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## OJITLÁN CHINANTEC PHONOLOGY AND MORPHOLOGY

Monica Macaulay  
University of Wisconsin-Madison

Abstract: This paper provides a preliminary sketch of Ojitlán Chinantec phonology and parts of its verbal morphology. Most Chinantec monomorphemic words are monosyllabic, and inflected words are often monosyllabic as well. There are numerous potential contrasts within the syllable: a large number of consonants, oral and nasal vowels, tone, and stress. Issues in the analysis of the consonants, tone, and stress system are considered, and compared to previous analyses of other Chinantec dialects. A brief description of verbal inflection is given, noting segmental, prosodic, and affixal alternations. Ojitlán Chinantec is largely undocumented and probably moribund, and so more work is urgently needed.

### 1. Introduction

This paper reports on the findings of a semester's work on Ojitlán Chinantec. Chinantec is a group of languages spoken in the northeastern part of Oaxaca, Mexico. It belongs to the Otomanguean family, and like so many Otomanguean languages, is comprised of several so-called "dialects," many of which are actually not mutually intelligible. One source suggests that there are fourteen mutually unintelligible varieties of Chinantec (Rensch 1989:3, citing England 1978:12), but of course such estimates are always to be taken at face value, since it is essentially impossible to count discrete language entities in a situation of dialect continuum.

A fair amount of work has been done on Chinantec, primarily by various members of the Summer Institute of Linguistics (SIL henceforth). Most of their publications are several decades old, although some are more recent. The variety spoken in Ojitlán, however, has remained largely undocumented. An SIL couple, Paul and Dorothy Smith, worked in the village in the 1950s and 1960s, but their publications were primarily stories and religious works, including a translation of the New Testament. Clearly, in order to do their translations they must have done a quite thorough linguistic analysis, but with the exception of a vocabulary (Smith and Smith 1955), their linguistic work appears not to have been published.<sup>1</sup>

The research reported on here began in 1997 as a field methods class, consisting of myself and twelve students.<sup>2</sup> Several of us continued to work on the language for a short time after that. The speakers we worked with were two brothers, Juan and Jacinto Pacheco. Both are native speakers of Ojitlán Chinantec, and speak Spanish as a second language.

This paper presents a sketch of what we have found so far in the hope that the data and analyses are of use to other scholars. Section 2 presents the segmental phonology, and describes the work done on tone and stress by one of the students from the original class (Holsinger 1998). Section 3 presents preliminary results on the verbal morphology, and the last section discusses additional issues which must be considered in any analysis of this language, the socio-political factors which may well lead to language death.

## 2. Phonology

The majority of Chinantec monomorphemic words are monosyllabic, and in fact inflected words are often monosyllabic as well. The way the language accomplishes this, not surprisingly, is by providing a large number of potential contrasts within the syllable: numerous consonants, oral and nasal vowels, and tones all play a role. Tables 1a and 1b present the vowel phonemes and Table 2 presents the consonants.

|   |     |
|---|-----|
| i | ĩ u |
| e | ẽ o |
| a |     |

**Table 1a: Ojitlán Chinantec Vowels (oral)**

|   |      |
|---|------|
| ĩ | ĩ̃ ũ |
| ẽ | ẽ̃ õ |
| ã |      |

**Table 1b: Ojitlán Chinantec Vowels (nasal)**

|            | LAB. | ALV. | PAL. | VEL. | GLOT |
|------------|------|------|------|------|------|
| STOPS      |      |      |      | g    |      |
|            | p    | t    |      | k    | ʔ    |
| AFFRICATES |      | ts   | ç    |      |      |
| FRICATIVES |      | s    | š    |      | h    |
| LIQUIDS    |      | ř    |      |      |      |
|            |      | l, ɭ |      |      |      |
|            |      | ɮ    |      |      |      |
| NASALS     | m    | n    |      | ŋ    |      |
|            | m̃   | ñ   |      | ŋ̃   |      |
| GLIDES     | w    |      | y    |      |      |
|            | w̃   |      | ỹ   |      |      |

**Table 2: Ojitlán Chinantec Consonants**

## 2.1. Vowels

(1) provides examples of each of the oral vowels. The numbers at the end of each syllable represent tone, with “1” for very high, and “4” for low (the tone system is described in §2.3).

- (1) tii<sup>3</sup> ‘rifle’  
 te<sup>2</sup> ‘white’  
 i<sup>2</sup> ‘Friday’  
 tuu<sup>1</sup> ‘turkey’  
 ě<sup>2</sup> ‘you sing’  
 to<sup>2</sup> ‘banana’  
 ta<sup>3</sup> ‘work’

Vowels also occur nasalized, as in (2), although nasalized /ẽ/ and /ũ/ are very rare. (In fact, at this point, we have only been able to find one example of each).

