem] but with the tone couplet of the Potential" (p. 114). (The forms and meanings of these two stem types will be presented in the next chapter. Briefly, many Mixtec verbs have two aspectually distinct stems, the "Realized" and the "Potential", which may be differentiated by initial consonant, initial syllable, and/or tone.) Longacre's generalization, however, does not hold for the Chalcatongo Mixtec data.

29. Rule (6), while still productive, is far less often employed than rules (4) and (5), which are extremely common.

Chapter 3

Some Preliminary Issues

This chapter presents a rather diverse set of facts about the grammar of Mixtec (the data being primarily syntactic and semantic), as a preface to the chapters on morphology and cliticization which follow. While this dissertation is by no means intended to serve as a complete grammatical sketch of Chalcatongo Mixtec, the present chapter is included in the hope that some amount of background knowledge will make the discussion of morphology and cliticization which follows more readily intelligible.

3.1 Word Order

This section discusses the word order of main and subordinate clauses in Chalcatongo Mixtec.

3.1.1 Main Clause Word Order

Basic word order in Mixtec is VSO. This can be observed directly in the perhaps somewhat artificial

examples with full NP subject and object arguments shown in (1) and (2), or inferred from sets of sentences with only one full NP argument, such as (3) and (4):

(1) nì-naa íni čáá ndo?o
CP-lose stomach man basket
The man forgot his basket

(2) íkú nì-hǎǎ María ndo?o
yesterday CP-buy Maria basket
Yesterday Maria bought a basket

(3) nì-nà-ìčì sa?ma-ró
CP-REP-dry clothes-2
Your clothes have dried

(4) ka?mú-rí mi?í
burn-1 garbage
I'm going to burn the garbage

In addition to the option of VSO word order, Mixtec speakers also make extraordinarily free use of a Topicalization construction.[1,2] This locates a single constituent in an initial, sentence-external position.[3] Any constituent may be topicalized, as shown in the examples below. Subject and oblique topicalization ((5-6) and (9-10), respectively) are extremely common; object topicalization ((7-8)) is quite rare, but acceptable.[4] There is no passive in Mixtec.

(5) SUBJECT TOPICALIZATION:
Juan ni-há?mu šìnì nda?a
Juan CP-burn head arm
Juan burned his finger

(6) spehó tá?u
mirror break(vi)
The mirror broke

(7) OBJECT TOPICALIZATION:
tútu wǎ nì-hà?ya Pedrú
paper that CP-cut Pedro
Pedro cut that (piece of) paper

(8) statílá nì-sa?a Miguel
bread CP-make Miguel
Miguel made the bread

(9) OBLIQUE TOPICALIZATION:
čìì yuu wá yaa ɨ́ɨ́ koo
belly rock that live one snake
Under that rock lives a snake

(10) nù-yúku wá yaa ɨ́ɨ́ bá?u
face-mountain that live one coyote
In those mountains lives a coyote

The topic NP does not necessarily have to be an argument of the verb, however, as is illustrated in example (11):

(11) i?à yoò-yó u?u nduči-tó
god moon-1PL hurt(vi) eye-3RESP
As for our God of the moon, her eye hurts

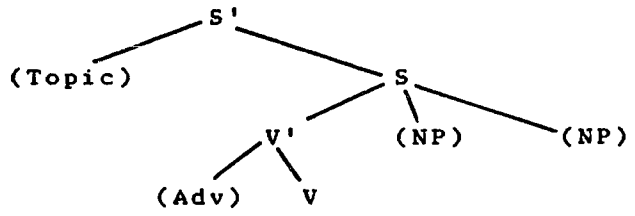
Mixtec sentences may also be adverb-initial, as in (12) and (13):

(12) nù-yoò nù-yo kĩ?ì̀-rí nuyá?u
face-month face-month go-1 market
Every month I will go to market

(13) iku ni-na-háa-ña
yesterday CP-REP-arrive+home-3F
She returned home yesterday

In some cases, however, it is not clear whether the adverb fills the topic position, or whether it is located in a sentence-internal, preverbal position within the V', as illustrated in (14):

(14)



There are various forms of evidence for the existence of this position for adverbs (most of these will come up in succeeding chapters); for now we will just note the occurrence of sentences with the word order Topic-[Adverb-Verb-(...)]. An example is (15), in which the subject fills the external Topic position, and the preverbal adverb is sentence-internal:

(15) ñani-rí šãã kã?ã
brother-1 much talk
My brother talks a lot/too much

In the case of a sentence-initial adverbial (such as those in (12) and (13)), it can be difficult to decide whether the adverbial is in topic position, or whether it is in the clause-internal preverbal position. A test for this which makes use of the negative marker tu- will be noted in Chapter 5.

Finally, concluding our brief survey of main clause word order, we also find occasional instances of sentences which have two preverbal constituents, as in (16) and (17).[5]

(16) kahá wá tenáná ñũ?ũ
box this tomato contain
This box contains tomatoes

(17) burrú-ró wá nuyá?u híndee
burro-2 that plaza be+located
Your burro is in the plaza

3.1.2 Subordination

The two most prevalent types of sentential complements in Mixtec are those introduced with the complementizer ha-, and those with no complementizer at all. Complementizer type (i.e., ha- or zero) is partially determined by the semantics of the verb, and partially determined by whether the subjects of the two clauses are the same or different. Word order in subordinate clauses is identical to that in main clauses: they may be VSO, or they may have an initial topicalized constituent.

The complementizer ha- introduces complements of purpose or result, as well as complements to verbs of speech, perception, and cognition. In addition, complex sentences with different subjects in the two clauses always take ha-.[6] (18) through (22) illustrate:

(18) híníñu?u-rí šũ?ṹ ha-kWá̃á̃-rí ĩ̱ĩ̱ káčíní
need-1 money COMP-buy-1 one hat
I need money to buy a hat

(19) kei ha-ru?ù číndé-ri ró?o
say COMP-I help-1 you
She says that I should help you

(20) nde?e-rí ha-Juan hínu bina ñú?ni
see-1 COMP-Juan run today now
I see Juan running right now

(21) tú-kandía-rí ha-ní-hi?i
NEG-believe-1 COMP-CP-die
I don't believe that he died

(22) kuní-ri ha-ná-kí?ĭ-ro
want-1 COMP-SJ-go-2
I want you to go

Verbs which subcategorize for a sentential complement with no complementizer (when the two clauses have the same subjects) seem to be primarily verbs of emotion (such as 'want' and 'like'), plus the verbs 'start' and 'finish'. (23) through (26) illustrate:

(23) kuní-ri ndúkoo-rí yá?a
want-1 sit-1 here
I want to sit here

(24) hátã?ã ini-rí kunú-rí
like stomach-1 run-1
I like to run

(25) ni-kehá?á híči
CP-start bathe
He started to bathe

(26) [ni-kenda orá] ni-s-ndɨ?ɨ ni-yéé staa
[CP-exit when] CP-CAUS-finish CP-eat tortilla
[He left when] he finished eating

3.2 The Noun + Noun Construction

The noun-noun construction in Mixtec is used to express a wide range of semantic relationships, which are enumerated and described below.[7] Various authors have described this construction (the N+N construction, henceforth) as "compounding" (e.g. Daly 1973, Macri 1983). Because others have applied that term to trisyllabic forms like bekaa 'jail' (e.g. Josserand 1983), it is important to clarify the

semantic and syntactic status of the N+N construction before we proceed with analysis of derivationally complex words.

Possessive: The nominal possessive[8] consists of two nouns which appear in the order possessed-possessor, as is illustrated in (27) through (29):

(27) kačíní pedrú 'Pedro's hat'
hat Pedro

(28) rayó ndikàndi 'the sun's rays'
ray sun

(29) sò?ò sndɨkɨ 'the bull's ear'
ear bull

Body Part Term + Noun: Body part terms, which are used as locatives in Mixtec, are nouns -- not prepositions. Their participation in the N+N construction is examined in Brugman (1983).[9] She divides the use of body part terms in N+N constructions into four categories, which can be reduced to the following two basic classes: those which describe objects (these can be parts of the body, or parts of other objects), and those which describe locative relationships.

(30) presents the subset of body part terms which can be used in both ways:

(30) (a) čìì 'belly'
(b) ha?à 'foot/leg'
(c) ini 'stomach'
(d) nda?a 'hand/arm'
(e) nuù 'face'
(f) šíni 'head'
(g) sɨkɨ 'back [animal]'
(h) yata 'back [human]'

In the former use (in which the construction describes an object), the body part term is the head of a genitive construction. (31) and (32) illustrate:

(31) so?ò kɨtɨ ù?ù
ear horse hurt
The horse's ear hurts

(32) nda?a yúnu tá?nu
arm tree break
The tree's branch is breaking

In the locative use, the construction may either refer to an area on the Ground, or to an area near to but separate from the Ground.[10] Brugman calls the former the Subregion Locative, and the latter the Adjacent Space Locative.

(33) and (34) illustrate the Subregion use, while (35) and (36) show the Adjacent Space use:

(33) kafée wáã̀ híndee inì kaha
coffee that be+in stomach box
The coffee is in the box

(34) híyaa-re šini yuku
be+located-3M head mountain
He is at the top of the mountain

(35) ni-ndečé ɨ̃ɨ̃ saà šini yúnu
CP-fly one bird head tree
A bird flew over the tree

(36) halúlí-ro hindee čìì mesa yá?a
child-2 be+in belly table that
Your child is under that table

"Constitutive" Genitive: The relationship between two nouns which is illustrated by English phrases like "pile of dirt" and "herd of deer"[11] is also expressed by the N+N construction in Mixtec, as the following examples illustrate:

(37) pílon ñú?ú́ 'pile of dirt'
pile earth

(38) kWadríyá ísu 'herd of deer'
herd deer

"Content" Genitive: In this use of the N+N construction (as in its English counterpart), the non-head noun describes the contents of the object to which the head noun refers, as in the following:[12]

(39) ndo?ò staa 'basket of tortillas'
basket tortilla

(40) hika yá?a 'basket of chiles'
basket chile

Endocentric Compounds: The N+N construction is also used in compounding, as (41) through (44) illustrate:

(41) í?a ndikandí 'sun god'
god sun

(42) kɨù mierkúles 'Wednesday'
day Wednesday

(43) ità ndùčî 'bean flower'
flower bean

(44) yunu mánsana 'apple tree'
tree apple

Place names: There are a number of N+N place names, which perhaps qualify as a subset of the endocentric compound category. The first noun in these is always ñuù 'town', while the second noun either describes a characteristic of the town (as in (45) and (46)), or is a word for which the meaning is no longer known (as in (47) and (48)):

(45) ñuù tikWá?á 'Ticua'
town lemon/lime

(46) ñuù nde?yu 'Abasolo'
town mud

(47) ñuù ko?yó 'Mexico City'
town (?)

(48) ñuù ndéyá 'Chalcatongo'
town (?)

Kay and Zimmer (1976) point out the similarities between the semantics of English genitives and English nominal compounds. The above data have shown that the N+N construction in Mixtec similarly expresses relationships ranging from the most common type of genitive (the possessive), to less central genitives (the "constitutive" and "content" genitives), to relationships typically expressed by compounds. What is important with respect to Mixtec is that the terms "genitive" and "(endocentric) compound" are being used here to describe the semantics of a single syntactic construction.[13] This construction is a NP consisting of two nouns (or, more precisely, two NPs) in apposition. It is not, as the compound construction is in English, a compound word. One of the tests which can be used to show that the English compound construction is best considered a word (rather than a phrase) is the inability of either member to undergo independent modification. Thus, we cannot modify the compound Redcoat (British soldier) to, e.g., red [winter coat] or [very red] coat, while retaining the phrase's compound status. (Of course, such phrases are perfectly acceptable NPs.)

The Mixtec N+N construction, however, does not show the same results when tested in this way, as is demonstrated in examples (49) through (52). In these examples, one noun in

the N+N construction is modified independently of the other, indicating the phrasal nature of the construction.

(49) rù?ù kuní-rí kuu ɨ́ɨ́ [táá [hasɨ́?ɨ́ lúlí]]
I want-1 be one [father [girl little]]
I want to be the father of a little girl

(50) ni-ha?a-ri [sɨkɨ [hika bé?e]]
CP-pass+over-1 [animal+back [wall house]]
I climbed over the wall of the house

(51) kWã?ã̀ [ladó [nda?a ba?a]]
go [side [hand good]]
He's going to the right

(52) [[kačíní bíéhó] Juan]
[[hat old] Juan]
Juan's old hat

3.3 Verbs and Other Predicators

Inflectional and derivational verbal morphology will be discussed in detail in later chapters. The sections below will consider the following topics: the semantics of two Mixtec aspectual categories (the Potential and the Realized); the existential; the copula; and the differences between the lexical categories Adjective, Stative, and Verb.

3.3.1 Aspect: Realized and Potential

The morphological status of the phonological material which creates aspectual distinctions in Chalcatongo Mixtec[14] is the subject of Chapter 8. In this section, however, we

will briefly review the semantics of the two most prevalent aspectual categories, the Potential and the Realized.

Potential aspect is used to present events as possible, probable, or potential. Contexts for its use include futures, counterfactuals, imperatives, and various modal constructions. Examples (53) through (57) illustrate:

(53) rù?ù kee-ri ndùčî
I eat(P)-1 beans
I will eat the beans (FUTURE)

(54) kútú
Work(P)! (IMPERATIVE)

(55) rù?ù kutu-rí-nu ba?à...
I work(P)-1-CFACT but
I was supposed to work, but... (COUNTERFACTUAL)

(56) rú?u kanahíí́-ri nú-ɨ́ɨ́ ñakWi?ná híndee be?e-yó
I scream(P)-1 COND-one robber be+located(R) house-1PL
I would scream if a robber was in our house (MODAL)

(57) čú?či ni-ha?a vídá-yo ha-kúčakù-yo
God CP-give life-1PL that-live(P)-1PL
God gave us our life that we might live (MODAL)

Realized aspect is used to describe actions which are habitual, which are under way at the time of the speech event, or which have already been finished by that time (in which case the Completive prefix is added -- see Chapter 6). The uses of an uninflected Realized verb stem include progressive, stative, habitual, etc.[15] (58) through (60) illustrate typical instances of Realized aspect:

(58) rù?ù yee-ri ndùčî-rî
I eat(R)-1 bean-1
I am eating/I eat my beans (PROGRESSIVE/PRESENT)

(59) rù?ù yee-ri ndùčì ndɨ-kɨù
I eat(R)-1 bean all-day
I eat beans every day (HABITUAL)

(60) néné wǽ kiší
baby that sleep(R)
That baby is asleep/sleeping (STATIVE)

3.3.2 The Existential

Existential yóó[16] is used most commonly in one of two constructions. The first is with a NP subject (and an optional locative), as in (61) through (63):

(61) ini kahá wǽ yoo tenànà
stomach box that exist tomato
In that box there are tomatoes

(62) be?e-rí yó-šɑ̃́ɑ̃́ halúlí
house-1 exist-many child
In my house there are many children

(63) kò-šɑ̃̀ɑ̃̀ ñãyĩũ
exist(P)-many people
There will be a lot of people

In the other construction, yóó takes an adjectival complement, plus a subject, as in (64) through (66). (The subject is zero in (64) and (65).)

(64) yó-luu
exist-pretty
It is pretty

(65) ko-ičí
exist(P)-dry
It will be dry

(66) kɨsɨ yó-há
pot exist-new
There is a new pot/The pot is new

Note that yóó may take subjects other than third person, as in (67) and (68):

(67) yó-ba?a-rí
exist-good-1
I am good/fine

(68) ya?a yo-yó iñu
here exist-1PL six
There are six of us here

In these constructions, the existential appears to function as a copula. However, there is another element which fulfills the function of the copula in Mixtec -- this and the existential will be discussed further in the next section.[17]

3.3.3 The Copula

The copula in Mixtec has two forms, ka- and ku-. It is ka- before adjectives in Realized aspect, and it is ku- before adjectives in Potential aspect. The form of the copula before nouns is always ku-. (69) through (72) illustrate:

(69) hàsɨ?ɨ́ ká-lúú
woman COP(R)-pretty
The woman is pretty

(70) ma-kú-kWí?a-ro
NEG/SJ-COP(P)-sad-2
Don't be sad

(71) wãã kú-ɨ̃-čàà sátĩũ
there COP(R)-one-man work
Over there is a man who is working

(72) ku-ɬ-čàà ká?nu
COP(P)-one-man big
He will be a big man

Identification of this pattern is somewhat difficult due to the existence of not one, but two other morphemes which are homophonous with the form ku-. The first of these means "can, be able to" (illustrated in (73), below). This form appears only before verbs. The other is an inchoative (illustrated in (74)). The former will be disregarded for the purposes of the present discussion; the latter is discussed in Chapter 6.

(73) ku-káčá?á bá?a-ró
can-dance well-2
You can dance well

(74) ni-ku-ká?bá halúlí
CP-INCHO-dirty child
The child got dirty

In §3.3.2, it was pointed out that the existential yóó also appears to function as a copula. We can further note that the presence of either the copula or the existential is optional; as (75) and (76) show, adjectives and nouns may appear in predicate position with no verbal element at all:

(75) hàsɬ?ɬ lúú
woman pretty
The woman is pretty

(76) isu kWá?à
deer many
There are many deer (here)

The obvious question that this array of data raises concerns the semantic difference between the two copular

elements ka-/ku-, and yóó, and the difference that presence vs. absence of a copula makes. Compare the following sentence with (69) and (75), above:

(77) hàs±?± ká-yo-lúú híná?á
woman PL-exist-beautiful plural
The women are beautiful

Unfortunately, the semantic differences between clauses with yóó , ka-/ku-, or a zero copula are too subtle to come out in translation. The difference between these three possibilities could involve some sort of discourse or pragmatic factor, but their occurrence is rare enough that I don't as yet have many examples in context from which to draw any firm conclusions. The copula and the existential are important, however, because (as we will see in the next section) they provide tests for differentiating among three lexical categories.

3.3.4 Verbs, Statives, and Adjectives

The grammar of Mixtec makes a clear distinction between the class of verbs and the class of adjectives. There is also a class of statives, which falls somewhere between these two. It is important to note here that statives are a grammatically distinct class - there are many lexical items which are semantically stative but which fall into the grammatical class of adjective or verb.

Adjectives and verbs are distinguished by the following characteristics: adjectives may be preceded by either of the two copular elements discussed above, and may not be inflected; while verbs may not be preceded by the copular morphemes, but may be inflected. Inflection is one of the topics of Chapter 6; for our present purposes we can observe that Chalcatongo Mixtec makes use of the following inflectional prefixes: ni- (Completive), ka- (Plural), and na- (Subjunctive). We have seen examples of the behavior of adjectives in the sections above; the following examples illustrate inflected verbs:

(78) ni-čisa?í-ri má-ri nuù-re
CP-hide-1 self-1 face-3M
I hid myself from him

(79) Maria te Juan ká-hita
Maria and Juan PL-sing
Maria and Juan are singing

(80) na-kúči-re
SJ-bathe-3M
He should/must bathe

Another feature which distinguishes verbs and adjectives is the form that the causative takes in each case. The causative will also be presented more thoroughly in a later chapter; but for now we will simply note that the verb sa?a 'do, make' can enter into periphrastic causative constructions, as in (81), below, and also has two bound derivational alternants. One form, sa-, is restricted to adjectives, while the other, s-, is restricted to verbs. (82) and (83) illustrate:[18]

(81) sá?a ha-na-čá?u
make COMP-SJ-pay
Make him pay

(82) nì-sa-ndá?ú rú?u
CP-CAUS-poor[ADJ] I
He made me poor

(83) s-ndaba-rí kɨtɨ-rí
CAUS-jump[V]-1 horse-1
I am jumping my horse

Statives show some of the attributes of verbs, and some of the attributes of adjectives. Statives (like verbs) are inflectable, but (unlike verbs) vary as to which form of the causative they take. Furthermore, they collocate with the copular elements, most statives permitting ka-, and some permitting yóó. (84) through (89) illustrate the behavior of the two statives ičí 'dry' and ndoo 'clean':[19]

(84) nì-ičì ndihà-rí
CP-dry huaraches-1
Are my huaraches dry?

(85) sá?a hà-na-ndoo
make COMP-SJ-clean
Make it clean

(86) s-ičí-rí
CAUS-dry-1
I am drying it

(87) sá-ndoo
CAUS-clean
Clean it

(88) yó-ičí
exist-dry
It is dry

(89) ká-ndoo
COP-clean
It is clean

-- Notes --

1. In fact, when the Field Methods class which was my introduction to Mixtec first started eliciting data from Mr. Cortés, it appeared to us that Mixtec had SVO word order. However, after we began looking at texts, and eliciting in Spanish (which itself allows more word order variation than English does), we realized that the SVO pattern of our first body of data only reflected the SVO order of the English prompts. This is, of course, one of the arguments against making use only of individually elicited sentences, and illustrates the value of textual data.

2. I intend my use of syntactic terminology in this dissertation to be theory-neutral, and my use of such terms as "Topicalization" implies no endorsement of a model of syntax which includes transformations.

3. Particulars of sentence structure will be discussed further below.

4. My characterization of sentence-types as "common" or "rare" might strike some as undependable, due to the fact that these are mainly elicited utterances. However, these observations are borne out by examination of texts, as well as by the patterns shown in spontaneous utterances, and utterances that are prompted by description rather than a translation equivalent.

5. This construction is quite rare in my corpus, although Hinton points out (p.c.) that it may be rare simply because clauses with two overt NPs in any configuration are rare. My guess would be that this construction is of the form Topic-[Focus-V-(...)]. It is fairly useless, however, to ponder questions of topicality and focus without considering the wider context. Since the small number of examples of the construction exemplified in (16) and (17) in my corpus come from single sentence elicitation, there unfortunately is no wider context in this case. This construction is something that deserves a great deal more study, especially with respect to its function in discourse.

6. The morphological status of ha- will receive further treatment in Chapter 6.

7. This construction actually consists of two NPs in apposition, as will be demonstrated below. It will be referred to as the noun-noun construction throughout this

dissertation, however, because it usually consists of just two nouns.

8. Pronominal possessives are created by the attachment of a pronominal enclitic to a noun. These will be discussed in Chapter 5.

9. It is impossible to do the subject of body part term locatives justice in such a short space. The reader is referred to Brugman's paper for a detailed examination of this extraordinarily complex area.

10. By "Ground," I mean the entity relative to which the Figure is located. See Brugman and Macaulay 1986, or Talmy 1985a, 1985b for further discussion.

11. This relationship has been christened the "constitutive genitive" by Nikiforidou (1985).

12. The term is again taken from Nikiforidou 1985.

13. Pike (1944:125) makes much the same point. His arguments involve the semantic compositionality of such constructions, as well as the predictability of the tone sandhi. Since the Chalcatongo data is so unpredictable with respect to tone sandhi, such an argument cannot be made for this dialect.

14. This somewhat tortured circumlocution is due to the fact that (as we will see in Chapter 8) verbs in Mixtec can be described as (i) taking aspect prefixes, (ii) having two (or possibly more) distinct stems, (iii) undergoing certain morphophonemic changes which derive one aspect from another "basic" aspect, or (iv) representing a system of synchronically submorphemic (fossilized) elements. In the present chapter we will avoid the issue of derivation and/or segmentation, concentrating solely on semantics.

15. Some verbs distinguish morphologically between Realized and Stative or Habitual aspects -- see Chapter 8.

16. I will refer to this verb by its Realized form; the Potential form is koo, which is exemplified in (63) and (65). Also note that both stems most often appear in monosyllabic form: yo- and ko-.

17. The existence of a relationship between an existential and the copula is not unusual in the world's languages: see Munro (1977) for discussion of just this development in Yuman languages.

18. Note also that (82) and (83) are evidence that the alternation between s- and sa- is not phonologically conditioned.

19. Mr. Cortés indicates that ndoo may be causativized by s- or sa-, but other consultants indicate that only the latter is permissable.

Chapter 4

On Defining the Term "Clitic"

"Clitic" and "cliticization" are terms which are often used without explicit definition or characterization.[1] At least some of the confusion which seems to surround the use and definition of the term "clitic" arises from a failure, in both descriptive and theoretical works, to distinguish between different types of clitics. To my knowledge, Zwicky (1977) was the first to call attention to the fact that there are actually several distinct kinds of elements which have been described by the term "clitic." In the sections which follow, I will trace the development of Zwicky's views on the subject of cliticization by reviewing his first classification in some detail, and then discussing subsequent articles. In addition, I will describe the claims about clitic typology made in Nevis 1985, as well as the classification of connected speech phenomena made in Kaisse 1985. In the final section I will define the terms that will be used in this dissertation.[2]

4.1 A Typology of Clitics (Zwicky 1977)

In his 1977 article, Zwicky discusses various criteria which have traditionally been cited as characteristic of clitics, and points out that all of them cannot hold simultaneously. He consequently divides the range of clitic phenomena into three subclasses, which he calls simple clitics, special clitics, and bound words.

Simple clitics are "cases where a free morpheme, when unaccented, may be phonologically subordinated to a neighboring word" (p. 5). These reduced forms always appear in the same position in the surface string as do their unreduced counterparts, and usually occur only in a given register. Zwicky's example is the reduction of object pronouns in English in casual speech:

(1) He sees her [hi síz hɚ̀] --> [hi sízɚ̩]

(2) She met him [ši mɛ́t hɪ̀m] --> [ši mɛ́ɾm̩]

[Zwicky 1977:5]

Some simple clitics can be derived from their full forms by independently motivated rules of the phonology of the language in question, while other simple clitics show idiosyncratic phonology. English can, for example, reduces from [kæn] to [kən] by the usual rule which reduces unaccented vowels to [ə] in English. Not, on the other hand, does not reduce to the expected *[nət], but instead loses its vowel entirely when it cliticizes in contractions

such as can't, hasn't,[3] etc. We will return to these distinctions in predictability of reduced form in a later section.

Special clitics are "cases where an unaccented bound form acts as a variant of a stressed free form with the same cognitive meaning and similar phonological makeup" (p. 3). Special clitics also show what Zwicky calls "special syntax," in that they appear in different syntactic positions and may obey different constraints with respect to certain rules of syntax than full pronouns and nouns do.

Spanish (and other Romance language) pronominal clitics provide an example of this kind of clitic. As illustrated in (3), a full NP direct object may follow the verb, but not precede it, while a clitic direct object may precede the verb, but not follow it:[4]

(3a) Tengo la pluma / *La pluma tengo
'I have the pen'

(3b) Lo tengo / *Tengo lo
'I have it'

Another characteristic of special clitics is that the phonological relationship which they bear to corresponding strong (i.e. free) forms is often obscure. Zwicky claims that "it is unlikely that the weak forms are related to the strong ones by phonological rules of any generality" (1977:4), but, in my experience, that puts the case too

strongly. I would amend this to say that it is possible, but not necessary, that special clitics may show no obvious phonological relationship to the corresponding strong forms. The data in (4) illustrate:

(4a) French:

Full - moi, clitic - me '1SG'

Full - lui, clitic - le '3SG'

(4b) Serbo-Croatian:

Full - njima, clitic - im 'to them'

Full - tebi, clitic - ti 'to you(SG)'

(4c) Egyptian Colloquial Arabic:

Full - ʕínta, clitic - (a)k '2SG,M'

Full - híyya, clitic - ha '3SG,F'

[Zwicky 1977:3-4]

As we will see in Chapter 5, Mixtec pronominal clitics fall into the category of special clitics, and for the most part are related to the corresponding strong forms by very general rules.