- (2) kī<sup>4</sup> ‘four’  
 pē<sup>1</sup> ʔã<sup>2</sup> ‘fat’  
 na<sup>3</sup> ñi<sup>4</sup> ‘I laugh’  
 hū<sup>2</sup> ʔã<sup>1</sup> ‘big’  
 mē<sup>21</sup> ‘day’  
 tō<sup>2</sup> ‘thorn’  
 kā<sup>2</sup> ‘atole’

[i], [e] and [o] are in free variation with their lax counterparts [ɪ], [ɛ] and [ɔ], and [a] varies to [æ] occasionally as well. The mid back unrounded /ẽ/ was hard to identify, being transcribed variously as  $\underset{\sim}{a}$  or  $\underset{\sim}{e}$  at first. In addition, it was difficult to distinguish between it and the high back unrounded /i/. A very small number of pairs (such as those shown in (1)), however, show that there is indeed a distinction.

Most dialects of Chinantec have distinctive vowel length, although a few are lacking it. It appears that Ojitlán may be in the process of losing vowel length, since there are very few monomorphemic words that show it. In many cases cognate forms in other dialects, as well as the corresponding reconstructed form, will show a long vowel which Ojitlán Chinantec lacks. Nonetheless, there are a few words that appear to have long vowels (such as the words for ‘rifle’ and ‘turkey’ in (1)), so the distinction is still present at least to a limited extent.

## 2.2. Consonants

The consonants of Chinantec present a number of interesting problems, and I discuss them in turn.

/p/ is fairly rare—in fact, we have to date only found it in the following five words:

- (3) pē<sup>1</sup>ʔā<sup>2</sup> ‘fat’  
 pī<sup>2</sup>ā<sup>1</sup> ‘strong’  
 paa<sup>4</sup> ‘hit’  
 piʔ<sup>1-</sup> ‘small’  
 mē<sup>3</sup> čī<sup>2</sup> pēʔ<sup>3</sup> ‘bubble’

/t/ is unremarkable; examples appear in (1), above.

/k/ and /g/ are in near-complementary distribution, but there are just enough counterexamples at this point that we are forced to treat them as contrastive. What we find is that [g] only appears before [i], as shown in (4a), while [k] appears elsewhere, as shown in (4b). However, there are at least four words that we have noted that show [k] before [i], and these are illustrated in (4c)—these, obviously, are what force us to treat /g/ as a separate phoneme; note especially the words for ‘red’ and ‘four’.

- (4a) giʔ<sup>12</sup> ‘up, above’  
 giā<sup>23</sup> ‘dig’  
 gī<sup>3</sup> ‘red’
- (4b) ko<sup>4</sup> ‘near’  
 ku<sup>2</sup>o<sup>2</sup> ‘long’  
 ka<sup>1</sup>ʔa<sup>3</sup> ‘back’  
 te<sup>3</sup>kīʔ<sup>2</sup> ‘left’
- (4c) ki<sup>2</sup>ʔa<sup>3</sup> ‘cut’  
 čī<sup>2</sup>kīʔ<sup>1+</sup> ‘hummingbird’  
 kī<sup>4</sup> ‘four’  
 kīʔ<sup>1</sup>oʔ<sup>32</sup> ‘door’

/g/ is optionally prenasalized or fricativized in initial position, so—as shown in (4d)—‘dig’ can be pronounced [gi<sup>2</sup>a<sup>3</sup>], [ŋgi<sup>2</sup>a<sup>3</sup>], or [ɣi<sup>2</sup>a<sup>3</sup>]. Intervocally, /g/ is almost always a fricative, so for example ‘I dig’ is [na<sup>3</sup>ɣi<sup>1</sup>], as also shown in (4d):

- (4d) gi<sup>2</sup>a<sup>3</sup> ‘dig’; [gi<sup>2</sup>a<sup>3</sup>] / [ŋgi<sup>2</sup>a<sup>3</sup>] / [ɣi<sup>2</sup>a<sup>3</sup>]  
 ‘I dig’: [na<sup>3</sup>ɣi<sup>1</sup>]

Another wrinkle is illustrated in (4e), which exemplifies words of the form [kiV], which is in fact part of a broader pattern of [CiV] and [CuV]. Phonetically, ‘lie down’ sounds like a single syllable, while ‘seven’ sounds like two. At this point we have not resolved whether to treat these as sequences of vowels or as palatalization and labialization of the consonant (respectively), or even whether both possibilities exist. This is a problem that has been at issue in the literature on Chinantec (see, for example, Robbins 1961:248, Westley 1971:162), and one which we are continuing to investigate in this dialect.