Finally, bound words are "cases where a morpheme ... is always bound and always unaccented [and which differ from affixes in that] they can be associated with words of a variety of morphosyntactic categories" (p. 6). This difference is the result of the fact that these clitics are generally attached phrasally (although they are, of course, phonologically dependent on just the word to which they are adjacent).

The English possessive morpheme 's is a bound word in Zwicky's earliest typology; it is semantically associated with an entire NP, but is phonologically attached to the last word of the NP:

(5) Germany's defenses

(6) The Queen of England's hat

(7) The woman I talked to's arguments

[Zwicky 1977:7]

4.2 "Leaners" (Zwicky 1982a)

This article is primarily a detailed study of a single English morpheme, the infinitival marker to. However, the discussion of the framework in which this word is examined turns out to be quite useful for an understanding of the kinds of distinctions that need to be made among clitic elements, as well as for tracing the development of Zwicky's views regarding such elements.

A clitic is defined in this paper as "a morpheme that attaches to a neighbouring word to form a word-like unit with it" (p. 5).[5] That is, clitics form phonological words with adjacent material, in contrast to elements which combine to form phonological phrases. Phonological words are combinations of morphemes which undergo word-internal phonological rules, while phonological phrases are combinations of morphemes which do not. Zwicky exemplifies the former

situation with the English genitive 's (as in (5) through (7), above), which forms a phonological word with the item which immediately precedes it (and is thus a clitic under this definition). He exemplifies the latter situation with the English prepositions, which form a phonological phrase with the NP which follows them.

Zwicky points out that phonological phrases usually correspond to syntactic phrases, but also that readjustments must occasionally be made, forming phonological phrases which do not correspond to any syntactic constituent.[6] In example (8), below, phonological and syntactic phrasing are equivalent, while in (9) they diverge:[7]

(8a) [wént] [to Africa]

(8b) [We're nót] [to léave]

(9a) It was Africa my brother [wént to]

(9b) [We're nót to]

[Zwicky 1982a:6]

As these examples show, infinitival and prepositional to are morphemes which combine into phonological phrases with adjacent material.[8] Zwicky's term for such elements is "leaners," and he defines them as follows:

> [They] form a rhythmic unit with the neighbouring material, are normally unstressed with respect to this material, and do not bear the intonational peak of the unit (p. 5).[9]

Examples (8) and (9) also illustrate the fact that leaners can attach either to the right or to the left, and further, that readjustment can result in a leaner attaching in the opposite direction from that in which it would have attached were it not "stranded."

In the examples above readjustment was obligatory. However, Zwicky points out that in some cases it is optional. For example, English object pronouns can be stressed (as in (10a)), or they can be stressless (as in (10b))[10], in which case they are leaners.

(10a) [I sáw] [hím]

(10b) [I sáw him]

[Zwicky 1982a:6]

The balance of this article is concerned with defining the conditions under which readjustment may or may not occur, in the particular case of infinitival to.

4.3 Inflectional Affixes vs. Clitics (Zwicky and Pullum 1983)

In this article, an attempt is made to distinguish simple clitics from inflectional affixes. Zwicky and Pullum list six criteria, as follow:[11]

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

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

3. Morphophonological idiosyncracies [e.g. suppletion] are more characteristic of affixed words than of clitic groups.

4. Semantic idiosyncracies are more characteristic of affixed words than of clitic groups.

5. Syntactic rules can affect affixed words, but cannot affect clitic groups.

6. Clitics can attach to material already containing clitics, but affixes cannot (pp. 503-504).

In this paper, Z&P refine the typology of Zwicky 1977 so that the three-way distinction among clitic types is reduced to a dichotomy between simple and special clitics. Simple clitics remain as defined in Zwicky 1977, but the category of special clitic now subsumes the earlier categories special clitic and bound word. Z&P's two classes are thus distinguished by the possibility of an associated full word[12] appearing in the same position as the clitic: if a corresponding full word can appear in this position, the clitic is a simple clitic; if not, the clitic is a special clitic. Note that the factor of having or not having a corresponding full word is no longer criterial for special clitic status under the revision proposed in this paper.

The relevant criterion is whether or not the corresponding word, if it exists, could replace the clitic in situ. If it can, the clitic is a simple clitic. If it cannot (or if there is no such word), the clitic is a special clitic. Since bound words (in the old terminology) have no associated full forms, they fall into the class of special clitics by default.

4.4 The Interface Program (Zwicky 1984)

At this point we turn to a paper of Zwicky's which considers issues larger than just the status of cliticization. This is necessary in order to understand the position which Zwicky ascribes to cliticization in the grammar.

The paper deals primarily with the following question: "Does linguistic theory prescribe ... a division [into components], and if so, what sorts of components are permitted or required?" (p. 365). In answering this question, the author describes the model of grammar which he and Geoffrey Pullum have been working on together, which they call the Interface Program (IP):

> The basic tenets of the IP are high modularity and limited interfacing: a large number of components, interfacing with one another in the simplest possible ways. In the scheme of Zwicky (1982b), there are ten:
>
> Relational (or cyclic) syntax
> Syntax proper (or postcyclic syntax)
> Readjustment and cliticization
> Sentence prosody

Free deletion
Word formation
Allomorphy
(Nonautomatic) morphophonemics
Surface filters
(Automatic) phonology

and these are linearly ordered (pp. 373-374).

What is important for our purposes is an understanding of the structure of such a grammar.[13] Under this view, cliticization is part of an autonomous component of the grammar, following the syntactic components and preceding the phonological (and morphological) components. Notice that this model predetermines the kinds of elements which count as clitics, in that anything which is the result of a phonological process is irrelevant to the cliticization component, and thus not a "clitic." This point will be important for analysis of the Mixtec "clitics."

4.5 Clitics vs. Words (Zwicky 1985)

This article examines the opposite side of the issue examined in Zwicky and Pullum 1983; that is, here a list is compiled of the characteristics which distinguish clitics from full words. Zwicky lists four types of tests which can be used to this end, three of which are relevant to our present concerns:[14]

Phonological Tests: A clitic-plus-word group creates a phonological word, while a word-plus-word group creates a

phonological phrase. Rules of internal sandhi affect the former, while rules of external sandhi affect the latter. Rules of prosodic phonology may affect either,[15] thus:

> ... if an element counts as belonging to a phonological word for the purposes of accent, tone, or length assignment, then it should be a clitic. If an element counts as belonging to a phonological phrase for these purposes, it should be an independent word (Zwicky 1985:286).

An Accentual Test: It is often claimed that clitics cannot bear stress, whereas full words can. Zwicky points out that this test is not a reliable test for clitichood, first because of the existence of cases of stressed clitics,[16] and second, because of the existence of independent words which do not normally bear stress.[17]

Tests Using Similarities between Clitics and Inflectional Affixes:

(a) Binding - Clitics, like affixes, are bound.

(b) Closure - Clitics 'close off' words to affixation (and some may close off words to further cliticization) just as some inflectional affixes 'close off' words to further affixation.

(c) Construction - This test relies on the claim that clitics pattern like affixes in combining with stems or full words (as opposed to words, which combine with other words or with phrases). Zwicky points out, however, that some of what he calls "indubitable clitics" do combine with phrases,

and thus that "construction with phrases is not a reliable test for words as opposed to clitics" (1985:288).

(d) Distribution - Clitics, like affixes, have distributions which can be stated in terms of a single, simple principle (e.g. "combines with adjectives," or "is located in second position"), whereas words usually have complex distributions which cannot be stated with a single principle.

(e) Complexity - Affixes and clitics are not morphologically complex, whereas words frequently are. Zwicky points out that Klavans (1979) argues for inflected clitics, and that acceptance of her arguments would invalidate this test.

(f) Syntax - Deletion, replacement, and movement (in transformational terms) are syntactic processes which only apply to words; subparts of words (i.e. affixes and, it is claimed, clitics) are immune to these processes.

Finally, Zwicky also offers what he calls a "meta-criterion" for determining clitichood:

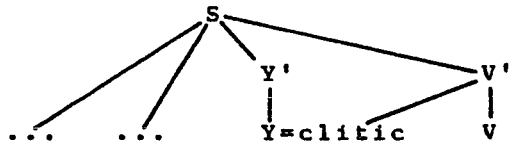
> In the absence of clear evidence classifying an item one way or the other, we should assume that the item is a word... [M]y claim is that, ceteris paribus, an item whose standing is unclear is most likely to be an independent word, next most likely to be an inflectional affix, and least likely to be a clitic (1985:289).

4.6 Bound Words and Phrasal Affixes (Nevis 1985)

Nevis, following Zwicky (1984), and Zwicky and Pullum (to appear), adopts a modular theory of grammar in which syntax and phonology are autonomous, and interface linearly.[18] A model such as this would exclude a rule which simultaneously positioned and attached a clitic to its host, due to the "mixing" of syntactic and phonological levels that such a rule would entail. Thus, the theory must distinguish and separate the syntactic aspect of cliticization (i.e. positioning) from the phonological aspect (i.e. subordination of the clitic to its host).

The need for the distinction between these two factors in analysis of cliticization was first pointed out by Judith Klavans in her 1980 dissertation. In developing precise parameters for the description of clitic placement she cites data from Nganhcara (a language of Australia) and Kwakwala (Kwakiutl), in which the phonological host of a clitic is not necessarily the same as its syntactic, or structural host.[19] In Nganhcara, a verb-final language, there are pronominal clitics which are syntactically dependent on the verb, in that they always occur immediately before it. However, they are phonologically dependent on (i.e. are enclitic to) whatever constituent immediately precedes the verb. (11) (adapted from Klavans 1980:78) may help to make this clearer ("=" represents phonological dependence):

(11)



Examples such as these demonstrate the necessity of developing a theory in which the syntactic aspects of cliticization may be dealt with separately from "liaison," as the phonological aspect of cliticization has come to be known.

Within the approach taken by Nevis, liaison takes place in an independent component of the grammar called "readjustment," which is ordered after syntax and before a component of sentence prosody (Nevis 1985:135; see also §4.4). For Nevis, liaison is equivalent to simple phonological concatenation:[20] it cannot involve any process such as reduplication, infixation, etc. The only thing that rules of liaison may be called upon to do is to change a word boundary into a clitic boundary.[21]

Nevis further argues that the term "clitic" should be abandoned in favor of the more specific terms bound word and phrasal affix. Bound words are precisely that: dependent words, necessarily bound by the operation of liaison such that they form a phonological word with their host. Such words are marked in the lexicon with a feature [+liaison], and are positioned by the syntax just as other words are. Phrasal affixes are similar to inflectional affixes,[22] but

they are positioned outside of true inflectional affixes, attaching instead at the margins of constituents (i.e. before or after the phrasal host).[23] They are distinguished from bound words by two related criteria: first, they are located closer to the host than bound words are, and second, their interaction with the host is greater than is the interaction of bound words with their hosts. This is schematized in (12) (adapted from Nevis 1985:84):

(12) BOUND WORD - PHRASAL PREFIX - INFL. PREFIX -
DER. PREFIX - STEM - DER. SUFFIX -
INFL. SUFFIX - PHRASAL SUFFIX - BOUND WORD

Nevis exemplifies this relative ordering with data from Finnish. He discusses Finnish particle clitics, which are bound words and are subject to Vowel Harmony (a rule of internal sandhi), and Finnish possessive suffixes, which are phrasal affixes and are subject to additional rules of internal sandhi such as stem formation and allomorphy (Nevis 1985:84).

4.7 Connected Speech Phenomena (Kaisse 1985)

Kaisse (1985) adopts the Government and Binding model of grammar as a starting point, and enriches the standard model by distinguishing between (and accounting for) three kinds of connected speech phenomena, as follow:

Simple Cliticization: Kaisse uses this term to refer to a syntactic operation which adjoins, in connected speech, one word to another word (or phrase). (One of Kaisse's major claims is that precise structural conditions govern the occurrence of simple cliticization. We will not be concerned with this aspect of her work here.) She contrasts this account of simple cliticization with the view which conceives of the process primarily as a phonological operation consisting of the reduction of full forms to clitic forms.

One of the examples which she uses in support of her analysis is Auxiliary Reduction in English. She argues convincingly that the clitic forms of English auxiliaries and modals cannot be related to the full forms by productive phonological rules. Consequently, she argues, the clitic forms must be considered suppletive allomorphs of the full forms, rather than the result of regular rules reducing full forms in given contexts. One particularly nice piece of evidence given in support of listing such forms in the lexicon is the fact that certain reduced auxiliaries in English are beginning to show the kinds of changes in their meanings and uses typical of lexicalized elements (but atypical of forms reduced phonologically), as illustrated by the pairs 'Where's the lions?/*Where is the lions?' or 'Here's a few more facts/*Here is a few more facts'. This is not to say that simple clitics (in Kaisse's use of the

term) cannot be shown to be diachronically related to the corresponding independent forms, but simply that they cannot be claimed to be derived synchronically by productive phonological rules.

Rules of External Sandhi: These are "genuine phonological rules of connected speech ... sensitive to syntactic structure or lexical category labels" (p. 4). The examples given by Kaisse are for the most part extremely complicated, but perhaps the general idea can be conveyed by inspection of just the statement of one of the simpler rules, that of vowel shortening in Kimatuumbi (a Bantu language). Briefly, the condition on vowel shortening is given by Kaisse as follows: "A vowel in word a is shortened if a is followed by a b that it c-commands" (p. 178). The reader is directed to Chapter 7 of Kaisse's book for explication of this phenomenon (and for other examples of this class of rules). However, mere inspection of the form of this rule should give one an idea of the kind of process involved in rules of external sandhi; i.e., the Kimatuumbi vowel shortening rule is a true phonological rule, but crucially stated in terms of the syntactic structures which contain the segments in question. Kaisse characterizes the difference between Simple Cliticization and Rules of External Sandhi informally as the distinction between what happens when a "little" word meets up with a "big" word (the

former) and what happens when a "big" word meets up with another "big" word (the latter).

Rules of Fast Speech: These are also genuine phonological rules (and again, concern the interaction of two "big" words), but the difference between these and the last class is that these rules operate within and between words, without regard for the syntactic structures that contain the words involved. The English rule of Flapping is given as an example of a Fast Speech rule, and Kaisse states it as follows: "[Flapping] voices and perhaps sonorantizes any intervocalic ambisyllabic t" (p. 25).[24] Flapping is therefore conditioned phonologically, but not syntactically.

The diagram below illustrates the manner in which Kaisse fits these three types of rules into the model of grammar assumed in the GB framework.

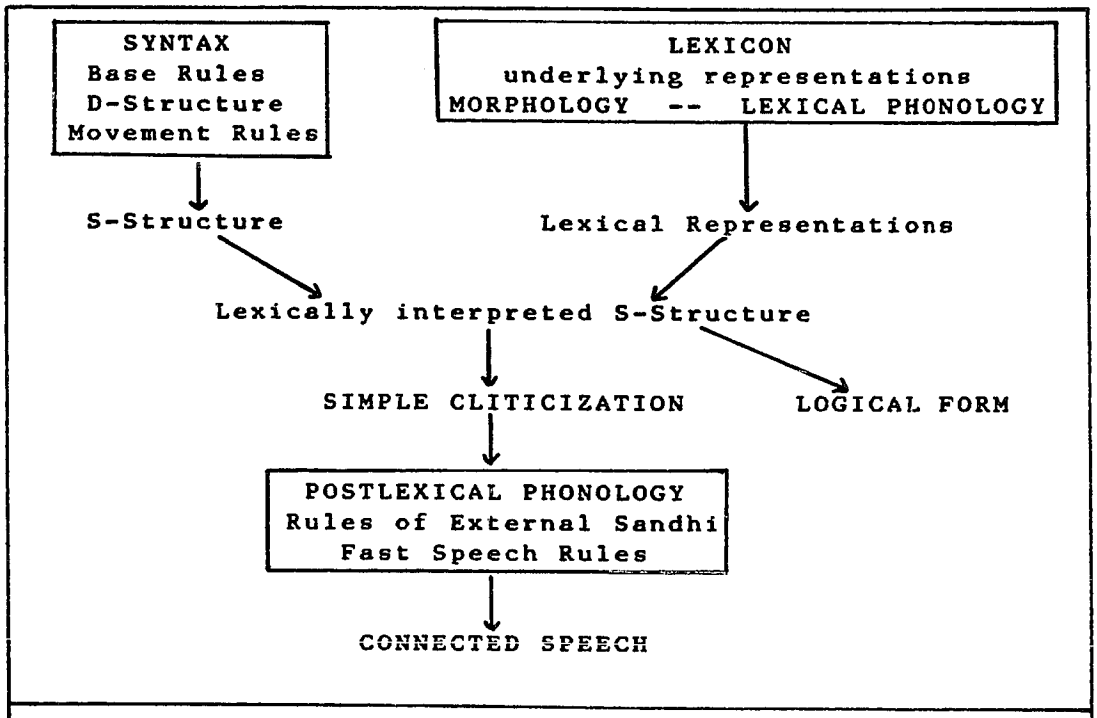


FIGURE 1 (Kaisse 1985:6)

4.8 Discussion

It might appear to the reader that the classifications of clitic (and related) phenomena just reviewed are mutually incompatible. This section will show, however, that some of what has been discussed simply constitutes different divisions of a single range of phenomena, while the rest can be regarded as a complementary and intersecting categorization of a different area. We will find it useful to draw from all of these classifications in order to account for the

Chalcatongo Mixtec data to be discussed in this dissertation.

Zwicky's first articles on clitics and cliticization suggest a typology of morphological elements as follows:

(13) WORDS - LEANERS - CLITICS - AFFIXES
-simple
-special
-bound words

This categorization is inconsistent in one respect, however. As discussed in §4.1, the category of simple clitics actually has two subcategories -- those elements which are phonologically idiosyncratic (i.e. those which do not show a regular relationship to corresponding full forms), and those which are derivable by regular phonological rules from corresponding full forms. The former class is legitimately a member of the general realm of morphological type which (13) represents, but the latter is a purely phonological phenomenon. We will return to this problem shortly.

Nevis (1985) divides up the same range of phenomena (i.e. morphological type) in a slightly different manner, and does away with the category label "clitic" entirely:

(14) WORDS - BOUND WORDS - PHRASAL AFFIXES - AFFIXES

In an article not discussed above, Zwicky (1987) adopts Nevis' framework, but makes the suggestion that phrasal affixation is actually a kind of inflection. We will not be concerned here with the arguments he makes for this position

(which he acknowledges is tentative), but will rather simply observe that we can put this framework together with Zwicky's work on leaners (1982a) to come up with the following typology of morphological elements:

(15) WORDS - LEANERS - BOUND WORDS - PHRASAL AFFIXES - AFFIXES

We can briefly characterize each of these classes as follows:[25]

(a) Words and leaners form a phonological phrase with their host, and do not show "special phonology" (no suppletion or idiosyncracies).

(b) Leaners can be optionally or obligatorily bound, and the phonological phrase of which they are a part may or may not correspond to a syntactic phrase.

(c) Bound words, phrasal affixes, and (inflectional) affixes form a phonological word with their host, and can show "special phonology."

(d) Bound words can be optionally or obligatorily bound, are members of some syntactic category (which may or may not also contain members which are free words), and attach outside of phrasal and other affixes.

(e) Phrasal affixes are like inflectional affixes in that they may have a phonological shape which is not possible for free forms (e.g. [z] - one of the allomorphs of

the English genitive), but are like bound words in that they are located outside of inflectional affixes, and may attach promiscuously (i.e. exhibit a low degree of selection with respect to their hosts).[26]

(f) Inflectional affixes are more likely to show morphophonological and semantic idiosyncracies than phrasal affixes are. They cannot attach to a form which already has a phrasal affix or bound word attached.

Turning now to the categorization reviewed in §4.7 (Kaisse 1985), we observe that Kaisse's subject matter is somewhat different from that of Nevis or Zwicky. Her concern is connected speech phenomena, which she claims fall into three categories of rules: simple cliticization (which is a syntactic operation); rules of external sandhi (which are phonological rules sensitive to syntactic facts); and fast speech rules (which are phonological rules not sensitive to syntactic facts). Note that this range of phenomena is not equivalent to the range considered by Nevis and Zwicky.

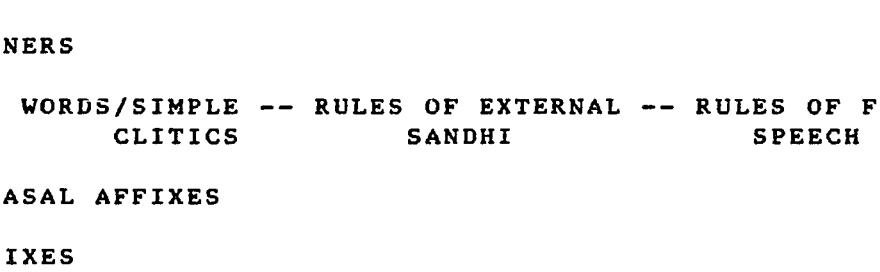
To clarify this, we can characterize two broad areas into which so-called "clitic" phenomena fall as "morphosyntactic" and "prosodic" (or "phonological"). Within the former domain we account for those elements which are positioned by the syntax, and phonologically subordinated by what Zwicky and Nevis call "liaison," while within the

latter domain we account for the results of processes which are purely phonological in nature.[27]

All three authors (but especially Zwicky and Kaisse) concern themselves with elements from both areas. We can categorize "phrasal affixes" and "bound words" as items attached morphosyntactically, and "leaners" as items attached prosodically. The phonologically idiosyncratic simple clitics of Zwicky 1977 are elements which are attached morphosyntactically, but the regular simple clitics belong in the other realm. Kaisse's simple cliticization is a syntactic operation (which therefore falls into the morphosyntactic domain), while her rules of "external sandhi" and "fast speech" are phonological in nature.

The two domains of classification intersect as shown in (16):

(16)



In this diagram, the vertical axis represents morphological type, while the horizontal axis represents types of rules of connected speech. The two domains intersect at bound words/simple clitics. Indeed, Kaisse (1985) and Zwicky

(1987) use the same example to characterize this category: reduced ("contracted") auxiliaries in English.[28] The difference is that Zwicky focuses on bound words as elements, whereas Kaisse is more concerned with the conditions under which such forms appear in connected speech.

Note that the word "clitic" is almost entirely absent from the above schema. This is in keeping with Zwicky's characterization of the notion as "pretheoretical" (1987:2). The Zwicky-Nevis classification represented in (15) and (16) is closely tied to the GPSG framework in which they both work. They see the categories listed above as theoretically distinct, and handled in separate components of the grammar (cf. the discussion in §4.4 of the "interface program"). "Clitic" is a more general term which Zwicky uses for the broad category of "elements whose description requires more than the stipulation that they may or must be prosodically dependent" (1987:1). This rules out use of the term to describe elements which are phonologically or prosodically attached, such as leaners and the results of fast speech rules.

In this dissertation I adopt the terminology and distinctions illustrated in (16). I show that recognition of elements accounted for by both morphosyntactic and prosodic attachment (as well as the more usual categories of inflectional and derivational affixation) is necessary for an accurate account of the broad range of phenomena which

has been referred to as "cliticization" in Mixtec (Pike 1944, and others). As it turns out, we will only need to call on one of the morphosyntactic clitic types (the phrasal affix) and one kind of prosodic attachment (Kaisse's rules of fast speech)[29] in order to account for the Mixtec data. Justification of the classification of each type of element appears in the relevant chapter, and further discussion appears in Chapter 9.

-- Notes --

1. In this chapter I am especially indebted to Arnold Zwicky for his patience and help, although I of course take full responsibility both for my representation of his work, and for the conclusions that I draw.

2. One aspect of the cliticization issue which has received a great deal of attention in the literature is that of clitic placement (or movement). Since this is not relevant to the kinds of data found in Mixtec, it will not be addressed in this chapter.

3. In the latter, of course, it remains syllabic, which is a further aberration.

4. Klavans (1980) points out that a sentence like the unacceptable version of (3a) would be acceptable with a clitic inserted before the verb: La pluma, la tengo. In addition, Tom Larsen has pointed out to me that there are some dialects of Spanish for which a sentence like La pluma tengo is perfectly acceptable. The examples in (3), then, only provide a valid illustration of the distributional differences between special clitics and full NPs for certain dialects of Spanish.

5. One might object that this definition is overly broad (i.e. it might be interpreted as including affixes), but I am sure that Zwicky never intended it to be a sufficient definition of the category "clitic." The point he is making has to do with the expression "word-like unit" as it contrasts with "phrase," as will be explained below.

6. The exact nature of this restructuring is not crucial to Zwicky's arguments; he says that Chomsky-adjunction "can at least plausibly be appealed to" (p. 29).

7. Following Zwicky's convention, brackets indicate phonological phrasing in these examples (and in (10) as well).

8. Zwicky takes care to point out that the tc which he is discussing is distinct from the clitic to, which forms phonological words with its hosts, as in 'wanna', 'hafta', etc.

9. The quote continues: "English articles, coordinating conjunctions, complementizers, relative markers, and subject and object pronouns are all leaners in this sense" (p. 5).

10. This example is somewhat confusing at first glance, since the bracketing shown in (10a) (in which him is not a leaner) does not correspond to syntactic structure either (i.e. there is no syntactic constituent corresponding to subject plus verb, and excluding direct object). This structure is given, however, to reflect a restructuring which is independent of that required to deal with the word him; that is, the subject pronoun is also a leaner. The point of the example is only to show the optional nature of readjustment with respect to the object pronoun him.

11. Keep in mind that, in the list that follows, Zwicky and Pullum use the word "affix" to refer only to inflectional affixes, and "clitic" to refer only to simple clitics.

12. By "associated," Z&P are referring here to the relationship that a simple clitic bears to the full word which would otherwise appear in its position.

13. I should point out that Zwicky makes some disclaimers with respect to the precise components listed above, and to the manner of their interface - see pp. 373-374. In addition, I will not be concerned here with the kinds of arguments made in favor of such a framework. The reader is referred to the article (and the other articles listed for Zwicky and Pullum in the references to this dissertation) for details.

14. The fourth test is specific to the authors' "interface" model of grammar, and will be omitted here.

15. Tegey (1977:263-267) makes a different claim: that languages differ with respect to the interaction of cliticization and phonological rules such as stress assignment. He illustrates this claim with data from Macedonian (in which the clitics are counted for purposes of stress assignment) and Dari (in which the clitics are not counted in stress assignment). Tegey fails to recognize, however, that these data involve two distinct kinds of stress: inherent stress (assigned to the final syllable of words in the lexicon of Dari, therefore excluding the clitics) and phrasal or sentential stress (in Macedonian a rule of sentence prosody assigns stress to the phonological word, which includes clitics). Thus Tegey's data is not contradictory to Zwicky's phonological test for clitichood.