- (4e)  $kia^{23}$  'lie down'  
 $kíe^{23}$  'seven'

The two affricates are another case of near-complementary distribution. [č] occurs before front vowels and /a/, while [ts] occurs before back vowels and [a]. (5a) and (5b) provide examples of each:

- (5a)  $či^4$  'air, wind'  
 $če^3$  'washing place'  
 $ča ni^2$  'midnight'  
 $čāā^{32}$  'chop (wood)'
- (5b)  $tsě^2$  'dog'  
 $tso^2$  'correct'  
 $tsa^3$  'person'  
 $tsu^2$  'it is tight'

The fricatives are illustrated in (6), and /r/ in (7). /r/ is usually trilled, although occasionally tapped, and can be prenasalized in initial position.

- (6)  $sī^1$  'blue'  
 $šii mēʔ^2$  'snake'  
 $hia^{23}$  'blow'
- (7)  $rīʔ^2$  'green'  
 $rī si^1$  'round'  
 $rō^3$  'sweet'

There are three laterals: apical /l/, retroflex /ɭ/ and voiceless retroflex /ɮ/, as in (8):

- (8)  $lo^2$  'burro'  
 $ɭo^2$  'harvest'  
 $ɮo^2$  'root'

These three form a class with the nasals and glides, and so we turn to those before discussing the most appropriate analysis of the laterals. The nasals and glides occur both voiced and voiceless, as shown in (9)–(12).<sup>3</sup> Note that the velar nasal has a palatal allophone before /i/:

- (9)  $mē^2$  'water'  
 $na^4$  'today'  
 $ŋi^3 ā^4$  'laugh'  
 $ŋī^2$  'salt' ([ŋī<sup>2</sup>])

- (10) mē̃<sup>2</sup> 'eagle'  
 nā<sup>3</sup> 'I'  
 ŋĩ<sup>2</sup> 'kill'  
 ŋĩ<sup>2</sup> 'hair' ([ŋĩ̃<sup>2</sup>])
- (11) o<sup>32</sup>wa<sup>2</sup> 'mouth'  
 yii<sup>2</sup> 'heavy'
- (12) wa<sup>2</sup> 'ash'  
 ya<sup>2</sup> 'come [IMP]'

In the SIL literature on Chinantec (e.g. Anderson 1989, Westley 1991), the voiceless consonants are always treated as /h/ plus consonant. In these other dialects, as well as in Ojitlán, nasals, laterals, and (in some cases) glides can also be preceded by a glottal stop. (13) provides examples of preglottalized nasals and glides from Ojitlán (the lateral is dealt with below):

- (13) ʔmĩ<sup>1</sup>ā<sup>2</sup> 'sew'  
 ʔŋĩ<sup>2</sup>ā<sup>3</sup> 'spit' ([ʔmĩ̃<sup>2</sup>ā<sup>3</sup>])  
 ʔwa<sup>2</sup> 'hard'  
 ʔya<sup>2</sup> 'griddle'

To unify these three things—that is, the plain series, the voiceless series, and the glottalized series—they posit a single series of nasals (and glides in the dialects where they participate in this pattern), which can occur alone or be preceded by a laryngeal (/h/ or /ʔ/). This is schematized in (14a):

- (14a) Plain consonant: C  
 Laryngeal + consonant:  
 hC (voiceless)  
 ʔC (preglottalized)

And in fact, this is how they analyze the laterals as well: our retroflex lateral corresponds to their /ʔl/, and our voiceless retroflex corresponds to their /hl/, as shown in (14b):

- (14b) Plain lateral: L  
 Laryngeal + lateral:  
 hL (corresponds to our /l/)  
 ʔL (corresponds to our /l/)

Phonemically, this is well-supported (and data from the morphology provide further evidence; see §3). The retroflexed phonetic realization of the laryngealized laterals has not been reported for Chinantec before, however, and further work is clearly needed on this topic; for this reason I have left the three laterals in the consonant chart at this point.



### 2.3. Tone and Stress

The Chinantec languages are famous for their complex tone and stress systems. One dialect (Usila, as described by Skinner 1962), is reported to have five level tones and four contours. The others generally have a smaller number of level tones, but overall still have a large inventory. It is the stress (and its interactions with tone), however, that Chinantec is best known for. Syllables in most dialects of Chinantec can be stressless, can have a normal stress (called “controlled” in the literature), or can have what is known as “ballistic” stress.