16. Zwicky cites Klavans 1982; see also Wanner 1978a and 1978b.

17. These are the "leaners" (see §4.2).

18. See §4.4. For more details the reader is directed to the sources just noted, as well as to Nevis' dissertation (Nevis 1985).

19. A third case is found in Payne 1983, in which the object clitics of the Peruvian language Yagua are described. In this language, the clitic that marks direct object always occurs enclitic to the element that immediately precedes the direct object.

20. In Zwicky's view, as mentioned earlier, liaison is more complicated. He conceives of it as syntactic restructuring, achieved by Chomsky-adjunction.

21. This is somewhat simplified: Nevis also says that direction of attachment and certain syntactic conditions (such as head and margin of constituent) must be specified for liaison operations (Nevis 1985:80). He is vague, however, about how and where these are specified.

22. Nevis views both as clusters of features.

23. Once again, the reader is referred to Nevis' dissertation (specifically, §4.3.1.2) for details of the syntactic mechanism he proposes to accomplish this.

24. Again, the reader is referred to Kaisse's book for details. Flapping is discussed in pp. 25-35.

25. These characterizations are primarily from Zwicky 1987, although parts are also drawn from the sections above.

26. See Zwicky 1987:4-5 for a more complete characterization of bound words and phrasal affixes.

27. It might appear at first glance that the distinction made in Zwicky 1977 between simple clitics (on the one hand) and bound words and special clitics (on the other) corresponds to the distinction between morphosyntactic and phonological phenomena. However, these categories are not isomorphic. As was pointed out in §4.1 (and above), the category of simple clitics may be divided into those which show a regular relationship to some corresponding full form and those which do not. It is only the former which fall into the class of prosodically attached elements, while the latter (forms which exhibit "special phonology") have to be analyzed as morphosyntactically attached. This subset of Zwicky's "simple clitics" corresponds to an entire category of Kaisse's, also called (unfortunately, in my opinion) "simple clitics."

28. Recall also from §4.7 that Kaisse informally characterizes simple cliticization as what happens when a "little" word meets up with a "big" word. The "little" words to which she is referring correspond to Zwicky and Nevis' "bound" words.

29. We will see also that we can distinguish subtypes of phrasal affixes along the lines of Zwicky's 1977 typology.

Chapter 5

Phrasal Affixes

This chapter presents the phrasal affixes of Chalcatongo Mixtec. Among these, only the set of pronominal enclitics and the negative proclitic fit into the category of "special clitic"; i.e. have related full forms with different positional requirements. The remaining cases occur only in bound form.

5.1 The Pronominal Clitics

Table V displays the full set of pronominal clitics for the Chalcatongo dialect, as well as the corresponding pronouns and nouns. Note that there is only one inherently plural pronoun (yo?o, first person inclusive). Plurals of other persons and genders may be formed by addition of the prefix ka- to the verb stem, or by addition of a quantifier to the sentence. (This is discussed further in Chapter 6.) The last clitic in the table is somewhat exceptional; this is discussed below.

PERSON/GENDER		FULL FORM	CLITIC FORM
1	Familiar	ru?u	-ri
	Polite	na?a	-na
	Inclusive PL	yo?o	-yo
2	Familiar	ro?o	-ro
	Polite	ní?í	-ni
3	Masculine	čàà 'man'	-re
	Feminine	ña?a 'woman'	-ña
	Polite	to?ò 'respected one'	-to
	Animal	kɨtɨ 'animal'	-tɨ
	Supernatural	i?a 'god'	-ya
	Young male, or Deceased	(yíí 'male')	-yi

Table V

As mentioned above, the last clitic listed in Table V is somewhat problematic. First, it is falling out of use among Chalcatongo speakers. Not all speakers know it, and few use it. Second, its set of referents do not, at first glance, seem to form a natural class, although we will see below that this form corresponds to an older pronominal whose set of referents fall together fairly naturally under the label "non-human." Finally, -yi does not have a corresponding full noun with precisely the same conditions of use. That is, yíí 'male' is used only for living males, and furthermore, may be used for old as well as young males.

Table V shows yíí in parentheses to indicate that it is not a perfect match.

It is in general true that the number of third person forms in common use in Chalcatongo Mixtec is decreasing. My primary consultant (Mr. Cortés) uses only the Masculine, Feminine, and Polite clitics regularly, the Animal clitic occasionally, and has only passive knowledge of the Supernatural form. He is not familiar at all with the "Young male/Deceased" form. Data from other dialects of Mixtec suggest, in fact, that it is likely that there were once even more third person forms in use in the Chalcatongo dialect than just those listed in Table V. Dyk and Stoudt (1965), for example, list a clitic -í for San Miguel Mixtec, which they claim corresponds to the noun sùčí 'child',[1] and Bradley (1970:50) lists clitic pronouns in Jicaltepec Mixtec for Human (specific for male or female, and collective), Supernatural, Animal, Inanimate, Diminutive, and Common. Furthermore, Arana and Swadesh (1965:25) cite sixteenth century third person clitics for Noble (equivalent to the Chalcatongo Supernatural), Polite, Feminine, Masculine, Water, Plant or Wood, and one for Child, Thing, or Dead Person. (This last is the set which may be subsumed under the label "non-human".)

The Mixtec pronominal clitics are special clitics in the terminology of Zwicky (1977), and phrasal affixes in the analysis of this dissertation. We will return to the latter

claim below. With respect to the former categorization, we note that the clitics are phonologically related to a set of independent pronouns and nouns, and that they appear in different syntactic environments than the full pronominals do. Examples (1) through (3), below, illustrate the positional restrictions on the subject pronouns and pronominal clitics.

(1a) nì-yee-ri
CP-eat-1(CL)
I ate

(1b) ru?u nì-yee
I CP-eat-1
I ate

(1c) ru?u nì-yee-ri
I CP-eat-1(CL)
I ate

(2) *nì-yee(-ri) ru?u

(3) *ri-nì-yee

As (1a-c) show, person of subject can be specified with a pronominal enclitic, a full pronoun, or both.[2] Examples (2) and (3) show that a full subject pronoun may not appear postverbally, and that clitics may attach only to the end of the V' (the status of this constituent will be discussed further below). Note that these positional restrictions hold only for pronominal subjects. Nominal subjects may occur either in Topic position, or following the verb.

Independent pronouns and nouns also appear as direct objects (as in (4) and (5)), and as the standard of comparison in a comparative construction (as in (6)):

(4) kĭ?ĭ číndé-ri ró?ó
go help-1 you
I'm going to help you

(5) na-číndé yó?ó
SJ-help us
He should/must help us

(6) ni-yéé-ka-rí takú ásu ró?ó
CP-eat-ADD-1 taco than you
I ate more tacos than you did

The clitics are used to mark subjects on verbs (as illustrated above), on locatives and directionals (as in (7) and (8), below), and as pronominal possessors (as in (9) and (10)). They are prohibited from appearing in the contexts just described for the full forms.

(7) ni-ka-há?a nùù-rí kWã?ã šãã ñáyĭũ
CP-Pl-pass face-1 many many people
Many people came towards me

(8) ndé?é-rí ičí-de nú-bei-de ičí yá?a
watch-1 path-3M if-come-3M path here
I am watching (to see) if he is coming here

(9) sé?é-rí 'my son'
son-1

(10) be?e-ró 'your house'
house-2

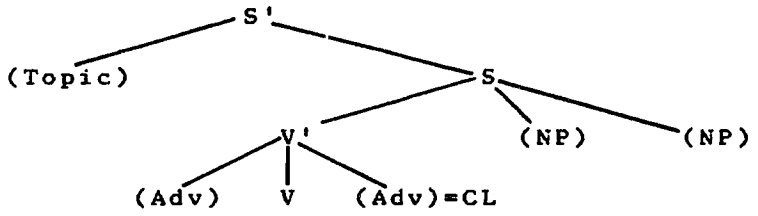
The data presented thus far confirm that the Mixtec pronominal clitics are "special clitics," as defined in Zwicky 1977. However, under the typology and terminology defined and adopted in Chapter 4, §8, these kinds of distributional facts are not criterial for any single category. Evidence of the status of these elements as indubitable phrasal affixes is seen instead in examples like (11) and (12):[3]

(11) ni-yéé-rí staà
CP-eat-1 tortilla
I ate

(12) ni-yéé šãã-rí staà
CP-eat much-1 tortilla
I ate a lot, I ate excessively

In (11) the first person subject marker attaches directly to the verb, and we have no way of knowing a priori whether it is an inflectional affix, or whether there is a phrasal boundary at that point which just happens to coincide with the "edge" of the lexical item (the V). In (12), however, the subject marker attaches not to the verb, but to the adverbial šãà. This indicates that the pronominal is positioned at the right margin of the constituent which contains the verb (call it V'), and is evidence that the pronominal clitics are phrasal affixes.[4] (13) illustrates this structure.

(13)



The only category which may follow the verb within the V' constituent is adverb. (14) and (15) provide additional examples (the adverbial is underlined in each):

(14) ma-kú?ni ni?i-ró
NEG/SJ-tie tight-2Sg
Don't tie it tightly

(15) a-ní-yo šãã kWíya ni-hinu ba?à-ka-rí te bina tú-a
already-CP-exist many year CP-run well-ADD-1 and now NEG-still
Years ago I could run well but not any more

5.2 Additive/Restrictive

The Additive and Restrictive morphemes are a complementary pair of phrasal affixes which attach to a wide variety of categories in almost any position. The Additive indicates the notions 'more', 'most', 'to excess', etc., and the Restrictive, 'just', 'still', 'alone', 'only', etc. Their functions will become clear in the examples that follow.

The most common position for one of these elements is immediately following the verb (either stem) or predicate adjective, as in (16) through (19), below. These two clitics, like the pronominal clitics, attach after any postverbal modifier, as shown in (20) through (22). (16), (18), and (19) additionally show that the Additive/Restrictive clitic immediately precedes the pronominal clitic when both are present.

(16) ni-yéé-ka-rí takú ásu ró?ó
CP-eat-ADD-1 taco than you
I ate more tacos than you did

(17) soko yá?a kWa-kù-kúnú-ka
well that go-COP-deep-ADD
The well is getting deeper

(18) ro?o yèe-ní-ró
you eat-RES-2
You just eat, keep eating

(19) kWɨtɨ kĭ?ĭ kèè-ni-rí ùù
just go eat-RES-1 two
I'm just going to eat two

(20) na-kĭ?ĭ Juan či-hínú yači-ka
SJ-go Juan because-run fast-ADD
Juan should go because he runs faster

(21) Juan ka?nù šãã-ka asù Pedro
Juan fat much-ADD than Pedro
Juan is much fatter than Pedro

(22) kaka kWéé-ní
walk slow-RES
Just walk slowly

-ka and -ni also appear on noun phrases in any position (including Topic), as illustrated below. They also appear inside noun phrases, especially when there is a quantifier of some sort modifying the noun, as in (26) through (28). This does not falsify the claim that these two elements are phrasal affixes; rather, in these cases the Additive or Restrictive element attaches to the modifying phrase contained within the noun phrase.

(23) kWà?à uù ndika-ka nuu-rí
give two banana-ADD face-1
Give me two more bananas

(24) ha-súčí-ka ni-tá?u vídrio
NOM-young-ADD CP-break window
The youngest one broke the window

(25) ñànì-ni-rí kii
brother-RES-1 come
Just my brother is coming

(26) tá?u-ni hàlúlí yóó
few-RES child exist
There are just a few children here

(27) yée ùù-ka sta
eat two-ADD tortilla
He's eating two more tortillas

(28) ru?u ñába?a-rí hoò-ka šũ?ũ te máá ñába?a kWà?à-ka
I have-1 little-ADD money and he have much-ADD
I have less money than he does (Lit: I have
little money and he has more)

(28) is an interesting sentence, for two reasons. First, the clitics in it resolve a possible structural ambiguity. The sequence verb-quantifier-noun (as illustrated in ñába?a-rí hoò-ka šũ?ũ) could be interpreted in two ways: the quantifier could be a postverbal modifier, or it could be a prenominal modifer. The pronominal clitic on 'have', however, indicates that the verb is at the right margin of the V', and that therefore the quantifier is within the NP which follows it. (This sentence also represents another instance of the Additive attaching to a modifier within the NP, rather than to the noun phrase itself.)

The other point of interest in (28) is a semantic one: note that the Additive can be added to a word like hoò 'little', with the result meaning 'less'. From this we see that -ka, when added to a scalar adjective, draws the reference point further towards the relevant end of the scale, whether it is the positive or the negative end.

Finally, the Additive and Restrictive also appear in sentences with no verbal or adjectival predicate, as in (29) through (31). In these cases, -ka and -ni simply attach to the noun, adverb, or quantifier that makes up (or is part of) the sentence.

(29) té ndéu-ka
and who-ADD
And who else?

(30) kWa?a šãã-ká ñáyĨũ
much many-ADD people
There are many more people

(31) ya?a-nì
here-RES
Right here

5.3 On "Noun Incorporation" in Mixtec

On the basis of examples like (32) and (33), below, Hills and Merrifield (1974) claim that Ayutla Mixtec shows "object-incorporation":[5]

(32) nisuku?-ka bétú ár̃ó nùu? yivi?
fell-again Bob rice face mat
Bob again thrashed rice onto the mat

[1974:285, example (23)]

(33) nisuku? ár̃ó-ka bétú nùu? yivi?
fell rice-again Bob face mat
Bob thrashed rice again onto the mat

[1974:285, example (22)]

Hills and Merrifield argue that the position of -ka in (33) is evidence of object incorporation. There are two objections we can make to this claim. First, if this were noun incorporation, (33) would not be a typical instance, since incorporation of some non-referring generic patient (or other non-agent) is the usual case (Mithun 1986). The object in (33) ('rice') is not only more specific than one would expect in a true instance of noun incorporation, it is

also atypical in that 'rice' is not a culturally relevant concept, as incorporated nouns usually are.[6] The second objection is more concrete: since we have seen above that -ka may attach to other phrasal categories besides just verb (examples (23) through (31) illustrated this point), we know that its appearance after 'rice' in (33) is not evidence that the noun is part of the verb (or verb phrase). Recognition of the Additive morpheme as a phrasal affix, however, allows us to dispense with the need to invoke noun incorporation to account for sentences like (33). Under this analysis, -ka is simply attached to the object NP, and the sentence would probably be better translated as "Bob thrashed more rice onto the mat."[7]

Hills and Merrifield also claim that there is "instrument-incorporation" in Mixtec, as in:

(34) kũ-na?i šíí? ñùnu?-a? ña?mi vi?e-a?
go-carry with bag-she yams house-her
She will carry in her net bag yams to her house

[1974:286, example (46)]

In this case, they see attachment of the pronominal prefix to the instrument phrase as evidence of the incorporation of that phrase. Notice, however, that their translation indicates that the 'net bag' (ñùnu?) is possessed by the subject. A far simpler analysis would have it that the sentence has a zero third-person subject, and that the pronominal on the instrument phrase is merely the possessor of the nominal.

Examples like these, then, provide no basis on which to claim that there is noun incorporation in Mixtec.

5.4 Negation

Chalcatongo Mixtec has a bound negative marker tu- which corresponds to the full word tuu 'no'. A fairly accurate generalization of the distribution of the bound morpheme is that it attaches to the left of the V' (although, as we will see, there are problems with this characterization). Examples (35) through (37) illustrate.

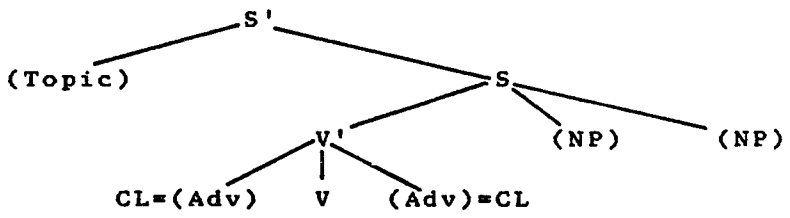
(35) tu-ni-híyaa-ró
NEG-CP-be+located-2
You weren't there

(36) tu-ká-ku-sɨ̀ɨ̀ iní-ro
NEG-PL-INCHO-happy inside-2
You (pl) don't feel happy

(37) tu-šã̀ã̀ sa?a bĩ̀hĩ̀
NEG-much make cold
It's less cold

In (35) and (36), we see tu- attaching directly to the inflected verb, before the Completive prefix in the former, and before the Plural prefix in the latter. (37), however, shows that the negative marker is not itself a prefix, since in this case it attaches to the modifier which precedes the verb. We can add this information to the schematization of the Mixtec clause which was given in (13), as follows:

(38)



Because adjectives can be used predicatively without a copula, we also find tu- attached directly to adjectives, as well as to modifiers of adjectives:

(39) tu-ñí?ní
NEG-hot
It's not hot

(40) ndeyu tú-ya?u
food NEG-expensive
The food is not expensive

(41) sókó tú-šãã kúnú
well NEG-much deep
The well is not very deep

Sentences like (37), (40), and (41) show that tu- is placed after the topic and before the predicate phrase (V' in (37); presumably A' in (40) and (41)). However, tu- appears in a few other positions as well. First, it attaches to interrogatives to form negative indefinites, as in (42) and (43), below. These appear to occur only in sentence-initial position.

(42) tu-ndéu kĭ?ĭ-rí
NEG-where go-1
I don't have anywhere to go

(43) tú-ndéú ní-kii
NEG-who CP-come
Nobody came

It would be incorrect, however, to amend the generalization about placement of the negative marker on the basis of such sentences, saying instead that the negative marker can appear before the topic. (44) and (45) provide evidence:

(44) ró?o tú-ku?u-ro
you NEG-sick-2
You are not sick

(45) *tu-ró?o ku?u-ro
NEG-you sick-2

(44) and (45) show that tu- cannot appear before just any sentence-initial constituent. It may be that the interrogatives which are preceded by tu- in (42) and (43) is in focus position, rather than topic position (recall the discussion in Chapter 3 of sentences with two preverbal constituents), or it may be that there is something special about negative indefinites. It is also possible that these forms are lexicalized trisyllables; however, their restriction to sentence-initial position is suspicious if this is so. This is a problem which requires further research.

A second somewhat problematic case concerning the distribution of tu- is its occurrence with nouns. In affirmative sentences, nouns (unlike adjectives) cannot be used predicatively without a copula (see (46), below, for an example of a predicate nominal). However, as shown in (47) and (48), a negative predicate nominal does not require a copula.

(46) máa kú-yii-ri
he COP-husband-1
He is my husband

(47) tu-nù?ù
NEG-tooth
He doesn't have any teeth

(48) túu banco ñuùndéya
NEG bank Chalcatongo
There is no bank in Chalcatongo

It might look from these data as if tu- were a negative copula or existential (although that hypothesis would conflict with its cooccurrence with verbs). However, we find that tu- cooccurs with the copula in construction with predicate adjectives (as we saw in (36)), and it also cooccurs with the existential, as in (49):

(49) čàà tú-yó-se?e
man NEG-exist-child
That man has no children

An explanation for the cooccurrence of tu- with predicate nominals is suggested by (48); note that the negative marker appears in its full form in this sentence. I will tentatively adopt the hypothesis that it is the full word túu (meaning 'no') -- rather than the bound morpheme tu- -- which cooccurs with nouns. The monosyllabic form of the negative in sentences like (47) would then be explained by the operation of the usual rapid speech rule which deletes the second vowel of a word with two identical vowels. This is not what is claimed for the phrasal affix tu-. This form is an invariant monosyllable, with a different distribution than the disyllabic form has.

One final point about negatives in Chalcatongo Mixtec: there is another bound morpheme which is often translated as a negative. This is ma-, as illustrated by the following:

(50) ma-kǎ́?ã-ro nùù
ma-speak-2 face
Don't scold

(51) ma-kĭ?ĭ-rí
ma-go-1
I will not go

At first glance, we might say that ma- cooccurs with Potential aspect, while tu- cooccurs with Realized and Completive aspects. Indeed, this is exactly the analysis given in Alexander (1980). However, we occasionally find tu- attached to Potential stems, as in (52):

(52) tú-kačá?a-ró
NEG-dance(P)-2
Don't dance!

It turns out that ma- is actually a prefix, in complementary distribution with na- (Subjunctive). These two elements are discussed in Chapter 6, §1.3.

5.5 The Complementizer ha-

The complementizer ha- was briefly discussed in §3.1.2. There we saw that it introduces complements of purpose and result, as well as complements to verbs of speech, perception, and cognition. Ha- also introduces relative clauses. In this section the distribution of this element is explored.

Ha- is a monosyllabic phrasal affix which has no corresponding full form. In its complementizer function, it precedes subordinate clauses, attaching to the first element in the clause, whether that element is the predicate or a topicalized constituent. In (53) and (54), below, ha- introduces a verb-initial subordinate clause, and in (55) and (56) it introduces a topic-initial subordinate clause.

(53) Juan nì-kunì hà-nà-šukẂĩ̃-rí
Juan CP-want COMP-REP-turn-1
Juan wanted me to go back home

(54) sa?à hàsɨ́?ɨ́ wã́ã̀ ha-na-sá-kWɨ́te
make woman that COMP-SJ-CAUS-short
Make that woman shorten (it)

(55) ní-hìni-rí ha-úu hasɨ̀?ɨ́ lúlí ká-nde?e núu-rí
CP-know-1 COMP-two woman little PL-look face-1
I knew that two girls were looking at me

(56) kuní-ri ha-Juan na-kíno?o bé?e
want-1 COMP-Juan SJ-go house
I want Juan to go home

Occasionally, ha- may occur in a main clause, with subjunctive or optative force. Such clauses usually also contain the subjunctive prefix:

(57) ha-na-kándía
COMP-SJ-believe
She must, has to believe

Ha- also introduces relative clauses such as the following:

(58) nde?e čàà hà-hindì yata hasɨ́?ɨ́
look man COMP-stand back woman
Look at the man who is standing behind the woman

(59) wàã̀ kú-čàà hà-sɨɨ ini
that COP-man COMP-happy inside
That is a man who is happy

Note that the Complementizer ha- is homophonous with the Nominalizer ha- (which we see in words like hà-sɨʔɨ 'woman'; literally 'NOM-feminine' -- see Chapter 6). It seems extremely likely that the two morphemes have a common origin, in that the nominalized forms can be seen as a kind of headless relative; e.g. '(the one) that is feminine'. This dissertation does not claim that the two forms have the same synchronic morphological status, however, for the following reasons: first, they have different distributions (one is a phrasal affix, and one is a derivational affix), and second, Mixtec complement clauses show no morphological indication of being nominalized (e.g. person marking appears on the verb within the clause, rather than at the end, as we would expect if the whole clause were a nominal, etc.).

5.6 Interrogative na-

The interrogative element na- is a proclitic which attaches to noun phrases in topic position. It is generally not used in embedded questions, although there are a few exceptions, as we shall see below. (60) through (63) are representative examples.

(60) ná-yóo ni-kendá-ró
what-month CP-exit-2
What month did you leave?

(61) na-orá ní-kenda-ró
what-time CP-exit-2
What time did you leave?

(62) ná-tukWí?a inì tá?a-ro
what-sadness inside suffer-2
What sadness do you suffer?

(63) na-čàà kúu
what-man COP
Which man is he?

(64) and (65), below, show that na- may attach to locatives, which (as we saw in Chapter 3) are nouns in Mixtec. The locative in (65) is a word which originated as a body part term meaning 'side', but which has now been lexicalized in its locative sense (as 'with').

(64) na-sɨkɨ́ kã́?ã
what-back speak
Against whom did he speak?

(65) na-hĩ́
what-with
With whom?

There are a few forms in interrogative na- which are not quite as transparent as those given above. One is nama, meaning 'when', as in (66):

(66) nama kĩ́?ĩ-ro nùyá?u
when go-2 market
When are you going to the market?

Josserand (1983) reconstructs *awã for protoMixtec 'when', and several dialects fairly closely related to Chalcatongo Mixtec have ama for this form.[8] It is possible that nama was formed on analogy with other interrogatives; that is, that it was derived from na- plus ama.

Another lexicalized interrogative is naha?a, 'why', as in the following:[9]

(67) náha?a ní-sa?a
why CP-do
Why did he do it?

There are at least four words with the form ha?a in the Chalcatongo dialect: ha?á 'to pass by or over', ha?à 'foot, leg', há?a 'to snow, sleet', and há?a 'to give'; but speakers do not have a clear sense that the ha?a of naha?a is related to any particular one of these.

Only the lexicalized interrogatives appear in subordinate clauses.[10] These are the exceptions referred to above.

(68) tú-hini-rí naha?a nì-hãã
NEG-know-1 why CP-buy
I don't know why he bought it

(69) tú-hini-rí nama kǐ?ĭ nùyá?u
NEG-know-1 when go market
I don't know when he's going to the market

5.7 Conditional and Counterfactual

The conditional proclitic nú- appears at the extreme left margin of the antecedent: before the topic, if there is one, or before the verb if there is no topic. The antecedent can precede or follow the consequent, just as in English. (70) through (73) illustrate:

(70) nú-wãá na-sá?a ku-sɬɬ šáã iní-ri
COND-that SJ-do COP-happy much inside-1
If he would do that, I'd be very happy

(71) nú-na-haà ku-sɨ́ɨ́ šáã iní-ri
COND-REP-arrive COP-happy much inside-1
If he would return, I'd be very happy

(72) ku-sɨ́ɨ́ iní-ri nú-to?ò wãã kinó?o nákúnúu
COP-happy inside-1 COND-man that go+home soon
I'd be happy if that man would go home soon

(73) koto-rí ndatĭ́ṹ-ro nú-kWã?ã-ro
take+care+of-1 thing-2 COND-go-2
I'll take care of your things if you go

Counterfactual conditionals are constructed almost identically, with the single change being the addition of an enclitic -nú to the extreme right of the antecedent.[11]

(74) nú-rú?ù yúbà?à šù̀?ú́-nú
COND-I have money-CFACT
If I had a lot of money...

(75) nu-ní-hítù-kà-ri tí?a-nu
COND-CP-work-ADD-1 little-CFACT

bina ñú?ní kuñabà?à-kà-yó hoo šù̀?ũ
now now keep-ADD-1PL few money

If I would have worked a little more,
now we would have saved some money

Counterfactuals which are not conditional are formed with the enclitic -nú only. This construction is used to mean "supposed to" or "used to."[12]

(76) Pedró kii hĭ́-yo-nú ba?a tú-ni-kíí
Pedro come with-1PL-CFACT but NEG-CP-come
Pedro was going to come with us, but he didn't

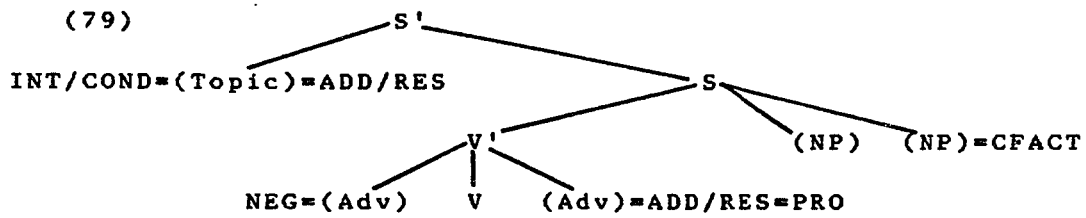
(77) iku ta-ní-kWa rú?ù sátĭ́ũ-rí-nú
yesterday QU-CP-dark I work-1-CFACT
Last night I was supposed to work [but I didn't]

(78) Juan ni-sátĭ́ũ-nu
Juan CP-work-CFACT
Juan used to work [but now he doesn't]

5.8 Sentence Structure and Clitic Placement

The structure of the Mixtec main clause and placement of the phrasal affixes is summarized below.[13]

(79)



-- Notes --

1. This might, in fact, be related to the Chalcatongo -yi.

2. These distribution and cooccurrence facts raise interesting questions about argument structure in Mixtec -- specifically, whether it is the full pronouns or the pronominal clitics which function as arguments of the predicate (cf. Jelinek 1984).

3. Example (11) has a direct object in the Mixtec version, but is translated into English without one to reflect the fact that the phrase yée staà is interpreted as the generic "eat."

4. It is also possible to say ni-yéé-rí šãã staà, in which case šãà staà would be a constituent, and the sentence would mean "I ate many tortillas."

5. Campbell, Kaufman, and Smith-Stark (1986:551) also name Mixtec as a Meso-American language which allows noun incorporation, but do not give any examples or references.

6. Mithun, op cit:380.

7. Note that (33) has [V-O-S-Loc] word order. This plus other examples in the article indicate that Ayutla Mixtec allows different word order possibilities than Chalcatongo Mixtec does.

8. E.g., San Miguel el Grande has ama - Dyk and Stoudt 1965:77.

9. Naha?a is sometimes preceded by ší-, which is a variant of či- 'because'.

10. Contexts calling for other embedded interrogatives make use of the monomorphemic "wh" words (e.g. ndéu 'where, who', noò 'what', ndéči 'which way', etc.).

11. All of my examples of counterfactual conditionals have the order antecedent-consequent, but my guess is that the other order would be acceptable as well.

12. The second word in example (77) is usually used to mean 'good evening'. The element ta- only appears in fixed greeting expressions, and I assume it is a frozen vocative.

Other dialects apparently still have productive quotatives and vocatives - e.g. Jicaltepec has four: -tá, -na, -tí, and -to (Bradley 1970:39). The use of ta-ní-kWa in (77), a non-vocative context, is unexplained.

13. This schematization assumes a verbal predicate, although, as we have seen, it is possible to use other lexical categories predicatively. The structure of such sentences is in most respects the same as it is with a verbal predicate.

Chapter 6

Inflection and Productive Derivation

The first section of this chapter presents the inflectional affixes of Chalcatongo Mixtec, while the second section presents the productive derivational affixes. The two chapters which follow this one then examine various nonproductive derivational elements.

6.1 The Inflectional Prefixes

Inflection in Mixtec is exclusively prefixing. The prefixes attach to verbs and to some statives, but not to adjectives. There are, in fact, only five inflectional prefixes: plural, completive, subjunctive (positive and negative), and temporal. Each of these is described below.

6.1.1 Plural

Plural marking of any sort is optional in Mixtec. This section will briefly describe the many forms that plural

marking may take in the Chalcatongo dialect, including use of the inflectional prefix.

One form of marking the plural within the noun phrase is the addition of a quantifier, as in (1) through (3):

(1) kWa?a šáã ñayĺũ kuní sa?a kúka
many much people want make rich
Many people want to be rich

(2) yóó kWà?à bé?e ñundéyá
exist many house Chalcatongo
There are many houses in Chalcatongo

(3) t£n£ kó?lo 'various turkeys'
various turkeys

Another word which marks nominal arguments as plural is hína?a. This word may be associated with any immediately preceding argument, or may appear in sentence-final position, in which case it indicates a plural subject.[1]

(4) táa-rí hína?a na-šukWĺĩ šĺã
parent-1 plural REP-turn+around tomorrow
My family will return tomorrow

(5) Juan híndee hĺ-££-ka ñayĩù wãà hína?a
Juan stand with-one-ADD people that plural
Juan is standing there with those other people

(6) se?e-rí kú?u hiná?a
child-1 be+sick plural
My children are sick

Three adjectives with distinct singular and plural stems are reported by Bradley (1970:55) for Jicaltepec Mixtec.[2] Only one is found in Chalcatongo Mixtec, however; this is the word meaning 'big':

(7) be?e ká?nu
house big(SG)
The house is big

(8) be?e ná?nu
house big(PL)
The houses are big

Finally, plural subject agreement can be marked inflectionally with the prefix ka- on most statives, and on the Realized stem of verbs;[3] as illustrated in (9) through (11). (11) contains an attested minimal pair illustrating the optional character of the plural prefix.

(9) nì-kà-hinu
CP-PL-run
They ran

(10) mesá ká-ndahi
table PL-wet[STATIVE]
The tables are wet

(11a) máá-ré kã?ã šĺã
emph-3M speak tomorrow
They will speak tomorrow

(11b) máá-ré ka-kã?ã šĺã
emph-3M PL-speak tomorrow
They will speak tomorrow

The prefix ka- may not be attached to adjectives. In order to use this prefix to indicate that the subject of a predicate adjective is plural, the copula must first be attached, and then ka- may be prefixed to that (as illustrated in (12), below). Note in (13) that ka- may optionally cooccur with the plural stem of the adjective 'big', but again, not without the addition of the copula. The reader will recall that the inability of ka- (and other inflectional elements) to attach directly to adjectives is one of the differences between verbs and statives (on the

one hand) and adjectives (on the other) which was discussed in Chapter 3.

(12) ndɨ-kWɨtɨ ñayĨũ ká-ku-ndá?u hiná?a
all-just people PL-COP-poor plural
All the people are poor

(13) ità ká-ku-na?nu
flower PL-COP-big(PL)
The flowers are big

6.1.2 Completive

The completive prefix ni- attaches to statives, and to the Realized stem of verbs. As discussed in Chapter 2, it has no discernibly regular tone sandhi effects.

Pike (1944:125-126) points out that ni- does not indicate past tense in San Miguel Mixtec, as one might think upon first inspection of the data,[4] but rather that it simply marks an event as having been completed. This can be observed in Chalcatongo Mixtec as well, in which ni- can describe a completed future event as well as a completed past event. The latter use is shown in (14), while the former is shown in (15) and (16):

(14) ni-hẽĨ-rí bílú nu-híto
CP-put-1 cat face-bed
I put the cat on the bed

(15) ni-s-ndɨ?ɨ-rí orá wà sa?a-rí tĨũ-rí
CP-CAUS-finish-1 time that do-1 work-1
I will have finished by then doing my work

(16) kana-ró ru?ù nu-ní-na-ketá?á-ro hí-Pedrú
call-2 me COND-CP-REP-find-2 with-Pedro
Call me when you find / if you have found Pedro

6.1.3 Subjunctive

There are two subjunctive prefixes in Chalcatongo Mixtec: one which occurs in positive contexts, na-, and one which occurs in negative contexts, ma-. The grammars of other dialects which have this distinction describe ma- simply as a negative marker, and pair it with tu-.[5] The distinction usually made between ma- and tu- is that the former cooccurs with Potential aspect, and the latter with Realized and Completive aspects. This correlation turns out to be just a tendency, however, rather than a firm rule: as was illustrated in the previous chapter, tu- is occasionally found attached to Potential stems (although ma- is not found attached to Realized stems). Furthermore, ma- does not show the behavior described in Chapter 5 which led us to categorize tu- as a phrasal affix. The element ma- instead exhibits behavior typical of a prefix, and is parallel in every way to na-, the positive subjunctive.

The first part of this section considers the meanings ascribed in other grammars of Mixtec to what is here called the "subjunctive," and necessarily focuses on na-, since it is the only form in these grammars which is discussed in

this context. Ma- is considered separately, after the discussion of na-.

The five sketches or grammars of Mixtec with which I am familiar[6] each use a different term for the inflectional prefix na-. Bradley (1970:41) calls it "hortatory," and claims that it translates as 'let's', although his example (na kíčí rá witĭ) is translated as 'Have him come right now', which is not a hortative.

Daly (1973b:17) calls na- a "particle of constraint," which "in addition to being potential conveys the idea of an action being in some way necessary." His example is na-kùtu-dé 'He must plow'.

Pensinger (1974:141) calls this element "el prefijo de permiso" ("the prefix of permission"). By this she means that the speaker uses it to ask permission that something be allowed to happen, as in the example nacuhu ña 'Deje que se vaya ella' ('Let her go').

Alexander (1980:35) calls na- a "subjunctive," and gives as examples one instance of "una orden suave" (a polite imperative), and one about which she says:

> Cuando ... se usa con los pronombres de primera persona, da una idea de que el sujeto reflexiona y piensa detenidamente antes de ejecutar una acción. [When used with the first-person pronouns, it gives the idea that the subject reflects and thinks carefully before executing an action.] (p. 35).

Her examples are na quɨ́vɨ́ de vehe 'Que entre él en la casa' ('He should come inside the house'), and na quíhín na 'Pues me voy' ('Well, I guess I'll be going').

Finally, Stark Campbell, et al (1986:164) list na- as a "particle" which forms "la orden permisiva" ("the permissive order"). This form is contrasted with "la orden estricta" ("the strict order"), i.e. the imperative, formed with the bare Potential stem. The "permissive order" is equivalent to Pensinger's "prefix of permission."

All of the cases described by these authors (with the exception of Alexander's first-person example) fall into the category usually called "optative."[7] These authors, however, mention only main clause uses of na-, neglecting to consider its use in subordinate clauses. Consideration of its use in both main and subordinate clauses suggests that it actually has a broader function than just optative; one which mirrors the use of the subjunctive in languages such as French and Spanish. As we will see, the various uses of this prefix (including Alexander's first-person cases), have in common that they indicate that the speaker has some degree of uncertainty that the state of affairs in question will come to pass.

Examples (17) - (20) illustrate main clause optative uses of inflectional na- in Chalcatongo Mixtec. Note that it is always prefixed to the Potential verb stem.

Consultants indicate that imperatives with na- are more "polite" than imperatives formed with the Potential stem alone.

(17) na-kíi
SJ-come(P)
He must/should come (¡Que venga!)

(18) na-s-ndóo
SJ-CAUS-stay(P)
He must/should leave (it) (¡Que deja (algo)!)

(19) na-čuñá-ró
SJ-destroy(P)-2
Destroy it! (¡Destrúyelo!)

(20) na-čísó-ró tí?ì
SJ-add(P)-2 a+little
Add a little! (¡Añídale!)

Na- occurs in subordinate clauses with or without a complementizer, as (21) and (22) show. It appears in complements of verbs of causation (in the same two examples), desire (23), and permission (24), and in complements of imperatives, both when the two clauses have the same subject (as in (25)), and when they have different subjects (as in (26)).

(21) sá?a na-kíi
make SJ-come
Make him come

(22) sá?a ha-na-kíi
make COMP-SJ-come
Make him come

(23) kuní-ri ha-Juan na-kíno?o bé?e
want-1 COMP-Juan SJ-go house
I want Juan to go home

(24) sndoo na-kǐ?ĭ hǐ-ri
Allow SJ-go with-1
Let him go with me

(25) kWã́?ã̄ na-kàkà nùu
go SJ-ask+for face
Go ask him for it

(26) kẽ̀ Ì se?e-ró na-kúsú
put child-2 SJ-sleep
Put your child down to sleep

Often verbs in na- are translated with the future tense in English, as in (27) and (28). In fact, it is fairly common when eliciting for Potential verb stems to get the form prefixed by na-, as in (29) and (30):

(27) sa?a ba?a-yó te-na-kWã́ã́ hiná?a
make good-1PL and-SJ-buy plural
We will make it good so that they will buy it

(28) na-há?a úši kWía te-čaà stoò-ri
SJ-pass ten year and-come uncle-1
Ten years will pass, and then my uncle will come

(29) na-ká?u-ri
SJ-count-1
I will count [Elicited: 'Voy a contar']

(30) ná-yu?u-re
SJ-be+scared-3M
He will be scared [Elicited: 'Se espantará']

Na- also appears in conditional clauses, another context in which the certainty of an event's occurrence is doubtful or unknown, as in the following:

(31) nú-wãã́ na-sá?a ku-sɨ́ɨ́ šã́ã́ iní-ri
COND-that SJ-do COP-happy much inside-1
If he did that, I would be very happy

(32) bà?à-kà nu-na-kĺ?Ĭ-ro šĺ́ã̄
good-ADD COND-SJ-go-2 tomorrow
It would be better if you went tomorrow

The variety of uses of the Mixtec subjunctive illustrated in (17) - (32) all have in common the fact that the

speaker does not commit him or herself to the certainty that the action in question will occur. Rather, the speaker indicates with na- his or her expectation that the event should or might occur, but falls short of claiming that it actually will.[8]

We turn now to the negative subjunctive, ma-. The structural conditions for its use are precisely the same as they are for the positive subjunctive na-. Its meaning is precisely the opposite; that is, by using ma-, the speaker indicates his or her expectation that some event should not or might not occur. (33) through (35) are typical examples:

(33) sá?a ha-ma-kíi
make COMP-NEG/SJ-come(P)
Make him not come (don't let him come)

(34) kaka kWéé-ní ha-má-kWítá-ní
walk slow-2 COMP-NEG/SJ-tire(P)-2
Walk slowly so that you don't get tired

(35) Maria ma-tánda?a kWɨtɨ
Maria NEG/SJ-marry(P) never
Maria will never marry

In (36), below, we see that ma- does not cooccur with adjectives, while in (37) we see that it does not cooccur with nouns. Compare these examples with (38) and (39), in which the phrasal affix tu- (or its full form alternant túu) cooccurs with items from both of these classes. (Also note that there is no free word of the form *maa.) If ma- were in alternation with tu-, these facts would be unexplained. Under a prefixal analysis, however, these facts are precise-

ly what is expected, since we know that prefixation is restricted to verbs and statives in this language.

(36) *ma-ñí?ní
NEG/SJ-hot[ADJ]
(It is not / will not be hot)

(37) *ma-yii-ña
NEG/SJ-husband[N]-3F
(She doesn't / won't have a husband)

(38) tu-ñí?ní
NEG-hot[ADJ]
It is not hot

(39) túu yíí-ña
NEG husband[N]-3F
She doesn't have a husband

6.1.4 Temporal

The fifth Mixtec inflectional prefix is the temporal a-, which precedes all other verbal inflection. The meaning of this prefix appears to be quite similar to that of the Spanish 'ya',[9] which unfortunately does not translate well into English. The best English translation is 'already', or 'now'. (40) through (43) illustrate:

(40) a-kwã́?ã
TEMP-go
He already left ('Ya se fue')

(41) a-ni-kušíní-yó
TEMP-CP-eat-1PL
We already ate

(42) tú-a-ni-kuní-re
NEG-TEMP-CP-want-3M
He now didn't want to / He didn't want to anymore
('Ya no quiso')

(43) sá?ma wã́ a-ni-ičí
clothes that TEMP-CP-dry
Those clothes are dry now

6.1.5 Relative Ordering of Inflectional Prefixes

The subjunctive prefixes do not cooccur with the plural, completive, or temporal prefixes. This is due to the fact that the subjunctive markers attach to Potential verb stems, while the plural, completive, and temporal markers attach to Realized verb stems. (Although, see note 3.) The latter set do cooccur, in the order Temporal > Completive > Plural, as the following examples show:

(44) a-ni-ka-yesámá-rí
TEMP-CP-PL-eat-1
We already ate

(45) a-ni-ka-kã́?ã-ró hĭ́-maestro
TEMP-CP-PL-talk with-teacher
You (PL) already talked with the teacher

6.2 Productive Derivational Morphemes

The five productive derivational prefixes found in Chalcatongo Mixtec are presented in this section. These prefixes are: the causative, the two inchoatives, the repetitive, and the nominalizer.

6.2.1 Causative

Hinton (1982) observes that causatives can be formed in Chalcatongo Mixtec either syntactically (as in (46) and (47)), or morphologically (as in (48) and (49)). Note that the morphological causative is formed by prefixation of s- to the Potential stem of verbs, but by prefixation of sa- to adjectives.[10] Also note that the lexical category of an adjective prefixed by sa- is verb; this is illustrated by the fact that the inflectional prefix ni- attaches to sa-kWá?á in (49).

(46) sá?a hà-ná-káča?a
make COMP-SJ-dance
Make him dance! (i.e., get him up and have him go out there and dance!)

(47) ni-sá?a-re hà-ní-ndu-kWá?á-ri
CP-make-3M COMP-CP-INCHO-red-1
He made me blush (Lit. 'get red')

(48) s-káča?a
CAUS-dance
Dance (him)! (e.g., if you are riding a horse, make him dance by manipulating the reins)

(49) ni-sa-kWá?á-re
CP-CAUS-red-3M
He made (me) red (e.g., he painted (me) red)

[Hinton 1982:356-357]

Hinton points out that it is clear that the two forms of the bound causative morpheme (s- and sa-) are historically related to the verb meaning 'to make' or 'to do' (sá?a). However, she also points out that at present the two

morphological causatives are not precisely synonymous with the periphrastic causative. Instead, the construction found in (46) and (47) is interpreted as two-agent, or directive causation, and the constructions of (48) and (49) are each interpreted as a single event with only one agent, or as manipulative causation.

With respect to the morphological causative, the following near minimal pair shows that there is no phonological motivation for the alternation between sa- and s-:

(50) s-ndóo
CAUS-stay[V]
Leave (vt)

(51) sá-ndoo
CAUS-clean[STATIVE]
Clean (vt)

As noted above, this difference is instead conditioned by the syntactic category of the affixed root: s- attaches to verbs, and sa- to adjectives. This fact is problematic for an analysis which would attempt to derive the bound forms of the causative from the free form (sá?a) by purely phonological rules of "rapid speech cliticization," as is discussed in Chapter 9.

6.2.2 Inchoative

There are two inchoative prefixes in Chalcatongo Mixtec, ku- and ndu-. The former derives inchoative verbs from

adjectives, statives, and Potential verb stems, while the latter derives inchoative verbs from statives and adjectives, but in this case, not from verbs. The semantic distinction between the two is unclear.[11] (52) through (56) illustrate:

(52) ni-kù-bǐhǐ šāà
CP-INCHO-cold[STATIVE] much
It has cooled a lot

(53) ndu-ndoo
INCHO-clean[STATIVE]
It's getting clean

(54) ni-kù-kWa?á nuù-na
CP-INCHO-red[ADJ] face-1
My face became red (I blushed)

(55) María ni-ndu-ká?nu
Maria CP-INCHO-big[ADJ]
Maria has gotten very fat

(56) kù-kWá?nú-re
INCHO-grow[V]-3M
He will grow

The fact that inflectional prefixes such as ni- and ka- attach to a form prefixed by one of the inchoative markers once again provides evidence that the category of such derived forms is in fact verb.

Inchoatives formed with ku- are fairly regular. There are a few uses of ndu-, however, which are not so straightforward. That is, these forms are not readily analyzable as productive prefixation of the inchoative to some adjectival or stative root. Such problem cases break down into two categories: those in which the root is unidentifiable, and those in which the root appears to be the wrong lexical cat-

egory for prefixation by ndu-. In many of the instances of the former case, the root can be identified by inspection of data from related dialects of Mixtec. Consider the following:

(57) ndú-kòò
INCHO-(?)
Sit down (vi)

(58) ndu-kWĨĨ
INCHO-(?)
Stand up (vi)

(59) ndú-ba
INCHO-(?)
Get excited, noisy, riotous

There appear to be no free words in the Chalcatongo dialect which correspond to the roots in any of these three examples. Dyk and Stoudt (1965), however, report the following forms for the closely related San Miguel dialect: koo 'sit down', kWiñi 'stand up, be standing', and baa 'tumultuous, noisy'. These forms, which no doubt represent the roots for the forms in (57) through (59), have apparently fallen into disuse as free forms in the Chalcatongo dialect.[12]

Contradicting the generalization that ndu- attaches to adjectives and statives, there are two words in my corpus in which it is attached to an apparent nominal root:

(60) s-ndu-ndá?á
CAUS-INCHO(?)-hand
Let it drop (IMP)

(61) ni-ndu-bík6
CP-INCHO(?)-cloud
It got cloudy

With respect to the first of these, we find that it belongs to a set of verbs containing what appears to be the root nda?a 'hand'. There is, for example, a verb kundá?á (P), hindá?a (R) 'to carry', the form nánda?a 'to wash one's hands', as well as tánda?a 'to marry'. Ndunda?a is clearly a member of the synchronically unanalyzable set containing this root.

(61), however, is not so readily explained. To my knowledge, Mixtec does not zero-derive adjectives from nouns (in fact, Mixtec does not make much use of zero-derivation at all); thus the derivation of 'cloudy' from 'cloud' is unlikely. Bík6 'cloud' also appears in the form ndi-bík6 'to dawn cloudy' (from ndíí 'to dawn' and bík6 'cloud'). (61) was conceivably formed on analogy to ndi-bík6.

6.2.3 Repetitive

Repetitive na- attaches to Potential verb stems, signalling repetition or iteration of action. (62) through (67) illustrate:[13]

(62) káta 'sing' (P)
na-kata 'sing again' (P)

(63) kaka 'walk' (P)
na-kaka 'walk again' (P)

(64) ká?ña 'cut' (P)
na-ká?ña 'shorten' (e.g. a dress) (P)

(65) číta?nu 'fold in half' (P)
na-číta?nu 'fold several times' (P)

(66) kWíkó 'turn around' (vi) (P)
na-kWíkó 'revolve' (P)

(67) kĭ?Ĭ 'take' (P)
na-kĭ?Ĭ 'gather' (P)

There are also many verbs in na- which have been lexicalized, and for which the meaning is not completely transparent or predictable. (68) through (71) are typical examples:

(68) kání ini 'think' (P)
na-kání ini 'worry' (P)

(69) t̋ 'catch something which is thrown' (P)
na-t̋ 'catch something which is falling' (P)

(70) ča?ú 'pay' (P)
na-čà?u 'repay' (e.g. a loan) (P)

(71) haà 'arrive' (away from speaker) (P)
ná-háa 'arrive at base' (away from speaker) (P)

While changes in the tone pattern of roots after prefixation by na- do not appear to be systematic, we can note that for most verbs in na-, the prefix itself carries mid tone in the Potential stem, and high tone in the Realized stem. As noted, the forms in (62) through (71), above, are all in Potential aspect. (72) through (78), below, give the corresponding Realized stems (in the cases for which the data is available):

(72) ná-kata 'sing again' (R)

(73) ná-kaka 'walk again' (R)

(74) ná-kĭ?Ĭ 'gather' (R)

(75) ná-kani ini 'worry' (R)

(76) ná-t̃t̃ 'catch something which is falling' (R)

(77) ná-čà?ù 'repays' (R)

(78) na-háa 'arrive at base' (away from speaker) (R)

Note that (78) is an instance in which this generalization about the tone of the prefix does not hold.

6.2.4 Relative Ordering of Derivational Prefixes

Cooccurrence of all three verbal prefixes in a single form is disallowed, but we may deduce their relative ordering from data such as the following:

(79) ni-ká-na-s-káa
CP-PL-REP-CAUS-rise
They untangled (it)
cf. káá 'rise'; s-káa 'unfold';
na-s-káa 'untangle'

(80) s-ndu-kWí?a ña?a
CAUS-INCHO-sad she
Make her become sad

Examples such as those in (79) and (80) indicate that the relative order of the verbal prefixes is Repetitive > Causative > Inchoative.

6.2.5 The Nominalizer

The prefix ha- creates deadjectival nouns,[14] resulting in a reading of the form 'the X one' -- e.g. 'the tall one'. It is clear that this use of ha- is related to its use in relative clauses; as was mentioned in Chapter 5, nominalized adjectives look suspiciously like headless relative clauses. However, nominalized adjectives exhibit the syntactic behavior of single words, rather than that of clauses, and it is thus clear that the two uses of ha- are synchronically distinct.

A study of productive instances of nominalizer ha- shows that this prefix generally has no sandhi effect on the adjective to which it is attached. (There are, however, exceptions.) (81) and (82) illustrate typical uses of ha-. (Note that the copula takes the prenominal form ku- in (82), rather than the preadjectival form ka-, evidence that ha- truly functions as a nominalizer of adjectives.)

(81) keè há-ndáà
speak NOM-true
Speak the truth
cf. ndáa 'true'

(82) sa?ma-rí kú-ha-kWá?á
clothes-1 COP-NOM-red
My clothes are the red ones
cf. kWá?á 'red'

Nominalized adjectives are also made use of in the superlative construction. Recall from Chapter 5 that comparatives are constructed by encliticizing the Additive morpheme to an adjective (as illustrated in (83)). The superlative construction adds the Nominalizer to this construction, yielding, in effect, 'the one that is more X', hence 'the X-est'. This use of the nominalizer is illustrated below:

(83) ru?u súkú-kà-rí asù ro?o
I tall-ADD-1 than you
I am taller than you

(84) Juan kú-ha-lúlí-ka
Juan COP-NOM-small-ADD
Juan is the smallest

(85) skWelá yá?a kú-ha-ka?nu-ka
school this COP-NOM-big-ADD
This school is the biggest one

Finally, there are several words in ha- which have conventionalized (although fairly transparent) meanings, as (86) through (88) illustrate:

(86) ha-bìší 'fruit'
NOM-sweet

(87) ha-lúlí 'child, boy'
NOM-small

(88) ha-kWáá 'night / blind person'
NOM-dark

-- Notes --

1. Note that in example (5), hína?a is sentence final, but interpreted as associated with the immediately preceding argument (ña?ĭũ wãã), rather than with the subject.

2. Bradley actually calls these "stative verbs."

3. This may actually be stated somewhat too strongly. While my consultants have told me that Potential stems prefixed by ka- were unacceptable, I do have two or three spontaneous examples of just this situation in my corpus. However, there are many more examples of ka- plus Potential (which I had constructed to test this), which were rejected by the consultants. I will leave this a topic for future research.

4. Indeed, as some authors have claimed; e.g. Daly 1973b:18.

5. E.g. Alexander 1980, Pensinger 1974, and Dyk and Stoudt 1973.

6. Some of these are actually dictionaries (see Chapter 1 for the authors and titles), but they all contain brief grammatical sketches as well. Dyk and Stoudt's (1973) dictionary of San Miguel Mixtec is omitted from this section, however, due to the fact that they do not mention this prefix.

7. Bybee (1985:166) defines optative as a form "which signal[s] a speech act by which the speaker grants permission to a 2nd or 3rd person, as in "let him come in", or expresses a wish (e.g. "would that he were here") or an indirect command."