Controlled stress occurs on the final syllable of the word (although words are normally monosyllabic, so in practice this means stress occurs on the *only* syllable of the word), and is realized as vowel length and/or increased amplitude.

Ballistic stress consists of a combination of features, usually described along the following lines: “Ballistically stressed syllables are characterized by an initial surge and rapid decay of intensity with a resultant fortis articulation of the consonantal syllable onset” (Foris 1973:235). Other characteristics are often noted, especially post-syllabic aspiration, breathy articulation of the vowel, devoicing of syllable-final nasals, differences in vowel duration, and variant realizations of tones (Rensch 1978:86). It should be pointed out, however, that not all dialects which have ballistic stress realize it in exactly the same way. There has been much dispute in the literature over the best characterization of ballistic stress, and it is possible that some of this has simply been due to differences among the dialects being analyzed.

At first glance, Ojitlán Chinantec appears to have a ballistic/controlled distinction (and in fact that was the analysis given in the original version of this paper). The primary cue was the extreme versions of the high and low tones; that is, a very high tone and a very low tone. Aspiration of open very high and very low tones was thought to correlate, and strengthened the conclusion that this was ballistic stress. However, Holsinger (1998) has shown through extensive instrumental work that in fact no correlates of ballistic stress are consistently present, and that there is, therefore, no evidence that the extremely high and extremely low tones are anything more than the highest and lowest tones, respectively.<sup>4</sup> Holsinger shows how ballistic stress on a Proto-Chinantec high tone syllable is realized as very high in the Ojitlán dialect (marked as 1<sup>+</sup>), and how ballistic stress on a Proto-Chinantec HL falling syllable has developed into the very low tone (which is marked as tone 4).

The tones of Ojitlán Chinantec, then, are illustrated in (15). There are five level tones and some number of contour tones—rising and falling. Holsinger (1998:3) recognizes only two contour tones, treating the rising one as 32 and the falling one as 13. Throughout this paper, however, I have retained my original, impressionistic contour tone notations, which indicate more than two possibilities. Since we have not yet conducted a thorough study of the contour tones, I leave the precise number an open question.

(15a) LEVEL TONES:

| tone | tone number    | examples                    |
|------|----------------|-----------------------------|
| VH   | 1 <sup>+</sup> | [aʔ <sup>1+</sup> ‘cricket’ |
| H    | 1              | [oʔ <sup>1</sup> ‘broken’   |
| M    | 2              | [ẽʔ <sup>2</sup> ‘measles’  |
| L    | 3              | [a <sup>3</sup> ‘many’      |
| VL   | 4              | [iʔ <sup>4</sup> ‘when?’    |

## (15b) CONTOUR TONES:

## RISING:

kĩʔ<sup>1</sup>oʔ<sup>32</sup> 'door'hee<sup>21</sup>ʔŋā<sup>2</sup> 'forest'

## FALLING:

ʔnā<sup>12</sup> 'open'čii<sup>23</sup> 'good'

Holsinger (1998:4) shows that the level tones are generally realized phonetically with an overall falling contour. Tones 1 and 3 both show a slight rise and then a fall, while tone 2 usually has just a directly falling contour. Tones 1+ and 4, however, show a sharper and more extensive drop.

Holsinger uses the data from Ojitlán Chinantec to provide support for Silverman's (1994, 1997) analysis of ballistic stress, contra Mugele (1984). The reader is referred to Holsinger's paper for a more thorough explication of what is presented here, as well as argumentation involving the competing theories.

### 3. Morphology

The foregoing description of Chinantec phonology shows that it is a language that packs a great deal of material into each syllable. Not surprisingly, the inflectional morphology follows this pattern, being realized via segmental and prosodic alternations, as well as through a certain amount of minimal affixation. I present here data on verbal inflection as an example of the kinds of data found.

Ojitlán Chinantec is a pronominal argument language, in that overt subject-marking pronouns are not obligatory. We have examined verbs both with and without a full pronoun, and have found in both cases that person and number are marked by a combination of segmental material and tone.