8. The subjunctive in Mixtec is thus a speaker-oriented modality, or a "mood," as defined by Bybee (1985). Mood, under this definition, includes certainty, probability, possibility, imperative, optative, and hortative. That na- belongs in the speaker-oriented class "mood" (rather than in the class of agent-oriented modalities, which involve obligation, permission, ability, desire, or intention; that is, functions that are predicated of the agent of the construction) is especially clear in example (28), in which there is no agent.

9. Kaufman (p.c.) indicates that despite the phonological similarity, the Mixtec a- is not borrowed from the Spanish. See Chapter 8, fn. 22, for a hypothesis about the source of a-.

10. Statives idiosyncratically select either for s- or for sa-.

11. Since forms with initial nd are often statives (and often correspond to verbs with initial k), it is tempting to claim that the prefix ku- forms unmarked inchoatives, while ndu- forms stative inchoatives. Such a distinction, however, is far too subtle to come out in translations of elicited sentences, and must remain speculation at this point.

12. Of course, Dyk and Stoudt compiled their San Miguel dictionary over twenty years ago. I do not know whether these forms are still current in that dialect, or whether it too has lost them at this point.

13. Note that this na- is distinct from the inflectional na- (the positive Subjunctive).

14. It is unclear whether ha- can be used to nominalize statives. I have tried unsuccessfully to elicit for such forms, and tend to think that it is not possible, but it is a topic which deserves more investigation.

Chapter 7

On Classifiers in Chalcatongo Mixtec

The first section of this chapter presents data from five semantic domains which involve lexical items with apparent classifiers as their first syllable. §7.2 discusses characteristics of typical classifier systems, and §7.3 considers the development and status of one of the elements presented in the first section, the animal classifier. Finally, §7.4 considers the issue of the synchronic status of classifiers in the Chalcatongo dialect of Mixtec, with special reference again to the animal classifier.

7.1 The Data

7.1.1 Animal Names

In the domain of animal names, we find a large number of trisyllabic words beginning with the syllable t̲ɨ̲:

(1) tɨndákú 'worm'
tɨkàka 'crow'
tɨndóó 'spider'

t±ñúú 'owl'

t±k±č± 'bat'

t±sú?má 'scorpion'

t±kää 'grasshopper'

In most cases, the two final syllables of an animal name beginning with t± are not recognizable as an independent morpheme. Occasionally they are recognizable, however, as in example (2), in which the final syllables can be analyzed as a morpheme denoting a characteristic feature of the animal in question:

(2) t±sú?ma 'scorpion'
cf. sú?ma 'tail'

There are also a number of animal names in č-, which can be shown to have derived from t± plus a root with initial y or w.[1] Four examples from the Chalcatongo dialect are displayed in (3), and parallel data from two other dialects are displayed in (4) and (5).

(3) čókó 'ant'

čúkú 'fly'

čuku 'louse'

čaka 'fish'

(4) San Miguel el Grande (Dyk and Stoudt 1965):

čókó, tiyókó 'ant'

čűkű́, t±yűkű́ 'fly'

čuku, t±yuku 'louse'

čáká, tiyáká 'fish'

(5) Chayuco (Pensinger 1974):

tyìyòkò 'ant'

tyiyuku 'fly'

tyìyúkú 'louse'

tyiyaka 'fish'

Chayuco Mixtec is an example of a dialect in which there has been no fusion of t± (or its cognate) with y, while San Miguel Mixtec provides a nice example of a transitional dialect,[2] in which fusion is optional.

The apparent prefix t±- obviously bears some relationship to the noun k±t± 'animal', and in fact several authors have claimed that the prefix is synchronically derived through reduction of the full noun to a single syllable.[3] In the present analysis, however, t±- is treated as a fossilized prefix which bears only a diachronic relationship to the full noun k±t± (the nature of this relationship is discussed further in §7.3). There are several sources of evidence for this claim. First, note that the prefix may never be replaced by the full noun in animal names such as those in (1). N+N constructions with k±t± as the first member do exist (as illustrated in (6) and (7)), but the meanings of these are much more general in nature than those of the true animal names.

(6) k±t± tátá 'breeding animal'
animal father

(7) k±t± yúkú 'mountain animal'
animal mountain

Further evidence for the claim that the forms in (1) are lexicalized trisyllables can be drawn from examination of animal names for which there is variation in the vowel of the initial syllable (as in (8)). In some cases, t± varies with te, in others it varies with ti, in some cases t± is replaced by ti, and in one case it is ti which varies with te:

(8) t±ndákú, tendákú 'worm'
t±ñúú, teñúú 'owl'
t±ñ±, tiñí 'rat'
tihi 'buzzard'
timí 'bee'
tikokó, tekokó 'worm'

It would be difficult, if not impossible, to state a synchronic rule which could predict the vowel (or vowel variants) resulting from reduction of k±t± in each of these cases.[4] In addition, such an analysis would be unable to explain the loss of the third syllable in tihi 'buzzard', timí 'bee', and t±ñ±/tiñí 'rat'. Under the analysis of these words as lexicalized trisyllables (or disyllables), however, these facts are not at all unexpected. It is precisely the fact that the forms have been lexicalized, and that there is no longer awareness on the part of the speakers of the language that the initial syllable represents some kind of classifying element, which permits the

wandering of the initial vowel, and the loss of the final syllable in some of the words in this domain.

It should be noted, finally, that there are also many animal names in Chalcatongo Mixtec which do not include an initial t± (or any other recognizable prefix), as in the following:

(9) saà 'bird' bílu 'cat'
ína 'dog' bá?u 'coyote'
sá?ba 'frog' snd±k± 'bull'
kòò 'snake' kó?lo 'turkey'

7.1.2 Terms for Round Objects

In addition to the various words for animals beginning with t±, there are a number of words which denote round or cylindrical objects, and also begin with t±.[5] There is no clear corresponding full word in this case, however.

(10) t±č± 'avocado'
t±kačá 'dust, whirlwind'
t±kánu 'knot'
t±kò?yí 'dimple'
t±kWa?a 'lemon, orange'
t±kW±t± 'potato'
t±nana 'tomato'
t±ndúú 'tree trunk'

There are also a few nouns which denote round objects and begin with č (e.g. čaʔa 'gourd'), which have conceivably undergone the same process of fusion by which the animal names in č were derived. I lack the comparative data, however, which would be necessary to determine whether this was in fact the origin of these instances of initial č.

7.1.3 Tree Names

Words for trees often begin with the syllable nu, as in:

(11) nùiní 'juniper'

nùkahí 'evergreen oak' (Spanish 'encina')

nùndéʔé 'fruit tree'
cf. ndeʔe 'fruit'

nuyòo 'reed' (Spanish 'carrizo')

núyúša 'torchpine' (Spanish 'ocote')
cf. yuša 'pine needles'

The initial nu and the word yunu 'tree' are clearly related in some way, but again, the full word may not be substituted for the prefix.

7.1.4 Building Names

There are two words in my corpus which denote types of buildings, and which begin with the syllable be, as follows:

(12) bekaa 'jail'
cf. kaa 'iron'

(13) beñű?ũ 'church'
cf. ñű?ũ 'earth, land'

Note that although it is possible to form N+N constructions with be?e 'building' as the first element (as shown in (14) through (18)), the N+N constructions with kaa and ñű?ũ do not mean (respectively) 'jail' and 'church'.[6]

(14) be?e àní 'city hall' (Spanish 'palacio')
building mayoralty

(15) be?e čũũ 'chicken coop'
building chicken

(16) be?e ká́tá́ 'corral'
building horse

(17) be?e kaa 'building made of iron'
building iron

(18) be?e ñű?ũ 'building made of earth'
building earth

The fact that (17) and (18) are interpreted as compounds, and do not have the specialized readings of (12) and (13), indicates that the latter are lexicalized in trisyllabic form, and cannot be synchronically derived from N+N constructions with the full noun be?e as first member.

7.1.5 Terms for Younger Kin

There are several kin terms with first syllable se, all of which denote a younger relative. Note that there is a related noun se?e, meaning 'child'.

(19) sendúča 'godchild'
cf. nduča 'water'

(20) sesɨ?ɨ 'daughter'
cf. sɨ?ɨ 'feminine'

(21) seyíí 'son'
cf. yii 'masculine'

(22) sehanú 'daughter-in-law'
cf. hánú 'sister-in-law'

(23) sekásá 'son-in-law'
cf. kásá 'brother-in-law'

7.2 On Classifiers

Classifiers fulfill various functions in natural language; they can have a quantificational or determining function, an anaphoric function, or what Denny (1986) calls the "sorted argument" or "classificatory" function. The first two are fairly self-explanatory;[7] the third requires some discussion. Denny uses the notion of "sorted arguments" to explain an apparently redundant type of classification found in many languages, in which the classifier gives information already entailed by the classified noun. As an example of this, he cites the following Japanese sen-

tence: san-nin no shoonen ga kita 'three boys came', in which the classifier phrase (san-nin) tells us that the sentence is about three humans, and the noun (shoonen 'boys') tells us what kind of humans they are. Denny claims that this type of classification serves to narrow the universe of possible fillers of argument positions, and to express the speaker's claim (and hence, set up expectations on the hearer's part) about the type of verbal predicate which is appropriate for the rest of the sentence.[8]

Dixon (1982, 1986) presents a list of features which characterize classifiers in general, based on his survey of a number of languages which have been described as having such elements.[9] The most important of these characteristics (for our purposes) are briefly listed below. Using the animal classifier as representative, the two sections which follow then evaluate the ProtoMixtecan and current-day Chalcatongo Mixtec systems with respect to both the functional characteristics noted above, and Dixon's observations on classifier languages which are enumerated below.

1. "Classifiers are free forms, and can never form a morphological unit with the noun" (1982:216).

2. "Classifiers comprise a largish (often, semi-open) set, whose members may not be exhaustively listable" (1982:218). Dixon adds that typical classifier sys-

tems have between 50 and 100 classifiers, although he cites cases with as few as two and as many as 400.

3. "Almost every language with classifiers has some nouns that do not occur with any classifier" (1982:213).

4. "Many nouns may occur with one of a number of different classifiers, sometimes with a difference in meaning and sometimes not" (1982:218).

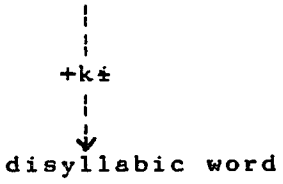
7.3 The Development of the Animal Classifier in Mixtec

§7.1 discussed the synchronic status of various elements with apparent classifying function. This section, and the one that follows, focuses on just one of those elements: the animal prefix t̲ɨ̲-. This particular prefix has been chosen for two reasons: first, it is the one which is most commonly described as a classifier,[10] and second, it has the widest distribution in the modern-day language. The present section considers the origins and development of the animal prefix, and the section which follows evaluates its synchronic status in Chalcatongo Mixtec.

There are two hypotheses one might make about the genesis of this element, and about its relationship to the full noun k̲ɨ̲t̲ɨ̲ 'animal'. First, one might claim that the prefix is a reduced version of the full word, and that animal names with this prefix developed out of N+N constructions with

first member k̲i̲t̲i̲. Alternatively, one could hold that the prefix represents one outcome of the development of some ProtoMixtecan form (the status of such a form to be discussed below), but that the full noun represents another, distinct development: as second syllable in a disyllabic word with some other morpheme as the source of its first syllable. That is, this hypothesis would claim that on the one hand, the pMn form corresponding to t̲i̲- became increasingly tightly bound to the classified noun (and where it was retained, became a prefix or fused with the root), while on the other hand, it acquired a penultimate syllable and developed into a disyllabic free form. This hypothesis is schematized in (24):

(24) pMn form --> prefix



disyllabic word

The former hypothesis has been held by several authors, myself included.[11] The reasoning behind this claim is based on observation of the Mixtec syllable-deleting rules of fast speech (described in Chapter 2), which create surface forms identical to those of the classifying prefixes. Under this view, the trisyllabic animal names are frozen or lexicalized reductions of N+N constructions.

However, following Kaufman 1983, I now believe the second hypothesis to be correct.[12] That is, I believe that the

classificatory prefixes did originate as some element corresponding to present-day t̲s̲-, rather than as a disyllabic word corresponding to k̲s̲t̲s̲. In what follows I present some of the evidence which has convinced me to change my position on this issue, as well as evidence which bears on the morphological and functional status of the classifying morphemes.

One piece of evidence which argues for the second hypothesis is the form of the full word for 'animal' in the three members of the Mixtecan family (Mixtec, Cuicatec, and Trique). Longacre (1957) supplies the following cognate set:[13]

(25) M-SM, SE: k̲s̲t̲s̲, M-J: kiti ku?u 'animal'
C: ?iite 'animal'
T: ǯu- 'animal'
Reconstructed pMn forms: M *kitu; C *xitu; T *tu
(Longacre 1957:148, Set 268)

As indicated, Longacre reconstructs *kitu as the pMn form which developed into the Mixtec form, *xitu as the pMn form which developed into the Cuicatec form, and *tu as the predecessor of the Trique form.[14] (Longacre does not reconstruct a penultimate syllable for Trique.)

Kaufman, however, takes the same set and reconstructs pMn *(i)tu. (The parentheses around the i̲ in this form indicate that Kaufman is not certain about the quality or even the existence of the initial vowel.) Thus, while Longacre accounts for the difference in the initial syllable of the

Mixtec and the Cuicatec forms by appealing to consonantal alternations (specifically, *k alternating with *x), Kaufman claims that the initial consonants, or possibly the initial syllables, are unrelated, and that only the final syllables are unambiguously cognate.

Kaufman's reconstruction provides us with the element that forms the basis of the second hypothesis advanced above; that is, the form that developed in two different directions to give us both the animal prefix and the full word meaning 'animal'. Under this hypothesis, Mixtec added the syllable k± (from some unknown source) to the reflex of *(i)tu to create the free form, and developed the classifier from *(i)tu alone.

Kaufman also reconstructs an element *tu, as the pMn animal classifier. Since he apparently considers *(i)tu a free form, and specifically claims that *tu is a "proclitic," it would appear that he considers the two to be distinct elements at the level of pMn (although he does claim that present-day k±t± and t±- developed from the same source). In what follows we will address the question of the morphological status of *tu, as compared with that of the free word *(i)tu.

As mentioned above, Kaufman claims that the pMn animal classifier *tu was a proclitic. I believe, however, that *tu was a free word (or at least more free than other ele-

ments which Kaufman classes as clitics), for several reasons. First, the behavior of *tu is more consistent with that of elements which Kaufman calls "particles" than with the behavior of what he considers "(pro)clitics."[15] In Kaufman's view, elements which were proclitics in pMn were unstressed, and generally fused with the stem or were deleted entirely in the daughter languages. Particles, on the other hand, were stressed (or at least capable of bearing stress), and generally retained their vowel, and therefore their syllabic nature.[16] Kaufman bases his claim that *tu was a proclitic on the grounds that it fuses with noun roots which have *y as initial consonant (1983:20),[17] behavior which he claims is characteristic of clitics. The animal classifier did indeed fuse with noun roots with initial *y (as well as with those few with initial *w), but recall from §7.1.1 that it did not fuse with other noun roots, instead retaining its syllabic status in the majority of cases. The phonological basis of this limited fusion seems quite different from the across-the-board fusion demonstrated by the true proclitics. This suggests that *tu had a more independent status than did the clitics of the protolanguage, and therefore that (in Kaufman's terms) it was a particle. (In fact, I will suggest below that the classifier *tu may have actually been the noun meaning 'animal', rather than a distinct lexeme, and that it was therefore a free word.)

Another indication of the relatively free status of pMn *tu is provided by the extreme variability in its retention (or, more properly, in retention of its reflex). On the one hand, we find that retention varies across the Mixtecan languages, and on the other we find that it is differentially retained even among the various dialects of Mixtec itself. That is, across Mixtecan, and internally in Mixtec, languages (or dialects) differ with respect to whether a given animal name bears a reflex of *tu or whether it does not.

To begin first with data from the three Mixtecan languages,[18] consider the following animal names:

(26) 'cat'
Mixtec: bílu
Trique: žilu, l•u
pMn: *(tu)wilu

(27) 'deer'
Mixtec: ísu
Trique: žutah
Cuicatec: y'udu
pMn: *(tu)yusɔh

(28) 'flea'
Mixtec: čo?6
Trique: ža?a
Cuicatec: 'iyu
pMn: *(tu)yɔ?ɔ

(29) 'snake'
Mixtec: kòò
Trique: žukwa
Cuicatec: ku(u)
pMn: *(tu)kɔ

All four Trique forms have initial ž, which is the regular reflex of pMn *t. Since none of the roots have initial *t, it is clear that this ž corresponds to the *t of the

classifier. The vowel of the initial syllable of each Trique form is a consequence of a series of rules of syllable reduction. To state it informally, if the root has initial *y or *w, the form retains a reflex of the first vowel of the root, and loses the vowel of the classifier as well as the *y or *w of the root; if the root does not begin with *y or *w, the form retains a reflex of the vowel of the classifier (i.e. *u) and the entire initial syllable of the root is deleted.[19]

Turning now to specifics: in (26) ('cat'),[20] the Mixtec form shows no evidence of the classifier. There are two Trique forms for this word, however; one with a reflex of the classifier, and one without. (The significance of this is discussed below.) In (27) ('deer'), neither Mixtec nor Cuicatec shows a reflex of the classifier, while Trique does. In (28) ('flea'), the Cuicatec form again shows no evidence of the classifier. However, in this case the Mixtec does: c̲ is the regular result of fusion of *tu with a following root in *y or *w. Finally, in (29) ('snake'), once again only the Trique example gives evidence of the presence of the classifier.

These examples give us very mixed results. We find that Trique retains evidence of the classifier in all four forms,[21] while Cuicatec retains it in none of the three for which it has a cognate form. (There are actually only a few Cuicatec animal names which do retain it.) The Mixtec

results are less uniform. The word for 'cat' is a case in which the Mixtec form either never had the classifier, or else lost it before the rule of fusion with *w-initial roots developed (fusion with *w would have resulted in initial č in Mixtec). This contrasts with the word for 'flea', in which fusion (in this case with *y) did take place. In neither 'deer' nor 'snake' is there any evidence of the classifier (but recall from §7.1.1 that there are many animal names in Mixtec which do retain it, and that many do so in its syllabic form).

Kaufman (p.c.) claims that an example like that in (26) ('cat') indicates that the root had no associated classifier in pMn. He argues that since Trique has one form with it and one without it, the language must have added the classifier independently, perhaps by analogy to other animal names. However, it is also plausible that the classifier was present in pMn times, and lost at a later date in Mixtec, as well as in one form of Trique. One potential argument against this claim might be that we would expect fusion of the classifier and the initial *w to have occurred if the Mixtec form had had the classifier, as is the case for the word čílya 'lizard' (cognate with Trique žilu 'worm', from pMn *(tu)wilo).[22] This fusion rule is probably a fairly recent innovation, however, judging by the fact that as of 1965 (the date of the Dyk and Stoudt dictionary), the San Miguel dialect only optionally fused tɨ- with *y-

and *w-initial roots. If the Chalcatongo dialect lost the classifier in the word for 'cat' before this late fusion rule developed, it follows that there would be no trace of it in the present-day form.

Another interesting, and perhaps significant, point with respect to the word čílya 'lizard' is that San Miguel Mixtec has a cognate form without the fused classifier: víló (also meaning 'lizard'). Thus two quite similar dialects (spoken only a few miles apart) apparently made different choices about retention of the classifier.

Moving now to data from Mixtec alone, consider the following, taken from Josserand's (1983) sample of 122 Mixtec dialects:[23]

(30) 'armadillo' (Josserand 1983, Set 72: pM *yakWĨ?)
žakũ, žaxũ (10 dialects)
yakWi, žakWi (11 dialects)
yakWĨ, žakWĨ (36 dialects)
te žako (1 dialect)
ȼi yakO (1 dialect)
tɨ yakɨ (1 dialect)

(31) 'bird' (Josserand 1983, Set 147: pM *tɨ laa)
đaa, laa, saa (75 dialects)
tɨ đaa, ti đaa, či đaa (21 dialects)
tɨ laa, ti laa, ȼi laa (4 dialects)
tɨ saa, ti saa (7 dialects)

(32) 'squirrel' (Josserand 1983, Set 185: pM *kWeyũ?)
kWãñũ, kWẽñũ (44 dialects)
ndi kWãñĨ, ndi kWãñũ, ndi kWãnĨ (14 dialects)
ti kWãĨ (1 dialect)
ti kWãñũ (1 dialect)
či kWãñũ (1 dialect)

These examples show that retention of the classifying element also varies widely among the dialects of Mixtec.

Not all sets contain variation like this; some of Josserand's animal name cognate sets contain no items with a reflex of the classifying element, and she therefore reconstructs the pM form[24] without it (e.g. *koo? 'snake'), while in others all (or almost all) dialects do retain some evidence of it, in which case her pM reconstruction does include the classifying element (e.g. *tɨ́ te?ya? 'cockroach'). If we add cases such as those illustrated in (30) through (32) to these facts, we find the whole range of possibilities: sets with no classifier, sets which vary with respect to retention of the classifier, and sets in which all members retain it.

Now that we have observed this range of data, we are in a better position to consider the morphological status of pMn *tu. It is clear that *tu was at least somewhat free (i.e. not a prefix or a "proclitic," in Kaufman's terms), since it did not entirely lose its syllabic status, nor disappear altogether. However, the question of the "freeness" or "boundness" of *tu is somewhat complicated by the fact that there are more than just the two possibilities to consider; that is, there are degrees of morphological freedom, from truly free words at one end of the scale to truly bound affixes at the other,[25] with the range of clitic types discussed in Chapter 4 located between the two. Since this dissertation is avoiding the term "clitic" in favor of the categories "bound word" and "phrasal affix," and adding

the non-clitic category "leaner," we have a larger range of morphological categories from which to draw than just "affix," "clitic," and "word." What, then, do we mean by saying that *tu was not a "proclitic"? We can rule out the category "phrasal affix" immediately, since there is absolutely no evidence that *tu was phrasally attached. That leaves us with three possibilities: was *tu a bound word, a leaner, or a free word? The evidence here is considerably less clear.[26] Since Mixtec does not appear to make use of the categories "leaner" or "bound word," I am inclined to think that the classifier *tu was in fact the same word as Kaufman's *(i)tu 'animal' (recall that the existence of the i was dubious anyway), but this remains speculation at this point. We can say, at any rate, that *tu was at least fairly free, belonging to the word-like end of the scale of morphological elements presented in Chapter 4, §8 (ex. 15), rather than to the affix-like end of it.

We have established, then, that *tu was word-like in character. Even if *tu was a bound word or a leaner, rather than a free word, either of these statuses is free enough that *tu would not be atypical of the classifier systems surveyed by Dixon (and listed in §7.2).[27] It appears that pMn did have a valid, if perhaps limited, classifier system. The fate of this system in modern-day Mixtec, however, is the subject of the next section.

7.4 The Synchronic Status of the Animal-Name Prefix in Chalcatongo Mixtec

As mentioned earlier, it has been claimed by various authors that at least some of the prefixes described in the preceding sections are synchronically classifiers. It is the claim of this dissertation that these prefixes are instead merely nonproductive derivational morphemes, which are fossilized remnants of an old classifier system (as described above), but in no way representative of such a system in synchronic terms.

The Chalcatongo Mixtec data are evaluated below first with respect to the characteristics of typical classifier systems as enumerated by Dixon, and then with respect to the functional characteristics of classifiers described in §7.2.[28]

1. (Classifiers are free forms): the animal prefixes are clearly not free forms -- free words in Mixtec must be disyllabic, and these prefixes are monosyllables. Furthermore, we have seen many arguments which show that the prefixes are not synchronically derivable from free forms, despite the fact that there often is a free form which is phonologically related in some way to the prefix. Thus these elements diverge in a fundamental way from this characteristic of the typical classifier.

2. (Classifiers comprise a large set): the Chalcatongo Mixtec prefixes are atypical of classifiers in this respect, too, since they are only five in number.[29] This, of course, does not completely rule them out as classifiers, since small systems have been documented.

3. (Classifier languages have some nouns with no classifier): it is certainly true that not every noun in Mixtec bears a prefix such as those in question, but Dixon's claim is that such nouns are in a minority in a language with a classifier system, whereas in Mixtec they are in the majority.

4. (Many nouns can occur with different classifiers): to my knowledge, no Mixtec root occurs with more than one of the classifying prefixes. Furthermore, the root of a trisyllabic Mixtec form only rarely has independent meaning. While in §7.1 we saw that it is possible in some cases to analyze the final two syllables of such trisyllabic forms as some known morpheme, these cases are the exception rather than the rule. As a result, it is misleading to talk about the final two syllables as a "noun" which cooccurs with some classifier (or classifiers). The reason for this state of affairs, of course, is that the words which include the prefixes have become fossilized through lexicalization, and are thus often no longer composed of two independently recognizable morphemes.

According to Dixon's observations, then, the Mixtec prefixes do not fit the pattern of the typical classifier system. The strongest argument against the claim that they do constitute such a system is the first: these prefixes are bound forms, and as such, are entirely atypical of known classifiers. We saw above that there are several arguments against the claim that these prefixes are actually free forms at some deeper level of structure (as would be argued by, for example, Pike (1944, 1949)). To briefly reiterate these arguments:[30] in most cases the corresponding full noun (when there is one) may not be substituted for the prefix; in cases in which a N+N construction with the corresponding full noun can be created, it has a different meaning than the trisyllabic form does; and, the trisyllabic forms are susceptible to phonological change which would not be expected if the prefix represented some productive classifying element. Even if we were to reject Dixon's list of characteristics of classifier systems, and claim that the Mixtec data invalidated such a list or typology, these arguments would, to my mind, be enough to prove that the Mixtec prefixes do not constitute a valid classifier system.

Finally, we must also note that the prefixes of Chalcatongo Mixtec do not fulfill any of the functions of classifiers. That is, as mentioned above, it is misleading to speak of the prefix cooccurring with some noun for which it has a quantifying or classifying (or other) function,

since in the majority of cases, the two final syllables do not constitute an independent morpheme. While it is certainly likely that, for example, the pMn animal classifier *tu functioned in one of these ways for the animal names of pMn, the reflexes of those animal names no longer have independent status in Chalcatongo Mixtec.

I conclude that Chalcatongo Mixtec in its current state does not have an extant system of noun classification. The suggestive initial syllables which we observe in certain semantic domains are instead merely the fossilized remnant of an archaic classifier system.

-- Notes --

1. Virtually all of the examples of animal names in č- have root-initial y. One which has root-initial w (čílya 'lizard') will be discussed in a later section.

2. It would be interesting to know whether speakers from San Miguel still alternate between the two forms, or whether the fused forms are now predominant, twenty (plus) years after Dyk and Stoudt compiled their dictionary.

3. E.g. Pike (1944) and (1949), Alexander (1980), Stark Campbell (et al) (1986). Pike's claims are discussed in detail in Chapter 9.

4. Pike (1944) notes similar data in San Miguel Mixtec, and claims that it is rule-governed: "Before front high vowels or palatal consonants, the [ə] usually changes to [i]" (p. 128). This rule (modified for the Chalcatongo dialect by replacing [ə] with [ɨ]) works for tihi 'buzzard', and timí 'bee', but not for any of the other examples given in (8). It does appear to predict the variation in tɨñɨ/tiñí, but note the apparent harmony of final vowels. Furthermore, the rule is not valid for the many other trisyllabic nouns which also begin with tɨ-, but which are from another semantic domain (see §7.1.2).

5. Longacre (1957) says that this prefix is distinct from the one found on animal names, and that it derives from a root meaning 'thing' or 'oval-shaped thing'. León (1986: 350), however, claims that the use of tɨ- to refer to spherical objects results from semantic extension of the classifier for animals.

6. The word àní in (14) is a noun meaning 'mayoralty' (Spanish 'presidencia'); i.e. the office held by the mayor (Spanish 'Presidente').

7. See Denny 1986 for an attempt at formal representation of the quantifying function.

8. Denny acknowledges the problems this model might have with verb-initial languages (1986:304).

9. Dixon distinguishes between "classifier systems" and "noun class systems." The latter are systems in which: (i) all nouns are grouped into a smallish number of classes, (ii) there is an overt indication of the class of a noun

within most sentences, and (iii) this indication is not entirely within the noun (i.e. there is agreement) (adapted from Dixon 1982:160, 163). A familiar example of a noun class system is the grammatical gender found in many Romance languages. In this chapter, however, we consider only classifier systems, as defined in the text.

10. By, e.g., Swadesh (1960), Kaufman (1983), Macri (1983), and Stark Campbell (et al) (1986).

11. See Macaulay 1987, as well as Pike 1944 and 1949, Longacre 1957, Swadesh 1960, Alexander 1980, Stark Campbell 1986, and others.

12. I have come around to this viewpoint after numerous discussions of the issue with Kaufman, and because of a small amount of comparative research on Mixtecan animal names which I have done myself (this is presented below).

13. Longacre's abbreviations are: M-SM - Mixtec of San Miguel el Grande, (M-) SE - Mixtec of San Esteban Atatláhuca, M-J - Mixtec of Jicaltepec, Oaxaca, C - Cuicatec, T - Trique. In this and later examples, tone numbers have been left out of the Trique and Cuicatec citations due to formatting difficulties.

14. One of the most important aspects of Longacre's reconstruction of ProtoMixtecan is the notion of "consonantal alternations," which were proposed to account for apparent correspondences of unlike consonants in cognate sets. That is, Longacre assembles sets (such as the one displayed in (25)) which include items which appear to be related semantically, and which show the expected vowel correspondences, but which have a range of consonants occurring in the penultimate syllable. He then accounts for the dissimilar segments by claiming that they represent the various reflexes of a set of pMn alternations (a "declension"). These alternations occur, in Longacre's view, without affecting the morphemic constituency of the word -- that is, they are not considered to be affixal in nature.

15. An example of a system which contains both particles and proclitics is displayed in Table VII, in the chapter which follows this one. This table displays Kaufman's reconstructions of the aspect particles and proclitics of ProtoOtomanguean and ProtoMixtecan, as well as the forms which he claims they take in present-day Mixtec.

16. This picture is actually complicated by the possibility of a combination of particles and proclitics preceding a single stem in some as yet undiscovered order.

17. On page 24, Kaufman refers to the animal classifier as a "particle." I assume this is just a slip-up, since he is quite emphatic about its being a proclitic on page 20: "the animal classifier, pMn *tu, which is surely proclitic..." (1983:20, emphasis mine).

18. I have left the tone numbers out of the Trique and Cuicatec examples once again. The Trique data is from Good 1978, and the Cuicatec data is from Anderson 1983. The Mixtec data is my own, from Chalcatongo. The pMn form is essentially that provided by Kaufman, but I have added the classifying syllable to the reconstructions of 'cat', 'flea', and 'snake'. Some general notes on the data: (i) The apostrophe in some of the Cuicatec forms indicates some sort of glottalization; it is unclear exactly what the status of this glottalization is. Cuicatec penult syllables are regularly long, so my first guess was that it indicated a phonetic sequence of [V?V], but Anderson (1983) says explicitly that the sequence C'V is not equivalent to [CV?V] (which also occurs, and which he writes CV'V). Anderson also says, however, that the glottalization is not a feature of the preceding consonant. (ii) I am not sure what induces the initial i of the Cuicatec form in (28); a few other Cuicatec animal names have it (some with glottalization, some without), including the noun meaning 'animal'. (iii) In (29), the kw of the Cuicatec form is due to a rule which adds a labial component to the reflex of *k following a rounded vowel (Kaufman, p.c.).

19. Kaufman (p.c.) hypothesizes that this process proceeds as follows: first, word medial *y or *w is dropped (i.e. tuyVCV --> tuVCV), and then the first of the resulting sequence of two vowels is dropped. If the root does not begin in *y or *w, the penultimate syllable of the root is lost, following a general Trique rule.

20. Presumably the pMn form *(tu)wilu denoted some catlike native animal, and the meaning of the term shifted when domesticated cats were introduced to the area.

21. In fact, most animal names in Trique do bear the reflex of the classifier. Virtually all of them begin with ž plus some vowel, which is (as described above) either the reflex of *u, or of the vowel of the reconstructed root. To be exact, in my data 52 of 62 Trique animal names begin with ž.

22. The palatalization of the /l/ is a problem in more ways than one, as was noted in Chapter 2, note 10.

23. Tone has been omitted from these data. In (30), I have reproduced Josserand's form for Guadalupe Portezuelo/ Villahermosa (the second-to-last form given) verbatim. I do

not know what the capital "O" represents; it may be a typo. Also note that the forms cited in (30) through (32) are representative, but not exhaustive, of Josserand's data. Josserand includes Chalcatongo in the dialects which have yakWí 'armadillo', saa 'bird', and kWãñũ 'squirrel'. My consultants, however, have been unable to provide me with a word for 'armadillo', and have ñukWí for 'squirrel'.

24. Recall that Josserand reconstructs ProtoMixtec (pM), while the forms discussed earlier are reconstructed ProtoMixtecan (pMn) forms. Unfortunately, there is potential for confusion, since it is customary to use just a single asterisk before the reconstructions of each stage.

25. One could actually put fusion of elements at the far end of this scale; cf. Bybee's scale of degree of fusion (1985:12).

26. The fact that *tu undergoes a limited degree of fusion in Mixtec does not provide us with any evidence one way or the other, since it appears that such fusion was a late development, happening well after Mixtecan split into its daughter languages. The fact that it fuses entirely with the root in Trique cannot be used as evidence in this matter either, due to the extreme syllable loss (regardless even of morphological constituency) in that language.

27. One issue which I have not yet had a chance to explore is the relationship between the classifying elements and the pronominal clitics. The similarity in phonological form which they share is intriguing, and leads one to wonder whether they shared a similar function at some earlier stage of the language as well.

28. It should be pointed out here that the arguments presented below are only valid for data from dialects similar to that of Chalcatongo. León (1986) observes that Lowland Mixtec has a very different system, which, from her data, does appear to be a productive system of noun classification. Her dissertation (León to appear), which I have not yet seen, describes such systems in detail.

29. There may be a few more, but these five are the only ones which I have found in sufficient numbers in my corpus to be worth noting.

30. Direct evidence that speakers are not aware of the classifying function of these prefixes was provided by one of my consultants, who said yunu nú-yúša for 'torchpine' on one occasion (cf. example (28)).

Chapter 8

The Morphology of Chalcatongo Mixtec Verb Stems

This chapter explores the many types of stem alternations found among Chalcatongo Mixtec verbs. We will find that complete predictability among the data is lacking, and conclude that these alternations no longer represent a productive phenomenon in Chalcatongo Mixtec.

8.1 Realized vs. Potential Stems

Grammars of Mixtec typically claim that each verb has two aspectually distinct stems, usually termed the Realized and the Potential. Pike (1944), Dyk and Stoudt (1973), Hinojosa (1977), and Alexander (1980) all take the Potential as basic, while Pensinger (1974) takes the Realized as basic.[1] Both Alexander and Pensinger further divide Mixtec verb stems into sets according to the morphophonological rules by which they claim that the "non-basic" stem is derived. These rules include regular tone changes, vowel alternations, replacements of initial consonant or initial syllable, prefixation, and suppletion. In addition, Pensinger points out that for the majority of verbs in Chayuco

Mixtec there is no difference between the forms of the two stems.[2,3]

Morphophonemic alternations such as those mentioned above are also found in Chalcatongo Mixtec. However, the situation differs in one crucial way: while some generalizations can be made about initial consonant and syllable alternations, the concomitant tone alternations are so numerous and idiosyncratic that prediction by rule is virtually impossible.

Appendix C presents a large set of Chalcatongo Mixtec verbs (242, to be precise), classified according to stem alternation type. From these we can observe the following:

1. The largest category by far is the "No Change" category. Fully 59% (142) of the verbs in Appendix C fall into this category.[4]

2. The "Tone Change Only" category contains 13 alternation types which are restricted to a single verb each (out of 18 alternation types and 30 verbs in all).

3. Initial consonant alternation, with or without vowel change, and with or without tone change, is limited to the following pairs: h-/k-, h-/kW-, ñ-/k-, y-/k-, and Ø-/ku-. 66 verbs (27% of the total) fall into these categories.

With respect to point 3, we would be missing a generalization if we were to claim that there was no degree of predictability in the patterns shown for Realized and Potential verb stems. In fact, the forms listed in sections III and IV of Appendix C (that is, the ones which show h-/k- and h-/kW- alternations) may be segmented into prefix plus root, with a series of morphophonemic rules applying.[5] Whether this is synchronically appropriate segmentation is discussed below.

The verbal prefixes which are responsible for the h-/k- and h-/kW- alternations are hi-/ka- and hi-/ku-. The morphophonemic rules which apply to these forms are as follow:

(1) Labialization
ku- -> kW- / ___ V

(2) Vowel Harmony
ku- -> ko- / ___ Co

(3) Vowel Deletion
CV- -> C- / ___ V

(hi- -> h- / ___ V, and ka- -> k- / ___ V)

The effects of these rules are exemplified in (4) through (6), while Chart 1 displays the data of sections III and IV of Appendix C, reorganized by prefix type.[6]

(4) Rules (1) and (3):
hi- + anú -> hanú 'loan (R)'
ku- + anú -> kWanú 'loan (P)'

(5) Rule (2):
hi- + to -> híto 'take care of (R)'
ku- + to -> koto 'take care of (P)'

(6) Rule (3):
hi- + atu -> hatu 'boil over, spill (R)'
ka- + atu -> katu 'boil over, spill (P)'

CHART 1: SEGMENTAL REGULARITIES AMONG CHALCATONGO MIXTEC VERB STEM ALTERNATIONS

I. HI-/KA- ALTERNATION (order: R/P)

A. CONSONANT-INITIAL ROOTS

1. WITHOUT TONE CHANGE
   híta / káta 'Sing'
   hítú / kátú 'Lie down' (vi)

2. WITH TONE CHANGE
   HM ~ MM: híka / kaka 'Ask for'
   híka / kaka 'Walk'
   HMM ~ MHH: híča?a / kačá?á 'Dance'

B. VOWEL-INTIAL ROOTS

1. WITHOUT TONE CHANGE
   hača / kača 'Dig'
   hání / kání 'Build, construct'
   háši / káši 'Nurse, suck' (vi)
   hásu / kásu 'Close, cover'
   hátá / kátá 'Hang' (vt)
   hatu / katu 'Boil over, spill'
   há?mu / ká?mu 'Burn' (vt)
   há?ni / ká?ni 'Kill'
   há?nu / ká?nu 'Break' (vt)
   há?ña, há?ya / ká?ña, ká?ya 'Cut'
   hé̋ĩ / ké̋ĩ 'Put'

2. WITH TONE CHANGE
   LM ~ MM: hàča / kača 'Spread, throw'
   MM ~ MH: hoko / kokó 'Light'
   HH ~ MH: húñá / kuñá 'Open' (vt)
   HHM ~ MHM: hánínd i / kaníndi 'Stand' (vt)
   HMM ~ MHM: húñanuu / kuñánuu 'Hold'

II. HI-/KU- ALTERNATIONS

A. CONSONANT-INITIAL ROOTS

1. WITHOUT TONE CHANGE
   híči / kúči 'Ripen'
   hindá?a / kundá?a 'Carry'

hisɬkɬ / kusɬkɬ 'Play'
hísndée / kúsndée 'Be on top of'
hítú / kútú 'Work in the fields'
híyaa / kúyaa 'Be located (generic, singular)
hítónža / kótónža 'Test, try'

2. WITH TONE CHANGE
HH ~ MH: hítú / kutú 'Lie down' (vi)
HM ~ MH: híči / kučí 'Bathe' (vi)
HM ~ MM: hínu / kunu 'Run'
MH ~ HH: hiní / kúní 'Know'
HMM ~ MHH: híča?a / kučá?á 'Dance'
HMM ~ MHM: híndatu / kundátu 'Wait'
HMM ~ HHM: híndii / kúndíi 'Be located, standing'
HMM ~ MMM: híndee / kundee 'Be in'
HMH ~ MHM: híčakú / kučáku 'Live'
HM ~ MM: híto / koto 'Take care of'

B. VOWEL-INITIAL ROOTS
1. WITHOUT TONE CHANGE
hanú / kWanú 'Loan'
hatá?ã / kWatá?ã 'Fight'
hatíũ / kWatíũ 'Use'
híkó / kWíkó 'Spin, turn' (vi)

2. WITH TONE CHANGE
HH ~ MM: háã / kWãã 'Buy'
HM ~ MM: há?a / kWa?a 'Give'
HM ~ MH: há?nu / kWa?nú 'Grow' (vi)
MH ~ MM: hakú / kWáku 'Laugh'
hisó / kWíso 'Boil' (vi)
LM ~ HM: hàñu / kWáñu 'Kick'
MMH ~ MHM: handučá / kWandúča 'Baptize'

Indeed, the other initial consonant pairs (ñ-/k- and y-/k-; see sections VI and VII of Appendix C) can likewise be seen as prefixes which have lost their vowel before vowel-initial stems by Rule (3), although specification of what that vowel should be is not as clear-cut as it is for the h-/k- and h-/kW- alternations.

An analysis such as this is preferable to one which calls upon replacements of consonants or syllables to derive one stem from the other (as Alexander and Pensinger do it) because it allows us to give a simpler account, which encompasses more of the data. It is also supported by the historical facts, as will be seen in §8.9.

Despite the fact that we are able to find some significant regularities among Realized/Potential stem pairs, however, it is still the case that these regularities are entirely segmental. There is no predictability at the suprasegmental level of tone (this is made especially clear when one brings into consideration the verbs of Appendix C, class II). The fact that the tonal contour is not predictable calls into question the notion that the prefixation and morphophonemic rules presented above might represent synchronically productive processes. It is admittedly somewhat bizarre that the segmental and tonal aspects of what appears to be a single "morpheme" should diverge in this way, but it is consistent with the general tendency for tone to be less than predictable in this dialect of Mixtec. If we were to insist that the prefixation detailed above was a synchronically productive process, we would be forced (because of the tonal idiosyncracies) to enumerate almost as many rules as there are verbs. Specifying the necessary rules would amount to

essentially the same thing as listing the two stems, and would needlessly complicate the grammar.

The set of verbs from the "No change" category of Appendix C provides us with another argument against a productive prefixal analysis. Note that there are a fair number of these invariant verbs with initial h-, k-, or kW- (45, or 32%). Adoption of the prefixation analysis would entail that we assign the meaning "Realized aspect" to the prefix hi-, and the meaning "Potential aspect" to the prefixes ka- and ku-. This would conflict, however, with the verbs for which h-, k-, or kW- forms function as both Realized and Potential stems. The only way to avoid this contradiction would be to claim that the verbs with no stem change are not segmentable, and that it is just chance that so many forms in this category have initial consonants identical to those of the forms which are segmentable, but this would be an entirely ad hoc move.[7]

As a final point concerning the lexicalized status of these verbs, note that while for the most part the roots of such forms are obligatorily bound, and do not occur without the aspectual prefixes attached, there are a few cases in which the root is recognizable, and in which the prefix has not undergone fusion with the root. In all of these cases, however, the semantics of the verb is not simply constructed compositionally from the meaning of the prefix plus that of the root; rather, they are always specialized, and hence not

derivable from a productive process of prefixation. (7) through (10) illustrate:

(7) hatɨ́ɨ̃́ (R), kWatɨ́ɨ̃́ (P) 'use (vt)'
tɨ̃ɨ̃ 'work, errand (n)'

(8) handučá (R), kWandúča (P) 'baptize'
nduča 'water (n)'

(9) yeyí?í (R), keyí?í (P) 'bite'
yí?í 'raw (adj)', yée (R), kee (P) 'eat (vt)'

(10) hą́tã?ã (R), hãtą́?ã (P) 'like'
tą́?ã 'friend, relative (n)'

This is further evidence that the distinct aspectual stems are best accounted for by lexical listing (with the default being that the two stems are identical), although this admittedly begs the question of the representation of the patterns that are present, and which have been laid out above.[8] This question will be addressed again in §8.10.

8.2 Verbs of Motion and Arrival

Chalcatongo Mixtec verbs of motion manifest more aspectual distinctions than any other set of Mixtec verbs, while the verbs of arrival show less.[9] I have discussed the semantics of this set in detail elsewhere (Macaulay 1985); in the present section I briefly sketch the important semantic points, and consider the morphological characteristics of the most complex of these verbs.

In Mixtec, verbs of motion are "round trip" -- that is, they code the progress of an Agent to and from some Goal.

As a consequence, use of the Completive with these verbs is only appropriate when the Agent has gone to the Goal and returned. Compare this with English, in which we can say "I went and stayed" -- in Mixtec such a sentence would require the Progressive form of the verb of motion.

In addition, Mixtec verbs of motion and arrival specify the status of the Goal with respect to the notion "Base." Base can be thought of in general as a designated and non-arbitrary Goal, which in practice is usually the Agent's home. There are two verbs roughly meaning "Go": one means "Go to Base and return" (this will be referred to as "Go-1"), and the other means "Go to non-base and return" ("Go-2"). Likewise, there are two verbs meaning "Arrive there": "Arrive there at Base" ("Arrive there-1"), and "Arrive there at non-base" ("Arrive there-2"). ("Come" and "Arrive here" are not made up of pairs differentiated according to the status of the Goal.) The distinction is one of privative opposition; that is, the unmarked category ("non-base") encompasses the meaning of the marked category ("Base").

As mentioned above, the verbs of motion partake of more aspectual distinctions than normal Mixtec verbs do, distinguishing between Completive, Habitual, Progressive, and Potential. The verbs of arrival, on the other hand, are "momentary"[10]; that is, they occur only in Completive and Potential aspects. The focus with these verbs is on the ini-

tiation of the action, with the verb in Potential aspect if the action has not yet been initiated, and in Completive once it has been.

Table VI presents several of the Chalcatongo Mixtec verbs of motion and arrival. As should be obvious from the table, "Enter" and "Exit" do not enter into precisely the same aspectual paradigm as the other verbs of motion do. For these two verbs, the Completive is regular: it is constructed by affixation of ni- to the Realized stem. These verbs are included in the table, however, because they each have a Habitual stem, as do the true verbs of motion.

The converse of this observation (concerning the formation of the Completive) explains the categorization of the forms in the third column in the table as "Progressive," rather than as "Realized." That is, the Completive of a verb of motion is made by affixation of ni- to some stem other than the third; and from this we know that the third stem does not have the same range of meaning as do true Realized stems.

	CP	HAB	PROG	POT
Go-1	ni-nó?o	----	kWa-no?o	no?ò
Go-2	ni-hã?ã	hã́?ã	kWã?ã̀	kĨ?Ĩ̀
Exit	ni-kenda	ndéndá	kenda (R)	kenda
Come-1	----	----	----	----
Come-2	ni-kii	ndíí	bèì	kii
Enter	ni-kɨu	ndɨu	kɨu (R)	kɨu
Arrive there-1	ni-na-háa	----	----	na-haà
Arrive there-2	ni-haà	----	----	haà
Arrive here-1	----	----	----	----
Arrive here-2	ni-čàà	----	----	čaà

Key: 1 - Goal is Base
2 - Neutral Goal

TABLE VI: VERBS OF MOTION AND ARRIVAL

The data included in this table obviously do not lend themselves to a neat summary. (Again, see Macaulay 1985 for details and explication.) For our present purposes, however, we can confine ourselves to a few observations on the morphology of aspect in this semantic domain. First, note that the Progressive of "Go-1" (kWa-no?o) is formed with the auxiliary form of the Progressive of "Go-2."[11] Use of contracted forms of the verbs of motion as auxiliaries is

extremely common in Mixtec, occurring both with other verbs of motion, and with non-motion verbs as well.

Second, we can conjecture that "Go-2" has the prefixes hi- and ku- present in its Habitual and Progressive stems. The Potential form is unexplained; perhaps it is the prefix ka- plus some root, or perhaps it is suppletive.

Third, three of the four verbs of motion have a Habitual stem which begins with nd-.[12] As we will see in the next section, there is a sizeable set of statives which also have initial nd-. Habitual and Stative are similar enough categories that we can posit a single prefix ndi- for these forms (on the order of the prefixes discussed above in §8.1).[13] Notice that the Habitual of "Come-2" is formed with the prefix ndi- plus the same root as is found in the Potential (but not the Progressive) stem. (The Progressive stem is suppletive for this verb.) The Habitual forms of "Exit" and "Enter" are formed with this prefix plus the root which is found in both the Realized and the Potential stems.

Fourth, and finally, note that the form of "Arrive there-1" (which has Base as Goal) is formed with Repetitive na- prefixed to the form which has a neutral Goal (i.e. "Arrive there-2"). This suggests a parallel analysis of "Go-1" (no?ò) as composed of Repetitive na- plus o?o, a vowel-initial stem. The form is subject to Rule (3), Vowel Deletion, which produces its present form.

8.3 nd- Statives

It has been mentioned several times in previous sections that some verbs in Mixtec have a stative alternant. These generally show initial nd- or y-. Forms in y- are discussed in §8.5, 8.6, and 8.7, while forms with initial nasals are illustrated in (11) through (14):

(11) hásu (R), kásu (P) 'close, cover (vt)'
ndasù 'closed (stative)'

(12) húñá (R), kuñá (P) 'open (vt)'
núña 'opened (stative)'

(13) néñú (P,R) 'swell, become fat (vi)'
ndeñu 'swollen (stative)'

(14) káá (P,R) 'rise, go up (vi)'
ndáá 'risen, overflowed (stative)'

There are other cases in which a semantically stative form in nd- functions grammatically as a Realized stem for some distinct Potential. In some cases (e.g. (15)), such verbs are related to one (or more) other nonstative verbal paradigms:[14]

(15) ndátu (R), kundátu (P) 'wait'
cf. hítú (R), kátú (P) 'lie down';
ndéndatu (P,R) 'rest'

(16) ndíto (R), kundito (P) 'be awake (vi)'

As mentioned in the previous section, nd- statives such as those in (11), (13), and (14) can be taken as roots with a prefix ndi-, meaning "Stative" or "Habitual." The one instance of a stative in n- (núña) is unexplained.

8.4 Transitives in čV-

Paradigms which include a transitive member in čV- may contain a wide range of stem forms (e.g. stems in y-, k-, etc.). In this section, we will limit ourselves to trisyllabic verbs in čV- which have no related trisyllabic forms, but which are related to some identifiable disyllabic root. Classes of sets of stem forms are then enumerated in the sections which follow.

Virtually all of the verbs of the present set have ču- or či- as first syllable; there is no evident phonological conditioning which determines the vowel of the prefix, nor does lexical category of the root determine it. Neither is there any readily discernible semantic distinction between the two. Furthermore, a very small number of verbs in č- (just two in my corpus) have če- as first syllable. In some cases, there is even variation in the vowel in a single verb: e.g. čitá?ã, čutá?ã 'join, unite (vt)', or čusúku, čisúku, česúku 'wrap, roll up (vt)'. As far as lexical content can be determined, the three prefixes seem to contribute something similar to the verbs in which they are found, and I will accordingly treat them as variants of a single prefix. Examples (17) through (20) illustrate some of the verbs of this set, and also give the root for each case.[15]

(17) čúsama 'turn upside down (vt)'
sámá 'exchange, trade (vt)'

(18) čútútu 'register (vt)'
tutù 'paper (n)'

(19) čindúčá 'wet (vt)'
nduča 'water (n)'

(20) čiyú?ú 'carry in the mouth (vt)'
yu?u 'mouth (n)'

It is quite difficult to assign a consistent meaning to čų-/čį-. It has a verbalizing function (creating transitive verbs) when prefixed to roots of categories other than "verb," but that certainly does not do justice to its contribution. Its function when forming verbs from other verbs is likewise unclear. We will see below that it causativizes statives, but that it also often adds lexical content which is hard to pin down. The meaning of čų-/čį- is discussed further in §8.8.

8.5 yV-/čV- Alternants

In §8.3, it was mentioned that statives generally show initial nd- or y-. In this section, we review a set of verbs with transitive stems in č- and stative stems in y-. Again, roots for these forms may be of any lexical category (or may be unidentified).[16] (21) through (24) illustrate:

(21) čúndahi 'soak, wet (vt)'
yúndahi 'soaked, wet (stative)'
ndáhi 'wet (stative)'

(22) číkWa?a 'weigh, measure (vt)'
yíkWa?a 'weighed, measured (stative)'
[root unknown]

(23) číta?nu 'fold (vt)'
yíta?nu 'folded (stative)'
tá?nu 'break, bend (vi)'

(24) čí?í 'plant, sow'
yí?í 'planted, sown (stative)'

The relationship between y- and č- stems is explored further in §8.8.

8.6 kV-/yV-/čV- Alternants

There is a very small set of verbs which have three stems: a stative in y-, a transitive in č-, and a stem in k- which may be intransitive or reflexive. (For the latter two, there is no distinction between Potential and Realized forms.) (25) through (27) illustrate.

(25) kesa?í, késá?u 'disappear (vi)'
čisa?í, čísa?u 'hide (vt)'
yésa?i, yésa?u 'hidden (stative)'
sá?u 'cover (vt)'

(26) kindí?u 'lock self in (vi)'
čindí?u 'lock in (vt)'
yíndí?u 'locked in (stative)'
ndí?u 'closed, locked (stative)'

(27) ketã?ã 'join, meet (vi)'
čutã?ã, čitã?ã 'join, unite (vt)'
yútã?ã, yítã?ã 'joined, united (stative)'
tã?ã 'friend, relative (n)'

8.7 kV-/čV-/hV- Alternants

Finally, there is just one example in my data in which we find the familiar prefixes hi- and ku- in a set with čí-:[17]

(28) hindá?á (R), kundá?á (P) 'carry (vt)'
čindá?á 'push (vt)'
nda?a 'hand (n)'

8.8 The Meaning of the čV- Prefix

While it is true, as stated above, that it is quite difficult to assign a single, clear meaning to the prefix čų-/čį-, there are a few tendencies worth noting.