The independent subject pronouns are listed in (16):

## (16) SUBJECT PRONOUNS

|                 |            |                  |            |
|-----------------|------------|------------------|------------|
| ṇā <sup>3</sup> | 'I'        | nāʔ <sup>1</sup> | 'we'       |
| nĩ <sup>2</sup> | 'you'      | nāʔ <sup>2</sup> | 'you (pl)' |
| ii <sup>3</sup> | 's/he, it' | ii <sup>3</sup>  | 'they'     |

The suffixes and tone melodies for present-tense verbs when used with full pronouns appear in Table 3, and two sample paradigms appear below that, in (17).<sup>5</sup> Note that the two tones in the table represent the tone of the pronoun and then the tone of the verb.

|   | SG   |       | PL   |      |
|---|------|-------|------|------|
|   | SUFF | -tone | SUFF | tone |
| 1 | -Ø   | 3 1   | -Ø   | 1 2  |
| 2 | -ʔ   | 2 1   | -ʔ   | 2 1  |
| 3 | -Ø   | 3 2   | -Ø   | 3 2  |

**Table 3: Present tense  
(with subject pronouns)**

- (17a)  $[\text{i}\tilde{\text{a}}^3]$  'jump'  
 $\text{n}\tilde{\text{a}}^3 \text{ʔ}[\text{i}]^1$  'I jump'       $\text{n}\tilde{\text{a}}^1 \text{ʔ}[\text{i}]^2$  'we jump'  
 $\text{n}\tilde{\text{i}}^2 \text{ʔ}[\text{i}]^1$  'you jump'       $\text{n}\tilde{\text{a}}^2 \text{ʔ}[\text{i}]^1$  'you (pl) jump'  
 $\text{i}\tilde{\text{i}}^3 \text{ʔ}[\text{i}]^1$  's/he jumps'       $\text{i}\tilde{\text{i}}^3 \text{ʔ}[\text{i}]^1$  'they jump'
- (17b)  $\tilde{\text{e}}^2 \text{a}^3$  'sing'  
 $\text{n}\tilde{\text{a}}^3 \tilde{\text{e}}^1$  'I sing'       $\text{n}\tilde{\text{a}}^1 \tilde{\text{e}}^2$  'we sing'  
 $\text{n}\tilde{\text{i}}^2 \tilde{\text{e}}^1$  'you sing'       $\text{n}\tilde{\text{a}}^2 \tilde{\text{e}}^1$  'you (pl) sing'  
 $\text{i}\tilde{\text{i}}^3 \tilde{\text{e}}^2$  's/he sings'       $\text{i}\tilde{\text{i}}^3 \tilde{\text{e}}^2$  'they sing'

The forms in (17a) bring up an interesting point about the laterals: recall that the Ojitlán Chinantec retroflex corresponds to what the SIL literature treats as /ʔl/. As we see in (17a), when the retroflex is preceded by a vowel, a glottal stop appears before that retroflex /ʔ/. (Glottal stop does not appear in other contexts; compare (17b).) This strengthens the preglottalization analysis, although the phonetic realization as retroflexion remains unexplained.<sup>6</sup> And if preglottalization is the source of the retroflexion, one might assume that a context in which the preglottalization is realized as an actual glottal stop might result in a following *non*-retroflex /l/, but of course—as (17a) shows—it does not. This is clearly an area that deserves further research.

It is important to note that not all verbs conform to the pattern given in Table 3. A number of verbs have one or more forms with an idiosyncratic tone melody, but no clear patterns to these exceptions have emerged. The deviations in tone can appear in the pronoun, as well as on the verb itself. Some of these forms are illustrated in (18):

- (18) 1ST PERSON SG: 3 2 3 instead of 3 1:  $\text{n}\tilde{\text{a}}^3 \text{la}^3$  'I am'  
 2ND PERSON SG: 2 4 instead of 2 1:  $\text{n}\tilde{\text{i}}^2 \text{i}^4$  'you drink'  
 3RD PERSON SG: 3 4 instead of 3 2:  $\text{i}\tilde{\text{i}}^3 \text{m}\tilde{\text{o}}^4$  's/he does'  
 1ST PERSON PL: 1 1<sup>+</sup> instead of 1 2:  $\text{n}\tilde{\text{a}}^1 \text{ki}^1$  'we bite'  
 2ND PERSON PL: 2 4 instead of 2 1:  $\text{n}\tilde{\text{a}}^2 \text{t}\tilde{\text{a}}^4$  'you (pl) fall'  
 3RD PERSON PL: 3 2 3 instead of 3 2:  $\text{i}\tilde{\text{i}}^3 \text{n}\tilde{\text{i}}^3$  'they are'

Turning now to verbs used without an overt pronoun, a much murkier picture emerges. Table 4 provides a preliminary account of the suffixes and tone melodies used, and (19) gives sample paradigms.<sup>7</sup> Note that there are two fairly common forms for first person, both singular and plural, and two also for second person singular.