First, when čų-/čį- attaches to nouns, it often creates a transitive verb with the general meaning 'put' or 'place', with the noun in a locative role. Consider, for example, (18) through (20), above, as well as (29):

(29) čiyókó 'steam (vt)'
yokò 'steam (n)'

(18) can be interpreted as 'put (something) on paper', (19) as 'place (something) in water', (20) as 'place (something) in the mouth', and (29) as 'place (something) in steam'. Of course, this only begins to describe the semantics of most such examples -- it is quite clear that they often develop some degree of semantic specialization after lexicalization.

čų-/čį- has a fairly clear causativizing relationship with statives in y-, and indeed, we might even posit a morphophonological rule along the lines of (30):

(30) [caus] s- + [stative] y- -> č-

This is plausible, but if it is correct the affrication is a mystery, since /s/ otherwise becomes /š/ before /i/ (see Chapter 2). Furthermore, acceptance of this rule would entail that all forms in č- have a prior form in y-, which they do not (although of course there are always forms the fieldworker has overlooked). I will leave this matter an open question at this time.

The important point here is that, once again, while there are regularities we can discover with respect to this prefix, neither the semantics, the segmental phonology, nor the tone is completely predictable. This is evidence that forms in ču-/či- are lexicalized, conforming to the pattern already described for hi-, ka-, and ku-.

In the next section, we will review the historical development of the system of tense-aspect-mode prefixes, and in the section after that, return to the question of their synchronic status.[18]

8.9 The Development of Aspect Marking in Mixtec

Kaufman (1987) reconstructs ten tense-aspect-mode markers (TAM markers, henceforth) for ProtoOtomanguean, and claims that the reflexes of eight of these are still to be found in Mixtec.[19] Table VII illustrates his reconstructions of the pOM and pMn forms of these TAM markers, as well

as his representation of the corresponding present-day Mixtec forms.[20]

None of the Otomanguean languages have retained the full range of ten TAM markers. Mixtec did retain more than almost any other branch of OM (eight of the ten reconstructed by Kaufman), but these eight phonologically distinct reflexes did not maintain eight distinct functions. Rather, the number of semantic distinctions between them was reduced by half, to four. (31) (below Table VII) shows the distribution of forms to functions according to Kaufman, and (32) illustrates the outcome in Chalcatongo Mixtec. Some of the discrepancies between (31) and (32) are no doubt due to the fact that Kaufman's analysis draws from a range of dialects, while the present analysis considers only one. The points of disagreement are discussed below.

pOM	pMn	MIXTEC	ROUGH GLOSS
**ka#	*ka-	ka-	OM Potential M Potential
**kWe#	*ko-	ku-	OM Punctual M Potential
**ni#	*ni#	ni-	OM Remote Past M Completive
**(Y)ti#	*nti-	ndi-	OM Habitual M Stative/Perfect
**wæ+	*wa-	wa-	OM Perfect M Continuative
**kæ+	*ki-	ki-	OM Progressive M Completive
**xi#	*xi-	xi-	OM Subjunctive M Completive
**i+	*i-	i-	OM Present Time M Continuative

KEY: Word (particle) boundary: #
Clitic boundary: +
Affix boundary: -

TABLE VII: pOM, pMn, AND MIXTEC ASPECT MARKERS (ADAPTED FROM KAUFMAN 1987)

(31) Kaufman:
Potential: kV-, ku-
Completive: ni-, xi-, (ki-)
Stative/Perfect: ndi-
Continuative: wa-, i-

(32) Chalcatongo Mixtec:
Potential: kV-, ku-
Completive: ni-
Realized: xi-
Stative/Habitual: ndi-, (i-)
Not present: wa-, ki-

The two accounts are in agreement with respect to the Potential markers, but there are discrepancies with respect to some of the other categories. One of these involves ki-. While Kaufman (1987:32) first says that Mixtecan supports the reconstruction of **kæ+ (the source of ki-), he later contradicts this by including **kæ+ among the TAM markers that Mixtecan loses (1987:39). There is no evidence, however, for retention of ki- as a marker of the Completive in Chalcatongo Mixtec.[21] (There may, of course, be evidence from other Mixtec dialects that I am unaware of.)

Another point of disagreement is xi- (hi- in the present orthography). Interestingly (and, he admits, paradoxically), Kaufman reconstructs the development of pOM **xi# Subjunctive as follows: **xi# > pMn *xi- Incompletive > Mn xi- Completive. Again, I am unaware of the evidence upon which Kaufman bases his classification of xi- as Completive in current-day Mixtec, but it would seem that the function of the Chalcatongo Mixtec hi-, Realized, is more consistent with the function of the pMn form *xi-, Incompletive, than Completive would be.

As (31) also indicates, Kaufman classifies two TAM markers as Continuative: wa- and i-. Chalcatongo Mixtec,

however, lacks a morphologically marked Continuative category. Wa- has apparently been lost in the Chalcatongo dialect,[22] but the TAM marker i- could be the source of the y- statives mentioned in preceding sections. Again, comparative evidence would be needed to decide this question.

We turn now to Kaufman's claim that the TAM markers of the third column of Table VII represent a productive system of prefixation in present-day Mixtec.

8.10 The Synchronic Status of Aspectual Prefixes in Chalcatongo Mixtec

It is my claim that the regularities in the stem patterns of Chalcatongo Mixtec verbs cannot be analyzed as the result of a productive process of prefixation on verb roots. However, as Table VII indicates, this is precisely the claim that Kaufman does make: that current-day Mixtec verb stems are synchronically analyzable as consisting of an aspect prefix plus stem.[23] On this matter, he says:

> A given verb stem usually occurs with some aspect prefix or another; these prefixes have shape CV- before a consonant-initial stem, and shape C- before a vowel-initial stem. The C- shapes can be derived from the CV- shapes by deleting the vowel of the prefix before [a] stem-initial vowel (1983:21).

I do not dispute the claim that the aspectually distinct stem forms of Mixtec verbs developed out of the system which Kaufman presents, but we have reviewed a fair

amount of evidence in previous sections that indicates that a synchronic analysis of these stems as bimorphemic is not feasible for the Chalcatongo dialect. Some of that evidence is reviewed here.

First, and most damaging to the prefixation analysis, is the unpredictability of the tone of forms in any given aspectual paradigm. As was shown in §8.1, the regularities among the verb stems are entirely segmental. The variations in tonal contour are such that no rules of sandhi could capture them, without resorting to merely enumerating the possibilities.

Second, although the semantics of the putative prefixes hi- and ku- is quite regular, the semantics of certain other forms remains a problem. Consider those cases in which a stative is derived from a stative, as in yíndí?u 'locked in', presumably from yi- plus ndí?u 'closed, locked'. Here the "prefix" clearly adds more than just stative aspect to the root. Thus specialization of meaning is a problem for forms containing TAM markers as well as for those involving ču-/či-.

Third, the TAM markers are not available for the formation of new words. That is, no new verbs can be formed from native roots or from loanwords by prefixation of the appropriate TAM element. Speakers have a very clear sense of what "is a word," and what is not. Attempts at creating

neologisms by this method are uniformly rejected, despite the semantic, pragmatic, or phonological plausibility of the construct.

A final point to consider is the difference in status between the Completive ni- and the other "prefixes" listed in (32). Ni- is the only TAM marker to which I assign true (synchronic) prefixal status. It, unlike all of the others, is completely productive, and furthermore, does not lose its vowel and fuse to the root.[24] This is even true when ni- precedes a verb which is vowel-initial:

(33) ni-isɬkɨ ([ni-ʔisɬkɨ])
CP-play
He played

(34) nì-ičî ([nì-ʔičî]
CP-dry
It dried

(33) is an especially interesting case with respect to the point being made here. The citation form of the Realized stem of 'play' is hisɬkɨ - with an initial h. The person who uttered (33)[25] tends to drop initial h. Thus, in this example, the consonant of the TAM marker hi- is lost, but the prefix ni- still does not undergo rule (3) (Vowel Deletion) and then fuse to the verb stem. Instead, a glottal stop is inserted (as it is with a truly vowel-initial form like ičí), to maintain the syllabic status of the prefix. Under Kaufman's analysis, all of the TAM markers have equivalent morphological status. This obscures

the important difference in status between ni- and the other elements.

All of the evidence presented in this section indicate that we must take pains to distinguish between the notion of productive rules of word-formation and that of etymological analysis or segmentation. The TAM markers of Chalcatongo Mixtec are fossilized remnants of an earlier productive system -- perhaps one which was productive at a fairly shallow time depth, judging by the amount of regularity which still exists. (Compare this to the variation found among initial syllables of animal names, as discussed in Chapter 7.)[26] There is considerable evidence, however, against the claim that these elements participate in any present-day system of word-formation.

-- Notes --

1. Dyk and Stoudt as well as Alexander call the Potential the "future tense," while Pensinger calls the Realized the "present tense." We saw in Chapter 6, however, that this is in fact an aspect-based system, rather than a tense-based system.

2. More precisely, Pensinger says that for this class of verbs there is no change in the stem, but that the "future" is formed with the word "cua" ([kua]) preceding the stem. My guess is that this "word" is a contracted variant of "cuahan" ([kũã?ã]) 'go', functioning just as "going to" does in English. This is exactly what is found in Chalcatongo Mixtec, which similarly makes use of an auxiliary /kWa-/ (from /kWã?ã/ - phonologically identical to the Chayuco form). It would be quite interesting to know if this optional element has in fact become obligatory in Chayuco Mixtec.

3. Alexander, on the other hand, says nothing about invariant stems in the Atatláhuca dialect. This may be because all verbs in Atatláhuca Mixtec do overtly mark the distinction between Realized and Potential aspect, or it may simply have been an oversight on the part of the author.

4. Appendix C contains only monomorphemic verbs and verbs with nonproductive derivational prefixes. If verbs with productive derivational prefixes (such as the causative and the inchoative) were added, the "No Change" category would represent an even higher percent of the total, since these morphologically complex verbs virtually always have the same form for the Realized and Potential stems.

5. Leanne Hinton first convinced me of the feasibility of an analysis of the Chalcatongo verb stems such as the one presented below. I must also acknowledge my debt here to Terrence Kaufman's work on tense-aspect marking in Otomanguean languages (personal communication, class notes, and Kaufman 1983, 1987).

6. There is only one verb for which this analysis does not work; <u>hándía</u> (R), <u>kundía</u> (P) 'believe'. However, also note that other speakers have a form <u>kandía</u> for both the Potential and the Realized of 'believe', which would be the predicted Potential form for a Realized form <u>hándía</u>.

7. §8.9 will present, among other things, Kaufman's (1987) reconstruction of the system of aspect prefixes for ProtoMixtecan. Two of the prefixes which he reconstructs are *ka- (Potential) and *ki- (Progressive). It is quite probable that pairs of verb stems which were differentiated by these two prefixes fell together when the rule of vowel deletion entered the language, accounting for the verbs with initial k- for both Realized and Potential stems. However, I believe that a synchronic analysis of these verbs which postulated the existence of two prefixes ka- and ki- underlying k-initial stems would likewise be an ad hoc solution to the problem.

8. It has been suggested to me that the h-/k- and h-/kW- alternations could be accounted for synchronically by appealing to the notion of "phonaesthemes." I am uncomfortable with such an analysis, however, for a variety of reasons. First, phonaesthemes generally contribute lexical, rather than grammatical meaning. Second, they do not usually enter into paradigms. Third, the notion is not usually used to describe elements which are the reflection of something which was, as these aspectual distinctions are, an old system of productive affixation. (I am grateful to Johanna Nichols and Charles Fillmore for discussing this issue with me.)

9. See Kuiper and Merrifield 1975, Pickett 1976, Speck and Pickett 1976, and Macaulay 1985 for discussion.

10. The term is taken from Kuiper and Merrifield 1975.

11. The auxiliary form of a verb of motion is always monosyllabic, losing a syllable according to the rules of fast speech detailed in Chapter 2. Verbs with nasalized vowels usually lose their nasalization as well.

12. In Macaulay 1985, I called hã́?ã̄ an "Iterative," rather than a "Habitual." (I was not aware at that time of the other three Habituals). These two notions are quite similar, and since the other three forms seem more like Habituals than Iteratives, I have grouped them all together under the former label. However, the fact that "Go-2" forms its Completive differently than any of the others do (by prefixing ni- to the Habitual, rather than to the Realized or Potential) might be taken as evidence that this form is better left distinct from the others.

13. Choice of /i/ as the vowel of this prefix is determined by its appearance in some of the paradigms illustrated below in §8.3, as well as from Kaufman's (1987) reconstruction.

14. The source of the apparent prefix nde- (in ndéndatu) in the last line of (15) is unknown.

15. There are some verbs (not presented) in this set for which the root is unidentifiable. In this and subsequent sections, I have tried to present primarily examples in which it is clear what the root is.

16. Though most of the forms which belong to the paradigms discussed in this chapter are trisyllabic, some (like (24)) are disyllabic.

17. There is also a verb nanda?a 'to wash the hands'.

18. Note that there is an important difference between ču-/či- and the other prefixes which are discussed in this chapter: ču-/či- is not a tense-aspect-mode prefix. This might be taken as an indication that it should be treated separately. Indeed, Hinton (p.c.) argues that the morpho-phonological rule in (30) is the best analysis, and that verbs in ču-/či- should be seen as causativized statives. Under this analysis, there is no prefix of the form ču-/či-; rather, there are forms in yu- or yi- which surface as ču- or či- after causativization. This is an attractive hypothesis, but it would still be unable to handle the relationship between, e.g., yokò 'steam (n)' and čiyókó 'steam (vt)', a set for which there is no form *yiyókó 'be steamed' (my consultant specifically rejected this form).

19. The reader is cautioned that Kaufman 1987 is a very rough draft. I am grateful to the author for allowing me to make use of it. I take full responsibility for any errors in my presentation of the data, or in the discussion of it which follows.

20. Table VII incorporates information from class notes, Kaufman 1987, and Kaufman 1983. Data from the last of these are specifically from Kaufman's Tables II.15 (1983:22) and VII.1 (1983:60). Also note that in Kaufman (1987), he actually gives two "allologs" for what I have represented as **wæ+: (i) **wæ+, a clitic, and (ii) **nwæ #, a particle. Since he says that Mixtecan supports the former, I have simplified, and left out the latter.

21. It might be argued that ki- has merged with the other k-initial Potential markers, but this is a semantically unlikely possibility.

22. However, since one of the developments Kaufman gives for pOM **wæ+ is "perfect, completive, already" (1987:29), in Tlapanecan, Zapotecan, and Popolocan, this prefix could be the source of what I call the "temporal" prefix in Chapter 6.

23. Josserand (1983) makes the same claim:

> The majority of [her multimorphemic pM cognate sets] are verbs, whose citation forms appear to be monomorphemic couplets, but which invariably carry an aspect marker of some kind, in the form of initial consonant (and sometimes vowel) alternants or tone changes, which differentiate the incompletive, completive and future stems (1983:277).

24. Kaufman does give ni-, alone of all the TAM markers, proclitic status at the level of pMn. But at the next stage, Mixtec, he no longer treats it differently.

25. Margarita Cuevas Cortés was the speaker.

26. It is quite legitimate to ask at this point how a theory of morphology would handle recognition of the kind of limited regularities shown in these data. Such a theory, I believe, would need to distinguish between productive rules of word-formation (that is, rules which produce new forms) and some type of recognition or redundancy rules, which would handle the kinds of relationships seen in the Chalcatongo data. (See Kastovsky 1986 for discussion of just this point.)

Chapter 9

Pike (1944): A Previous Approach to Mixtec

9.1 General Remarks

This dissertation has attempted to provide the reader with an understanding of some elements of the structure of Chalcatongo Mixtec. A partial sketch of the language has been presented, including: a phonological sketch; a very brief survey of important syntactic and semantic issues; and a more in-depth look at the types of bound morphemes which are encountered in Mixtec. We have seen that there are four types of obligatorily bound element: phrasal affixes, inflectional affixes, derivational affixes, and fossilized remnants of old productive systems of classification and aspect marking. A fifth type of bound element is that which results from optional rules of rapid speech. These rules reduce disyllabic free words to monosyllables which are phonologically dependent on a neighboring form.

In an influential article on Mixtec, "Analysis of a Mixteco Text," Kenneth Pike (1944) provides an analysis of San Miguel el Grande Mixtec[1] which differs radically from

that provided here. Pike's account of the language is described below, and contrasted with the present analysis in the section which follows.

Pike's central claim is that virtually all monosyllables in Mixtec (including those which appear to be clitics and affixes) are actually independent disyllabic words at some abstract level of analysis. He denies that any basic category of bound morpheme exists in the language, claiming instead that all bound forms are the result of a synchronic process of "cliticization" of free forms. He further claims that, as a result, no sharp distinction can (or need) be made between syntax and morphology in this language.[2]

Example (1) is typical of Pike's analysis. The first line represents the sentence as spoken, and the second is Pike's representation of its underlying form.[3]

(1) ndé-nì-hinì-rì hà-ká?àn ?əən kaba?
?ondè nii hinì ruù haà ka?àn ?əən kaba?
where complete see I thing talk one cliff
Where have I ever seen a cliff talking?

[Pike 1944:118]

As can be seen from example (1), each morpheme in the second line of one of Pike's examples is a disyllabic free word. Pike claims that all of these "words," with perhaps one or two exceptions,[4] do at least occasionally occur in disyllabic form in careful speech. It is my experience, however, that monosyllabic forms such as ni- and ha- (which Pike claims are nii and haà underlyingly) have no corre-

sponding full form, and that apparent two-mora instances of these prefixes are simply drawn-out hesitation forms (perhaps functioning as "floor-holding" devices).

In order to understand the kinds of arguments which Pike presents for his claims, we will look in some detail at his discussion of one of these "words," nii̱. Pike first points out that ni- becomes nii̱ in hesitation forms (p. 125). He goes on to say:

> The word is not found elsewhere than in the grammatical position illustrated by [examples such as (1)], in which it precedes the main verb... Since it does not occur in other positions, nor in isolation (except in hesitation), it tends to have no strong isolated meaning. Its meaning deducted from phrases is to complete or to be completed or finished (1944:125-126).

Here Pike admits that the two-mora form only appears in hesitation, yet he sees this as an argument for its status as free word, rather than against it.

The next argument Pike gives against analysis of ni- as a prefix is based on his claim that it is not tightly bound to the main verb of the clause. As evidence for this claim, he says that "morphemes of full phonological and semantic character which give every evidence of being free forms may come between [ni-] and the verb" (1944:126). Unfortunately, he gives no examples, and I can find no instances in my data or in his text in which this claim is supported.

Pike's last argument involves phrases with ni- in conjunction with another morpheme, -tà, the San Miguel form

of the third person bound pronominal for animals. He argues against a hypothesis that would hold simultaneously that ni- is a prefix and that the monosyllabic third person pronominal forms are suffixes. Pike uses the following sentence as his example:

(2) te-nì-ku-kWí?a ?inì-tə̀
tee nii kuu kWí?à ?inì kətə
and complete be sad insides animal
And it (the animal) was sad

[Pike 1944:119]

He points out that "any consistent procedure following out the implications of considering ni- as a prefix and -t_ as a suffix would link into single words, groups of morphemes such as ... te-nì-ku-kWí?a ?inì-tə̀" (1944:126). That is, he rightly claims that analysis of ni- as a verbal prefix, and of -tə̀ as a verbal suffix, would entail that all of the forms which fall between the two are part of the verb. What he does not consider, however, is the possibility that ni- and -tə̀ are non-parallel forms; specifically, that ni- is a prefix, while the pronominal markers are enclitics ("phrasal affixes" in the terminology of this dissertation). This solution renders invalid this argument for a non-prefixal analysis of ni-.

Pike's conclusion that all monosyllabic forms in Mixtec are synchronically derived from underlying independent words was apparently based on his observation of the contraction-like rules of fast speech (as illustrated in Chapter 2, §5).

However, as we have seen repeatedly throughout this dissertation, most monosyllabic elements in Mixtec cannot be synchronically derived from disyllabic free words. Several types of evidence for this claim are reviewed below.

9.2 Arguments Against Pike's Claims

Semantic arguments: One form of argument against the Pikean analysis is based on the semantics of words involving a monosyllabic morpheme. As we have seen, in some cases the form with the monosyllable is lexicalized, and has a different meaning than would a construction containing the corresponding full word. (3) and (4) (repeated from Chapter 7) illustrate:

(3) bekaa 'jail'
cf. be?e kaa 'building made of iron'

(4) beñű?ũ 'church'
cf. be?e ñű?ũ 'building made of earth'

A synchronic process which derived the be- of (3) or (4) from the full noun be?e 'building' would not be able to account for the difference in meaning between the trisyllabic forms and the N+N constructions.

Another type of semantic argument concerns the difference between use of a monosyllable with productive derivational properties, and the periphrastic construction which would underlie it according to Pike's analysis (these examples are repeated from Chapter 6):

(5) sá?a hà-ná-káča?a
make COMP-SJ-dance
Make him dance! (i.e., get him up and have him go out there and dance)

(6) s-káča?a
CAUS-dance
Dance him! (e.g., if you are riding a horse, make him dance by manipulating the reins)

[Hinton 1982:356-357]

The Pikean analysis would here fail to predict the distinction made between directive causation (as in (5)) and manipulative causation (as in (6)).

Phonological arguments: It remains somewhat unclear exactly what kind of process Pike has in mind when he refers to the "cliticization" of disyllabic forms. Because he does not mention any specific conditioning or environment which might induce this process, my interpretation is that he intends it to be a strictly phonological process, appearing only under conditions of rapid speech. If this is in fact so, we can argue against Pike's claims on the basis of the phonological difference between sa?a, sa- and s-. A simple phonological process of syllable loss ("cliticization") would be expected to occur under predictable phonological conditions, yet there is no phonological motivation for the reduction of sa- to s-. This is illustrated in (7) and (8) (also repeated from Chapter 6):

(7) s-ndóo 'leave (vt)'
CAUS-stay[V]

(8) sá-ndoo 'clean (vt)'
CAUS-clean[STATIVE]

Rather, this difference is conditioned by the lexical category of the root: s- cooccurs with verbs (and some statives), and sa- with adjectives (and other statives).

Syntactic arguments: Pronominal direct objects provide us with another argument against the derivation of monosyllables (in this case the clitic pronouns) from the corresponding disyllabic free forms. As (9) through (11) indicate, the suppletive third-person masculine clitic (-re) may appear as a direct object, while the suppletive first person clitic (-ri) may not. The full pronoun is required for expression of a first-person direct object.

(9) čínde-ri-re
help-1-3M
I am going to help him

(10) čínde-re ru?u / *čínde-re-ri
help-3M I
He is going to help me

(11) čínde-ro ru?u / *čínde-ro-ri
help-2 I
You are going to help me

These data show that the suppletive first-person pronominal clitic may not appear as a direct object. However, pronominal direct objects in their full forms are susceptible to rapid speech syllable loss. Crucially, for the first person this yields the form predicted by the regular rule, rather than the suppletive. (12) shows that this is true even when no phonological material separates the first-person direct object from the verb:

(12) wáã ni-s-kée-Ø-ru / *-ri
wáã ni-s-kée-Ø ru?u
that+one CP-CAUS-eat-3 I
She fed me

In (12) we see that direct object ru?u reduces to -ru in rapid speech, following the usual rules of syllable deletion (in this case, CV?V > CVV > CV). (12) also shows that direct object ru?u may not be realized as the suppletive -ri. This provides us with clear evidence that the subject clitics are not the product of fast speech rules.

These arguments show that invocation of purely phonological rules of "cliticization" to account for all Mixtec monosyllables is simply not feasible. Such an analysis would fail to account for the meaning of lexicalized forms, would obscure the semantic differences between the use of full forms and the use of prefixes, would render unpredictable (in cases such as sa- vs. s-) the distribution of the prefixes themselves, and would fail to account for a difference in the phonological form of pronouns which is dependent upon the grammatical function which the pronoun holds in a clause.

9.3 Concluding Remarks

The section above has argued that Pike's unitary notion of "cliticization" cannot account for more than a small part of the Mixtec data. One of the ways in which this disser-

tation has avoided the pitfalls of the "cliticization" analysis has been by carefully maintaining the distinction between synchronic and diachronic analysis, that is, by not counting "'dead souls' as live people," in the words of Marchand (1955:14). We have seen that in some cases the synchronic rules of rapid speech syllable deletion do mirror the historical processes by which bound morphemes are created. However, it has been shown repeatedly that the two processes produce different types of morphological units, with distinct properties. These distinctions must be kept in mind if we are to arrive at an accurate picture of the language.

The approach of this dissertation is also to be preferred due to the fact that the characteristics of a range of morphological types have been carefully defined and rigorously applied. This is important for the analysis of any language, but especially so for Mixtec because of the wide range of morphological elements of which it makes use. Our recognition of categories such as phrasal affix, fast speech clitic, etc., has allowed us to offer an explanation for phenomena which went, if not unobserved, certainly unexplained under the old analysis.

-- Notes --

1. Recall that this is a dialect spoken only a few miles from Chalcatongo. (See Map 4.)

2. Pike actually takes it somewhat further, hypothesizing that the distinction might not be necessary in the description of other languages either:

> Once granting for description of a language of this type [i.e., Mixtec] the value of emphasis upon positions first and form or form classes resulting from position as secondary, it might well be enquired whether a similar approach to languages of a far different type would not uncover some descriptive advantages which would help to supplement the traditional arrangement of grammars which takes for granted as its most prominent division (apart from sounds) a linguistic chasm between morphology and syntax (1944:113).

3. Pike's /ə̃/ corresponds to the Chalcatongo /ɨ̃/. Nasalization of vowels is indicated by word-final /n/.

4. I should note that Pike does acknowledge that not all monosyllabic forms have extant disyllabic forms:

> A relatively small number of morphemes ... have never been related to full (two-mora, dissyllabic) forms... [T]he two-mora form has either been lost, or the relationship with its full form so obscured that the full form has not yet been found (1944:122).

Pike leaves the corresponding part of the second line blank in such cases.