|   | SG   |      | PL       |      |
|---|------|------|----------|------|
|   | SUFF | TONE | SUFF     | TONE |
| 1 | -V   | 2    | -V       | 2 1  |
|   | -Ø   | —    | -Ø + nãʔ | 1    |
| 2 | -a   | 2 2  | -ʔV      | 2 2  |
|   | -ʔV  | —    |          |      |
| 3 | -a   | 3 3  | -a       | 3 3  |

**Table 4: Present tense  
(without subject pronouns)**

- (19a) [ī<sup>2</sup>ã<sup>3</sup> 'jump'  
 [īī<sup>2</sup> 'I jump'                      [īī<sup>2</sup> 'we jump'  
 [īã<sup>2</sup> 'you jump'                    [īʔī<sup>2</sup> 'you (pl) jump'  
 [īã<sup>3</sup> 's/he jumps'                   [īã<sup>3</sup> 'they jump'
- (19b) kua<sup>2</sup>tsī<sup>1</sup>a<sup>2</sup> 'mount, get on (a horse)'  
 kua<sup>3</sup>tsī<sup>23</sup> 'I mount'                    kua<sup>3</sup>tsī<sup>1</sup>nãʔ<sup>1+</sup> 'we mount'  
 kua<sup>3</sup>tsī<sup>1</sup>ʔī<sup>2</sup> 'you mount'                kua<sup>3</sup>tsī<sup>1</sup>ʔī<sup>2</sup> 'you (pl) mount'  
 kua<sup>3</sup>tsī<sup>2</sup> 's/he mounts'                kua<sup>3</sup>tsī<sup>2</sup>a<sup>3</sup> 'they mount'

There is, however, great variation across the paradigms that we elicited, for which there may be several explanations (not necessarily mutually exclusive), as follow. First, our consultants were uncomfortable with paradigms, and there may simply be some errors in the data.

Second, it is conceivable that there are actually three possibilities for use and placement of the independent pronoun. There is no question that there are forms with initial subject pronouns as well as forms with no overt pronoun at all. However, in addition, it may be possible to have an independent pronoun following the verb. This is suggested by forms such as that given in (19b) for 'we mount', kua<sup>3</sup>tsī<sup>1</sup>nãʔ<sup>1+</sup>, which includes something that looks just like the pronoun nãʔ<sup>1+</sup> at the end. In fact, occasionally the speakers have given us forms which clearly include a following pronoun, as in (20):

- (20) 1ST PERSON SG: ī<sup>2</sup>nã<sup>3</sup> 'I count'  
 2ND PERSON PL: kua<sup>3</sup>tsī<sup>1</sup>naʔ<sup>2</sup> 'you (pl) mount'  
 3RD PERSON PL: kicʔ<sup>2</sup>ī<sup>3</sup> 'they put'

The problem, though, is that when we get forms like this the consultants almost always say that this is the only way to say what we want them to say. That is, once they have produced one of these forms with an apparent following pronoun, they will not then provide a form with an initial pronoun, nor one lacking a pronoun. What is clearly needed here to sort this all out is extensive elicitation of texts, so that a large number of spontaneously-produced verb forms can be examined.

One somewhat encouraging sign in this rather confusing situation is that apparently other Chinantec dialects are similarly complex. As Anderson (1989) says about Comaltepec Chinantec, “verb stems participate in a large number of ... paradigms which ... may differ phonologically from one another by tone, length, palatalization, vowel, nasalization, stress, or glottal closure, in a bewildering variety of patterns.”

Many of the other dialects are also reported to show differences in inflection based on transitivity, and/or agreement with animacy of the subject or object. We have not found any of these kinds of variation yet in our somewhat limited corpus, but such factors—if found—will of course complicate matters further.

#### 4. Further Considerations

As mentioned above, very little linguistic work has been published on this dialect of Chinantec. Data from the missionaries who worked in Ojitlán do show up in the work of others, however, especially in Rensch’s various comparative works on Chinantec (e.g. 1968, 1989). Interestingly, sometimes these data are very different from what we have found. There are three explanations which can be offered for this.

First, the obvious explanation is the passage of time. The Smiths’ data were collected 30 to 40 years ago, and this may account for some of the discrepancies that we find.

Second, our consultants speak three dialects of Chinantec: their mother’s, their father’s, and the one spoken in the village of Ojitlán. Although they have tried to be very careful to use only the Ojitlán dialect in working with us, it is still possible that there has been some influence of one dialect on another in their speech.

Finally, the third explanation involves an external factor. According to our consultants, the village of Ojitlán actually does not exist any more. They tell us that, several years back, the Mexican government decided to build a dam and flood the valley that Ojitlán and several other villages were located in. Apparently it took years to get everyone to leave, and the residents were dispersed to a variety of locations. Our consultants now live in Tres Valles, Veracruz—in the state which lies to the east of Oaxaca. The residents were given land in new locations in return for the land that was flooded out. However, the process did not move whole villages intact, but, according to Juan and Jacinto, mixed people into a number of new towns, scattered across a wide area. The result is that our consultants are now living with some people who speak only Spanish, with others who speak different dialects of Chinantec, and with yet others who speak entirely different indigenous languages. It is this situation, I think, that is the most likely to have resulted in rapid changes in the Ojitlán dialect, and in fact has most likely set it on an inevitable path to language death. The *International Encyclopedia of Linguistics* gives an estimate of 10,000 speakers for this village, but it does not give the date of its report. It is clear that the number is at least somewhat dated, however, since the report still places them in the now-underwater village of Ojitlán. The kind of upheaval the speakers of Ojitlán Chinantec have undergone cannot make the prospects for the survival of this language very strong.

This situation makes work on the language all the more urgent, but in many ways, all the more interesting as well. The discrepancies between what we have found and what little has been reported are intriguing, and of course the phonology and morphology in and of themselves are

extremely interesting. It is my hope that work on this language will continue before all chances at description and analysis are lost.

#### ENDNOTES

<sup>1</sup> A bibliography is supplied at the end of this paper which contains selected references on Chinantec linguistics.

<sup>2</sup> The students were (in alphabetical order): Emily Benwitz, Julianne Dwyer, Anna Griffith, David Holsinger, Jungae Kang, Rebecca Kavanagh, Tom Kelly, Shigeru Miyashita, Marianne Milligan, Aaron Pavao, Ana Jimenez Wells, and Chris Woodard. I would like to thank them for their input on this paper, and would also like to stress that parts of what I am reporting here is based on the work of the entire class.

<sup>3</sup> Thanks to David Holsinger for identifying and pointing out the voiceless and glottalized glides (and for providing these examples). I had previously noted /w/, but treated it as /ɸ<sup>h</sup>/; although this does more accurately represent the phonetics of the sound, Holsinger is right that it is best phonemicized as /w/.

<sup>4</sup> Among other things, Holsinger shows that post-vocalic aspiration is highly variable in Ojitlán Chinantec. It not only shows up in words that lacked ballistic stress in Proto-Chinantec, but it also varies across our two consultants in some cases (with one consultant producing aspiration while the other does not).

<sup>5</sup> Citation forms almost always end in [a], but this final vowel does not appear in most inflected forms. Such citation forms were produced in response to elicitation using Spanish infinitives; however, we have not yet identified the function of the citation forms in Chinantec.

<sup>6</sup> At the June 1997 SSILA meeting, an audience member suggested typological support for this historical evolution, indicating that it is not unusual for laryngealization to lead to retroflexion.

<sup>7</sup> The "-V" in the table indicates vowel length, and a dash in the tone column means that no consistent tone patterns have been found.

#### A PARTIAL BIBLIOGRAPHY OF WORKS ON THE CHINANTEC LANGUAGES

- Anderson, Judi Lynn. 1984c. *Un Pequeño Vocabulario en Chinanteco de Comaltepec*. México: Instituto Lingüístico de Verano.
- . 1989. *Comaltepec Chinantec Syntax*. *Studies in the Chinantec Languages* 3. Publication 89. SIL and the University of Texas-Arlington.
- , Isaac H. Martínez, and Wanda Pace. 1990. *Comaltepec Chinantec Tone*. In Merrifield and Rensch (eds.), pp. 3-20.
- Edmondson, Jerold A. and Kenneth J. Gregerson. 1992. *On Five-Level Tone Systems*. In Shin Ja J. Hwang and William R. Merrifield (eds.), *Language in Context: Essays for Robert E. Longacre*, pp. 555-576. Dallas: SIL.