APPENDIX A

CHALCATONGO MIXTEC PHONEMIC CONTRASTS

STOPS

Initial:

t́á?a - 'suffer (P)'
ḱá?a - 'hip'
k̲Ẃá?á - 'red'
b̲à?a - 'good'
nd̲a?a - 'hand'

Medial:

ká̲t̲a - 'sing (P)'
ka̲k̲a - 'walk (P)'
t̲ɬ̲k̲W̲a?a - 'lime, lemon'
ká?̲a - 'hip'
ka̲b̲a - 'hard'
ke̲nd̲a - 'go out, exit (P)'

NASALS

Initial:

m̲áá - 'self'
n̲áa - 'mother'
ñ̲áá - 'weigh (R)'

Medial:

sám̲á - 'food'
kán̲á - 'call (P)'
káñ̲á - 'crazy'

After /?/:

ká?m̲u - 'burn (P)'
ká?n̲u - 'big, fat'
ká?ñ̲a - 'cut (P)'

LATERAL, FLAP

Initial, Medial:

l̲úl̲í - 'small'
r̲o?o - 'you'

FRICATIVES, AFFRICATE

Initial:

se?e - 'child'
šé?é - 'ring'
ha?à - 'time'
nžáá - 'live, reside (R)'
ča?a - 'gourd'

Medial:

bása - 'later'
nduši - 'warm, heat (P)'
bihi - 'pineapple'
kénža?a - 'move near (P)'
nduči - 'eye'

CONTINUANTS

Initial:

yáa - 'tongue'
wãã - 'then, there'

Medial:

koyo - 'empty, pour (P)'

After /?/:

bí?ya - 'nopal'

APPENDIX B

CONSONANT INVENTORIES OF SIX MIXTEC DIALECTS

(Orthographies have been standardized to conform with that used for Chalcatongo Mixtec.)

Stops						
Voiceless	p	t		k	kW	?
Voiced		nd		ng		
Nasals	m	n	ñ			
Lateral		l				
Flap		r				
Fricatives						
Voiceless		s	š	x		
Voiced	ß					
Affricates						
Voiceless			č			
Voiced			nǰ			
Continuant			y			

TABLE 1: SAN MIGUEL MIXTEC CONSONANT INVENTORY
SOURCE: DYK AND STOUDT 1965

Stops						
Voiceless	p	t	tY	k	kW	?
Voiced	mb	nd	ndY	ng		
Nasals	m	n	ñ			
Lateral		l				
Flap		r				
Fricatives		s	š	x		
Affricate			č			
Continuants			y		w	

TABLE 2: JICALTEPEC MIXTEC CONSONANT INVENTORY
SOURCE: BRADLEY 1970

Stops						
Voiceless		t		k	kW	?
Voiced	mb	nd		ng	ngW	
Nasals	m	n	ñ			
Lateral		l				
Flap		r				
Fricatives						
Voiceless		s	š			
Voiced	ß		ž			
Affricates						
Voiceless			č			
Voiced			nǰ			

TABLE 3: SANTA MARIA PENOLES CONSONANT INVENTORY
SOURCE: HINOJOSO 1977

Stops						
Voiceless	p	t		k	kW	?
Voiced		nd		ng		
Nasals						
Voiceless		N				
Voiced	m	n	ñ			
Lateral		l				
Flap		r				
Fricatives						
Voiceless		s	š	x		
Voiced	ß					
Affricates						
Voiceless			č			
Voiced			nǰ			
Continuant			y			

TABLE 4: ATATLAHUCA MIXTEC CONSONANT INVENTORY
SOURCE: ALEXANDER 1980

Stops						
Voiceless	p	t	tY	k	kW	?
Voiced		nd	ndY	ng		
Nasals	m	n	ñ			
Lateral		l				
Flap		r				
Fricatives						
Voiceless	θ	s	š			
Voiced	ß					
Continuant		y				

TABLE 5: CHAYUCO MIXTEC CONSONANT INVENTORY
SOURCE: PENSINGER 1974

Stops						
Voiceless	p	t	tY	k	kW	?
Voiced	mb	nd	ntY			
Nasals	m	n	ñ			
Lateral		l				
Flap		r				
Fricatives						
Voiceless		s	š			h
Voiced	ß					
Affricate		c				
Continuant			y			

TABLE 6: SAN JUAN COLORADO MIXTEC CONSONANT INVENTORY
SOURCE: STARK CAMPBELL (et al) 1986

APPENDIX C

CHALCATONGO MIXTEC VERB STEM ALTERNATIONS

I. NO CHANGE

čaa 'Write'
ča?u 'Pay'
česúku 'Wrap, roll up' (vt)
čétu, čítu 'Hold up, support'
čeyí?í 'Carry in the mouth'
číkWa?a 'Weigh, measure' (vt)
čindá?á 'Push'
čindé 'Help'
číndikì 'Follow' (vt)
čindí?u 'Lock in' (vt)
čindɨkɨ 'Gore' (vt)
čindúčá 'Rinse, wet' (vt)
čiñú?ũ 'Worship' (vt)
čísa?u 'Hide' (vt)
čísó 'Answer'
čísó 'Add'
čišé?é 'Carry under the arm'
číta?nu 'Fold' (vt)
čité?é 'Pinch' (vt)
či?i 'Rub, smear, spread'
čí?í 'Plant, sow'
či?ù 'Rinse out the mouth' (vt)
čo?ò 'Cook' (vi)
čúba?a 'Keep, guard'
čuhíkí 'Punch'
čúkú 'Arrange, put in place'
čunáá 'Pay'
čùndùhì 'Bury'
čuñá 'Destroy'
čúsama 'Turn upside down' (vt)
čutá?ã 'Join, unite' (vt)
čútútu 'Register (a marraige)'
čuyókó 'Blow on, steam' (vt)
čũ?ũ 'Pour, throw out, sow'
haní 'Dream'
hãta?ni 'Love'
ha?á 'Pass by or over'
há?a 'Sleet, snow' (vi)
híniñú?u 'Need'
ɨkàbà 'Lie down' (vi)
káá 'Climb, rise, go up' (vi)
kãã 'Become accustomed to, get used to'
kaba 'Twist, braid' (vi)
kanahí 'Scream'
kandía 'Believe'

kasú 'Toast, roast' (vi)
káši 'Sneeze'
kataha?a 'Dance'
katu 'Make tortillas'
katű?ű́ 'Ask'
kayu 'Burn, be on fire'
ká?ndɨ́ 'Explode' (vi)
ká?u 'Count'
kãyáa 'Drown' (vi)
kã?ã 'Speak, talk'
kee 'Say'
kehá?á 'Begin, start'
kénža?a, kánža?a 'Move near'
késá?u 'Disappear' (vi)
ketã́?ã 'Join, meet' (vi)
ke?e 'Touch'
kíkú 'Sew'
kɨ́kɨ́ 'Harden'
kɨ́tɨ́ 'Boil' (vi)
kɨ́u 'Enter'
kɨ́?ɨ́ 'Put on (shoes, jewelry)'
kókó 'Swallow'
kunái 'Quiet down' (vi)
kuní 'Want'
kundé 'Bear (put up with)'
kundíí 'Cover'
kúñába?a 'Have, keep'
kusúkú 'Wrap, roll up' (vt)
kušo 'Move' (vi)
kutɨ̃́ɨ̃́ 'Hold'
kutu?á 'Learn'
ku?ni 'Tie'
kWayú 'Plant, sow'
kWítá 'Tire' (vi)
kẂínú́ 'Become numb' (vi)
náá 'Be lost, disappear'
nakača 'Wash'
na?ma 'Confess'
néñú 'Swell, become fat'
ní?i 'Get, receive'
nɨ́?ɨ́ 'Shake, tremble'
núú 'Climb down, get down, descend'
ndábá 'Jump'
ndákɨ̀?ɨ́ ini 'Suffocate' (vi)
ndaní?í 'Lift, raise, put up'
nda?ba 'Go out, die'
ndekàbà 'Walk, wander around'
ndéndatu 'Rest'
ndendá?á 'Drop, let fall from the hands'
ndéndoso 'Be more then sufficient'
ndétɨ̃́ɨ̃́ 'Stick' (vi)
ndéčé 'Fly'
ndée 'Stretch' (vi)

ndé?é 'Look, see'
ndíí 'Dawn' (vi)
ndɨ́?ɨ́ 'Finish, end' (vi)
ndokáña, ndakáña 'Agitate, disturb'
ndúbà 'Get excited, riot' (vi)
ndúa 'Fall'
ñába?a, yába?a 'Have'
ñūū 'Pull'
sámá 'Exchange, trade'
sátĪū 'Work'
sá?a 'Do, make'
sá?i 'Bless'
sete 'Shave'
sía 'Drop, let go'
sínu 'Finish' (vt)
sinú 'Lower' (vt)
sí?ú 'Frighten, scare' (vt)
sĪhĪ 'Strain' (vt)
skána 'Knock, tip over'
skée 'Harvest'
skWá?a 'Study'
sní?ní 'Chill, cool' (vt)
sókáni 'Turn over, upset, revolve'
stášo 'Move' (vt)
súčɨ́ 'Swim'
šókaba 'Turn over' (vi)
šuší 'Heat, warm' (vt)
táhí 'Order'
táná 'Heal, cure' (vt)
tana 'Complain'
tánda?a 'Marry'
tá?nu 'Break, split' (vt)
tá?a 'Suffer'
tá?u 'Break, shatter' (vi)
tã?ã́ 'Quake' (vi)
tehĺ́ã 'Arrange, clean up, tidy'
té?nde 'Cut'
tɨ́ngɨ́ 'Tighten up, cramp'
tɨ́?ɨ́yɨ́ 'Shrink, be tight' (vi)
tɨ́?u 'Suck'
tɨ́́ɨ́́ 'Catch, grab, hold'
tóo 'Drain, drip, run' (vi)
túyáa, tunžaa 'Roll' (vi)
u?ù 'Hurt' (vi)

II. TONE CHANGE ONLY (order: R/P)

MM ~ HH: kaku / kákú 'Be born'
MM ~ HM: kayu / káyu 'Cough'
MH ~ HH: ndukú / ndúkú 'Look for, search for'
HM ~ HH: kána / káná 'Call'
kūū / kū́ū́ 'Fall (rain or snow)'

túːtu / túːtú 'Whistle'
túu / túú 'Sting' (vt)
HM ~ MM: čínde / činde 'Put in(side)'
kénda / kenda 'Go out, exit'
kǐ?ĭ / kĭ?ĭ 'Take'
kóyo / koyo 'Empty, pour' (vt)
kúnu / kunu 'Weave'
ndáku / ndaku 'Transform, change'
ndíko / ndiko 'Grind'
HM ~ LH: šíko / šìkó 'Sell'
HM ~ LL: ndóo / ndòò 'Stay'
HH ~ MH: sú?ú / su?ú 'Steal'
HH ~ MM: tábá / taba 'Take off, out'
MMH ~ HMM: čundahí / čúndahi 'Soak, wet' (vt)
MHH ~ HMM: ndendó?ó / ndéndo?o 'Leak, seep'
HLM ~ MML: tésɨ̀?u / tesɨ?ù 'Spit'
HLL ~ MMM: ndúkòò / ndukoo 'Sit'
HMM ~ MLL: kéndoo / kendòò 'Stay, be located (place)'
ndátũ?ũ / ndatũ̀?ũ̀ 'Chat, converse'
HMM ~ MMM: čúndee / čundee 'Put in(side)'
kášũ?ũ / kašũ?ũ 'Advise, tell'
HMM ~ MHM: hátã?ã / hãtá?ã 'Like'
šúkWĭĭ / šukWíĭ 'Return, turn over, around' (vi)
HHM ~ MHM: čúsndée / čusndée 'Put on top'
HHH ~ MMM: ká?áyú / ka?ayu 'Paint'

III. H-/K- ALTERNATION

A. WITHOUT TONE CHANGE

hača / kača 'Dig'
hání / kání 'Build, construct'
háši / káši 'Nurse, suck' (vi)
hásu / kásu 'Close, cover'
hátá / kátá 'Hang' (vt)
hatu / katu 'Boil over, spill'
há?mu / ká?mu 'Burn' (vt)
há?ni / ká?ni 'Kill'
há?nu / ká?nu 'Break' (vt)
há?ña, há?ya / ká?ña, ká?ya 'Cut'
hé̋ĭ / ké̋ĭ 'Put'

B. WITH TONE CHANGE

LM ~ MM: hàča / kača 'Spread, throw'
MM ~ MH: hoko / kokó 'Light'
HH ~ MH: húñá / kuñá 'Open' (vt)
HHM ~ MHM: hánídi / kanídi 'Stand' (vt)
HMM ~ MHM: húñanuu / kuñánuu 'Hold'

C. WITH VOWEL CHANGE BUT NO TONE CHANGE

1. HI-/KA-
híta / káta 'Sing'
hítú / kátú 'Lie down' (vi)

2. HI-/KO-
   hítónža / kótónža 'Test, try'
3. HI-/KU-
   híči / kúči 'Ripen'
   hindá?a / kundá?a 'Carry'
   hisɨkɨ / kusɨkɨ 'Play'
   hísndée / kúsndée 'Be on top of'
   hítú / kútú 'Work in the fields'
   híyaa / kúyaa 'Be located (generic, singular)

D. WITH VOWEL AND TONE CHANGE
1. HA-/KU-
   HHM ~ MHM: hándía / kundía 'Believe'
2. HI-/KA-
   HM ~ MM: híka / kaka 'Ask for'
   híka / kaka 'Walk'
   HMM ~ MHH: híča?a / kačá?á 'Dance'
3. HI-/KO-
   HM ~ MM: híto / koto 'Take care of'
4. HI-/KU-
   HH ~ MH: hítú / kutú 'Lie down' (vi)
   HM ~ MH: híči / kučí 'Bathe' (vi)
   HM ~ MM: hínu / kunu 'Run'
   MH ~ HH: hiní / kúní 'Know'
   HMM ~ MHH: híča?a / kučá?á 'Dance'
   HMM ~ MHM: híndatu / kundátu 'Wait'
   HMM ~ HHM: híndii / kúndíi 'Be located, standing'
   HMM ~ MMM: híndee / kundee 'Be in'
   HMH ~ MHM: híčakú / kučáku 'Live'

IV. H-/Kw- ALTERNATION

A. WITHOUT TONE CHANGE
hanú / kWanú 'Loan'
hatá̃?ã / kWatá̃?ã 'Fight'
hatí̃ṹ / kWatí̃ṹ 'Use'
híkó / kWíkó 'Spin, turn' (vi)

B. WITH TONE CHANGE
HH ~ MM: há̃ã́ / kWãã 'Buy'
HM ~ MM: há?a / kWa?a 'Give'
HM ~ MH: há?nu / kWa?nú 'Grow' (vi)
MH ~ HM: hakú / kWáku 'Laugh'
hisó / kWíso 'Boil' (vi)
LM ~ HM: hàñu / kWáñu 'Kick'
MMH ~ MHM: handučá / kWandúča 'Baptize'

V. Ø-/KU- ALTERNATION

A. WITHOUT TONE CHANGE
hátú / kuhátú 'Be spicy'

kú?u / kukú?u 'Be, get sick'
ná?á / kuná?á 'Remember'

B. WITH TONE CHANGE
HM ~ MMM: ndíso / kundiso 'Carry'
ndíto / kundito 'Awake, to be' (vi)
ndíto / kundito 'Care for, take care of' (vt)
yáka / kuyaka, kunžaka 'Bring (another person)'
HH ~ MLL: nžáá, yáá / kunžàà 'Cost'
HH ~ HMM: yáá / kúyaa 'Reside'

VI. Y-/K- ALTERNATION

A. WITHOUT TONE CHANGE
yesámá / kesámá 'Eat'
yeyí?í / keyí?í 'Bite'
yoo / koo 'There is, are'

B. WITH TONE CHANGE
HM ~ HH: yáši / káší 'Nurse' (vt)
HM ~ MM: yée / kee 'Eat'

VII. ñ-/K- ALTERNATION

HM ~ MM: ñṹ?ũ / kũ?ũ 'Contain, have, wear'

VIII. K-/K- WITH VOWEL CHANGE AND TONE CHANGE

KA-/KU-
HMM ~ MMM: kándee / kundee 'Be in, hidden from view'

IX. SUPPLETIVE

hí?i / kó?o 'Drink'
hí?i / kuù 'Die'
kiší / kúsu 'Sleep'

References

Alexander, Ruth Maria. 1980. Gramática Mixteca: Mixteco de Atatláhuca. México, D.F.: Instituto Lingüístico de Verano.

Anderson, E. Richard. 1983. Diccionario Cuicateco. México, D.F.: Instituto Lingüístico de Verano.

Arana, Evangelina and Mauricio Swadesh. 1965. Los Elementos del Mixteco Antiguo. México, D.F.: Instituto Nacional e Indigenista e Instituto Nacional de Antropología e Historia.

Ayre, Linda. 1977. La Población Mixteca en el Estado de Oaxaca Según el Censo de 1970: Un Análysis Preliminar. Estudios de Antropología e Historia, 6. Oaxaca: Centro Regional de Oaxaca, Instituto Nacional de Antropología e Historia.

Bradley, C. Henry. 1970. A Linguistic Sketch of Jicaltepec Mixtec. Norman: Summer Institute of Linguistics.

Brugman, Claudia. 1983. The Use of Body-Part Terms as Locatives in Chalcatongo Mixtec. Studies in Mesoamerican Linguistics: 235-290. Report #4, Survey of California and Other Indian Languages. Berkeley, CA.

Brugman, Claudia and Monica Macaulay. 1986. Interacting Semantic Systems: Mixtec Expressions of Location. Proceedings of the Twelfth Annual Meeting of the Berkeley Linguistics Society: 315-327. Berkeley: BLS.

Bybee, Joan L. 1985. Morphology: A Study of the Relation Between Meaning and Form. Amsterdam: John Benjamin Publishing Company.

Campbell, Lyle. 1979. Middle American Languages. Lyle Campbell and Marianne Mithun (eds.), The Languages of Native America: Historical Comparative Assessment. Austin: University of Texas Press.

Campbell, Lyle, Terrence Kaufman, and Thomas C. Smith-Stark. 1986. Meso-America as a Linguistic Area. Language 62(3):530-570.

Craig, Colette (ed.). 1986. Noun Classes and Categorization. Amsterdam: John Benjamins.

Daly, John P. 1973a. Tone Sandhi and Rule Ordering in Peñoles Mixtec. Work Papers of the Summer Institute of Linguistics 17:80-105.

-----. 1973b. A Generative Syntax of Peñoles Mixtec. Norman: Summer Institute of Linguistics.

-----. 1978. Notes on Diuxi Mixtec Tone. Work Papers of the Summer Institute of Linguistics 22:98-113.

Denny, J. Peter. 1986. The Semantic Role of Noun Classifiers. in Craig (ed.) 1986:297-308.

Dixon, R.M.W. 1982. Where Have All the Adjectives Gone? And Other Essays in Semantics and Syntax. Amsterdam: Mouton Publishers.

-----. 1986. Noun Classes and Noun Classification in Typological Perspective. In Craig (ed.) 1986:105-112.

Dyk, Anne and Betty Stoudt. 1965. Vocabulario Mixteco de San Miguel el Grande. México, D.F.: Instituto Lingüístico de Verano.

Faraclas, Nicholas. 1983. Preliminaries to Tonemic and Tonomechanical Analysis for the Chalcatongo Dialect of Mixtec. Studies in Mesoamerican Linguistics: 307-331. Report #4, Survey of California and Other Indian Languages. Berkeley, CA.

Good, Claude. 1978. Diccionario Triqui de Chicahuaxtla. México, D.F.: Instituto Lingüístico de Verano.

Greenberg, Joseph H. 1963. Some Universals of Grammar with Particular Reference to the Order of Meaningful Elements. Joseph Greenberg (ed.), Universals of Language. Cambridge: MIT Press.

Heath, Jeffrey. 1984. Functional Grammar of Nunggubuyu. Australian Institute of Aboriginal Studies, Canberra and Humanities Press, Atlantic Highlands, N.J.

Hills, Robert A. and William R. Merrifield. 1974. Ayutla Mixtec, Just In Case. International Journal of American Linguistics 40(4):283-291.

Hinojosa H., Francisco (ed.). 1977. Mixteco de Santa María Peñoles, Oaxaca. México, D.F.: Archivo de Lenguas Indígenas de México.

Hinton, Leanne. 1982. How to Cause in Mixtec. Proceedings of the Eighth Annual Meeting of the Berkeley Linguistics Society: 354-363. Berkeley: BLS.

-----. 1987. Sound Change on Purpose: A Study of Highland Mixtec. To appear: Proceedings of the 1987 NWAV Conference. Stanford, CA.

Jelinek, Eloise. 1984. Empty Categories, Case, and Configurationality. Natural Language and Linguistic Theory 2:39-76.

Josserand, Judy Kathryn. 1983. Mixtec Dialect History. Ph.D. Dissertation, Tulane University.

Kaisse, Ellen M. 1985. Connected Speech: The Interaction of Syntax and Phonology. Orlando: Academic Press.

Kastovsky, Dieter. 1986. The Problem of Productivity in Word Formation. Linguistics 24:585-600.

Kaufman, Terrence. 1983. New Perspectives on Comparative Otomanguean Phonology. Unpublished ms. (Revised 1986).

-----. 1987. Otomanguean Tense-Aspect-Mode Markers. Unpublished ms.

Kay, Paul and Karl Zimmer. 1976. On the Semantics of Compounds and Genitives in English. Sixth California Linguistics Association Conference Proceedings.

Klavans, Judith. 1979. On Clitics as Words. The Elements: Papers from the Parasession on Linguistic Units and Levels: 68-80. Chicago: Chicago Linguistic Society.

-----. 1982. Some Problems in a Theory of Clitics. Ph.D. Dissertation, University College, London. (IULC.)

Kuiper, Albertha and William R. Merrifield. 1975. Diuxi Mixtec Verbs of Motion and Arrival. International Journal of American Linguistics 41:32-45.

Lambrecht, Knud. 1984. A Pragmatic Constraint on Lexical Subjects in Spoken French. Proceedings of the 20th Annual Meeting of the Chicago Linguistic Society: 239-256. Chicago: CLS.

León P., Lourdes de. 1986. A Dialectal View of Mixtec Noun Classifiers: Productivity and Fossilization. Proceedings of the Second Annual Meeting of the Pacific Linguistics Conference: 337-362. Eugene: Department of Linguistics.

-----. To appear. The Semantics of Classifier Expressions in Mixtec and Tzotzil (provisional title). Ph.D. Dissertation in preparation. University of Sussex, London.

Longacre, Robert E. 1957. Proto-Mixtecan. International Journal of American Linguistics 23(4), Part III.

-----. 1966. On Linguistic Affinities of Amuzgo. International Journal of American Linguistics 32:46-49.

-----. 1967. Systemic Comparison and Reconstruction. HMAI 5:117-159.

Macaulay, Monica. 1985. On the Semantics of 'Come,' 'Go,' and 'Arrive' in Otomanguean Languages. Kansas Working Papers in Linguistics: Studies in Native American Languages IV 10(2):56-84.

-----. 1987. Cliticization and the Morphosyntax of Mixtec. International Journal of American Linguistics 53(2): 119-135.

Macri, Martha J. 1983. Two Noun Class Systems in Mixtec. Studies in Mesoamerican Linguistics: 291-306. Report #4, Survey of California and Other Indian Languages. Berkeley, CA.

Mak, Cornelia. 1950. A Unique Tone Perturbation in Mixteco. International Journal of American Linguistics 16(2):82-86.

-----. 1953. A Comparison of Two Mixtec Tonemic Systems. International Journal of American Linguistics 19(2): 85-100.

Marchand, Hans. 1955. Synchronic Analysis and Word-Formation. Cahiers Ferdinand de Saussure 13:7-18.

Mithun, Marianne. 1986. The Convergence of Noun Categorization Systems. In Craig (ed.) 1986:379-397.

Munro, Pamela. 1977. From Existential to Copula: The History of Yuman BE. Charles Li (ed.), Mechanisms of Syntactic Change, pp. 445-490. Austin: University of Texas Press.

Nevis, Joel A. 1985. Finnish Particle Clitics and General Clitic Theory. Ph.D. Dissertation, Ohio State University.

Nikiforidou, Vassiliki. 1985. The History of the Genitive: a Case Study in Semantic Change and Semantic Structure. Unpublished ms, Berkeley, CA.

Payne, Thomas E. 1983. Yagua Object Clitics: Syntactic and Phonological Misalignment and Another Possible Source of Ergativity. Papers from the Parasession on the

Interplay of Phonology, Morphology, and Syntax: 173-184. Chicago: Chicago Linguistic Society.

Pensinger, Brenda. 1974. Diccionario Mixteco: Mixteco del Este de Jamiltepec, Pueblo de Chayuco. México, D.F.: Instituto Lingüístico de Verano.

Pickett, Velma B. 1976. Further Comments of Zapotec Motion Verbs. International Journal of American Linguistics 42:162-164.

Pike, Kenneth L. 1944. Analysis of a Mixteco Text. International Journal of American Linguistics 10(4):113-138.

-----. 1948. Tone Languages. Ann Arbor: University of Michigan Press.

Rensch, Calvin R. 1976. Comparative Otomanguean Phonology. Language Science Monographs 14. Bloomington: Indiana University Press.

-----. 1977. Classification of the Otomanguean Languages and the Position of Tlapanec. In David Oltrogge and Calvin Rensch, Two Studies in Middle American Comparative Linguistics: 53-108. Arlington: Summer Institute of Linguistics and University of Texas Press.

Speck, Charles J. and Velma B. Pickett. 1976. Some Properties of the Texmelucan Zapotec Verbs 'Go,' 'Come,' and 'Arrive.' International Journal of American Linguistics 42:58-64.

Stark Campbell, Sara, Andrea Johnson Peterson, and Filiberto Lorenzo Cruz. 1986. Diccionario Mixteco de San Juan Colorado. México, D.F.: Instituto Lingüístico de Verano.

Swadesh, Morris. 1960. The Oto-Manguean Hypothesis and Macro Mixtecan. International Journal of American Linguistics 26(2):79-111.

Talmy, Leonard. 1985a. Figure and Ground as Thematic Roles. Paper presented at the LSA winter meeting, Seattle, Washington.

-----. 1985b. Lexicalization Patterns: Semantic Structure in Lexical Form. Tim Shopen (ed.), Language Typology and Syntactic Description, Volume 3. Cambridge: Cambridge University Press.

Tegey, Habibullah. 1977. The Grammar of Clitics. Ph.D. Dissertation, University of Illinois.

Wanner, Dieter. 1978a. Modern Greek Clitics: Placement, Order, and Function. Proceedings of the Fourth Annual Meeting of the Berkeley Linguistics Society: 268-282. Berkeley: BLS.

-----. 1978b. Stressed Clitics. Unpublished ms.

Zwicky, Arnold. 1977. On Clitics. IULC.

-----. 1982a. Stranded TO and Phonological Phrasing in English. Linguistics 20:3-57.

-----. 1982b. An Expanded View of Morphology in the Syntax-Phonology Interface. Preprints for the XIIIth International Congress of Linguists, Tokyo.

-----. 1984. Autonomous Components and Limited Interfacing: Phonology-Free Syntax, the Hallean Syllogism, and Their Kin. Proceedings of the 20th Annual Meeting of the Chicago Linguistic Society: 365-386. Chicago: CLS.

-----. 1985. Clitics and Particles. Language 61(2): 283-305.

-----. 1987. Suppressing the Zs. Ms, to appear, Journal of Linguistics.

Zwicky, Arnold and Geoffrey K. Pullum. 1983. Cliticization vs. Inflection: English n't. Language 59(3):502-513.

-----. To appear. The Syntax-Phonology Interface. Academic Press.