- Egland, Steven. 1978. La Intelecibilidad Interdialectal en México: Resultados de Algunos Sondeos. México: Instituto Nacional de Antropología e Historia.
- Foris, Christine. 1978. Verbs of Motion in Sochiapan Chinantec. *Anthropological Linguistics* 20(7):353-358.
- Foris, David. 1973. Sochiapan Chinantec Syllable Structure. *IJAL* 39:232-235.
- . 1980. The Sochiapan Chinantec Noun Phrase. *SIL Mexico Workpapers* 3:47-76.
- Gardner, Richard & William R. Merrifield. 1990. Quiotepec Chinantec Tone. In Merrifield and Rensch (eds.), pp. 91-105.
- Holsinger, David J. 1998. Tone and Ballistic Stress in Ojitlán Chinantec. ms. University of Wisconsin-Madison.
- Merrifield, William. 1963. Palantla Chinantec Syllable Types. *Anthropological Linguistics* 5(4):1-16.
- . 1968. Palantla Chinantec Grammar. *Papeles de la Chinantla* 5, Serie Científica, #9. Mexico: Museo Nacional de Antropología.
- . 1981. *Proto Otomanguean Kinship*. Dallas: International Museum of Cultures, Publication 11.
- & Calvin R. Rensch (eds.). 1990. *Syllables, Tone, and Verb Paradigms*. Studies in Chinantec Languages 4. Publications in Linguistics 95. SIL and the University of Texas-Arlington.
- Mugele, Robert. 1976. Lalana Chinantec y-. Why? *Workpapers of the SIL, University of North Dakota* 20:1-38.
- . 1982. Tone and Ballistic Syllables in Lalana Chinantec. PhD dissertation, University of Texas-Austin.
- . 1984. The Phonetics of Ballistic and Controlled Syllables. *Texas Linguistic Forum* 23:1-43.
- Pace, Wanda. 1990. Comaltepec Chinantec Verb Inflection. In Merrifield and Rensch (eds.), pp. 21-62.
- Rensch, Calvin R. 1968. Proto-Chinantec Phonology. *Papeles de la Chinantla* 6, Serie Científica, #10:122. Mexico: Museo Nacional de Antropología.
- . 1978. Ballistic and Controlled Syllables in Otomanguean Languages. In A. Bell and J.B. Hooper (eds.), *Syllables and Segments*. North-Holland Publishing Company.
- . 1989. *An Etymological Dictionary of the Chinantec Languages*. Studies in the Chinantec Languages 1. Publication 87. SIL and the University of Texas-Arlington.
- . 1990. Phonological Realignment in Lealao Chinantec. In Merrifield and Rensch (eds.), pp. 75-89.
- Robbins, Frank E. 1961. Quiotepec Chinantec Syllable Patterning. *IJAL* 27(3):237-250.

- . 1968. Quiotepec Chinantec Grammar. Papeles de la Chinantla 4, Serie Científica, #8. Mexico: Museo Nacional de Antropología.
- . 1975. Nasal Words Without Phonetic Vowels in Quiotepec Chinantec. In Ruth Brend (ed.), *Studies in Tone and Intonation by Members of the Summer Institute of Linguistics*, pp. 126-130. Bibliotheca Phonetica 11. Basel: Karger.
- Rupp, James E. 1989. *Lealao Chinantec Syntax*. Studies in the Chinantec Languages 2. Publication 88. SIL and the University of Texas-Arlington.
- . 1990. The Lealao Chinantec Syllable. In Merrifield and Rensch (eds.), pp. 63-73.
- Silverman, Daniel. 1994. A Case Study in Acoustic Transparency: [spread glottis] and Tone in Chinantec. *NELS* 24:559-572.
- . 1996a. Tone Sandhi in Comaltepec Chinantec. *WCCFL* XV.
- . 1996b. Voiceless Nasals in Auditory Phonology. *BLS* 22.
- . 1997a. Phasing and Recoverability. Outstanding Dissertations in Linguistics series. New York: Garland.
- . 1997b. Tone Sandhi in Comaltepec Chinantec. *Language* 73(3).
- Skinner, Leo E. 1962. Usila Chinantec Syllable Structure. *IJAL* 28(4):251-255.
- Smith, Paul and Dorothy Smith. 1955. *Vocabulario Chinanteco (dialecto de Ojtlán, Oaxaca)*. Mexico City, Mexico: Instituto Lingüístico de Verano.
- . 1968. *El Nuevo Testamento de Nuestro Señor Jesucristo*. Mexico: SBDM [abbreviation unexplained].
- Thelin, Anders. 1980. Tlacoatzintepec Chinantec Syllable Structure. *SIL Mexico Workpapers* 4:1-8.
- Westley, David O. 1971. The Tepetotutla Chinantec Stressed Syllable. *IJAL* 37:160-163.
- . 1991. *Tepetotutla Chinantec Syntax*. Studies in the Chinantec Languages 5. Publication 106. SIL and the University of Texas-Arlington.
- & William R. Merrifield. 1990. Moving and Arriving in the Chinantla. In Merrifield and Rensch (eds.), pp. 107-130.