

Chinantec, the Phonology of

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changes. Additionally, certain irregular patterns are marked by ablaut. Due to their inherent inflection, bare verbal roots do not exist as such in Chinantecan. All Chinantecan languages have a large number of verb classes, along with many lexical exceptions. Classes are differentiated by patterns of identity or non-identity across aspect/person combinations. For example, in the following partial paradigm for the verb ‘to hit’ shown in **Table 1**, some complexes are identical to others, while others are different. Verbs in this class will tend to show a similar pattern of identity and non-identity across cells, while verbs in other classes show a different pattern.

Table 2 provides examples of stem inflection from Quiotepec (Robbins, 1968).

In at least some Chinantecan languages, the verb may be prefixed by a subject agreement marker for intransitive verbs, or by an object agreement marker for transitive verbs. Additional verbal prefixes include a negation marker, and tense and aspect markers (imperfect, past, hodiernal past, perfect, past imperfect, etc.). Unlike verbs, nouns do not typically display internal inflection, instead showing stability across inflectional augmentation. In Tepetotutla, for example, noun roots may concatenate with a quantifier, a gender-inflected numeral, a classifier, etc. In

Table 1 Partial Verb Paradigm from Comaltepec

hit (transitive/inanimate)	1s	1p	2	3
progressive	bah↓	ba↓	bah↓	bah↓
intensive	bah↓	bah↓	bah↓	bah↓
completive	bah↓	bah↓	bah↓	bah↓
hit (transitive/animate)				
progressive	bah:↓	bah:↓	bah:↓	bah:↓
intensive	bah:↓	bah:↓	bah:↓	bah:↓
completive	bah:↓	bah:↓	bah:↓	bah:↓

Table 2 Examples of Stem Inflection in Quiotepec (Robbins, 1968)

k ^w o:↓	I give (something)
k ^w o:↓	I gave (something)
k ^w o:↓ʔo↓	thou givest (something)
k ^w o:↓ʔo↓	thou gavest (something)
k ^w o:↓ʔo↓	I give (something to someone)
k ^w o:↓ʔo↓	I gave (something to someone)
k ^w o:↓ʔo↓	thou givest (something to someone)
k ^w o:↓ʔo↓	thou gavest (something to someone)
k ^w o:↓ʔo↓	I give (something animate)
k ^w o:↓ʔo↓	I gave (something animate)
k ^w o:↓ʔo↓	thou givest (something animate)
k ^w o:↓ʔo↓	thou gavest (something animate)
k ^w o:↓ʔo↓	I give (something animate to someone)
k ^w o:↓ʔo↓	I gave (something animate to someone)
k ^w o:↓ʔo↓	thou givest, gavest (something animate to someone)

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Chinantecan is a group of about 14 VSO languages within the Otomanguean family, spoken by approximately 90,000 people in northeastern Oaxaca, Mexico, having branched from the Otomanguean tree more than 16 centuries ago. The 14 major languages (where “language” is defined as a speech community with mutual intelligibility not in excess of 80% with other communities) are Ojitlán, Usila, Tlacoatzintepec, Chiltepec, Sochiapan, Tepetotutla, Tlapetusco, Palantla, Valle Nacional, Ozumacín, Lalana, Lealao, Quiotepec, and Comaltepec. The first seven are northern languages and tend to be more innovative phonologically; the second seven southern languages are more conservative. Syllables are usually CV, with only a few post-vocalic elements, among them a nasal and/or laryngeals. Proto-Chinantec is reconstructed as possessing consonants *p, *t, *k, *k^w, *b, *z, *g, *g^w, *s, *m, *n, *ŋ, *w, *l, *r, and *j. Laryngeals *h and *ʔ could stand alone pre-vocally, or could precede any of the voiced consonants. Additional consonant-glide clusters are reconstructed, too. The reconstructed tonal inventory includes *H, *L, *HL, *LH, and *HLH. Vowels included *i, *e, *a, *u, *i, and *ə, as well as several diphthongs. The vowels may be augmented in a bewildering number of ways, however. In modern Comaltepec—the most conservative Chinantecan language—eight vowel qualities (i, e, æ, a, o, ʌ, i, u) may be combined with five tonal qualities (L, M, H, LM, LH), two voice qualities (plain and aspirated), a nasality contrast, as well as a binary length contrast. The cross-classification of these 5 independent systems results in 320 possible nucleus qualities (8 × 5 × 2 × 2). Thus, a single vowel quality may possess up to 40 contrastive values.

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Chinantec roots and words are usually monosyllabic. The rich inflectional system normally involves modification of root vowels, resulting in monosyllabic stems that bear a particularly high informational load. In Comaltepec, for example, a single syllable may contain not only the root but also (in the case of verb complexes) active/stative markers, gender markers (animate/inanimate), transitivity markers (intransitive/transitive/ditransitive), aspect (progressive/intensive/completive), and possibly subject pronoun clitics (two subsyllabic classes). Methods of stem modification involve nasalization, tone, length, phonation augmentation, and sometimes consonant

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Lealao, constituents of the noun phrase may include a quantifier, the head, a modifier, a possessor, and a deictic marker, in that order, as well as a classifier prefix in some cases.

Stem complexes are obligatorily stressed. Post-tonic and pre-tonic syllables are not stressed. Stressed syllables may possess greater phonological and morphological complexity than do unstressed syllables. In Sochiapan, unstressed syllables differ from stressed ones in displaying a more limited distribution of phonemes. Post-tonic syllables in Palantla consist of a small list of words that do not contrast for tonal features. Pre-tonic syllables, while maintaining tonal contrasts, do not possess post-vocalic elements, except in very careful speech. In Comaltepec, post-tonic syllables consist of a limited set of clitics, person-of-subject inflectors (in verbs), and possessors (in nouns). Pre-tonic syllables consist of only several verbal prefixes and a few proclitics, and possess a smaller inventory of tone values. These syllables are not a site for inflection, and thus do not possess morphological complexity. In Quiotepec, too, stress falls on the major lexical classes (verbs, nouns, etc.); most pre-tonic syllables consist of inflectional material. Pre-tonic syllables only occur with single tones, never with tonal contours. In at least several Chinantecan languages, the vocalism of post-tonic syllables is harmonically determined by the stem vowel. Tone may spread from stem to suffix, too.

Regarding Chinantecan stress, several languages are traditionally characterized as possessing either “ballistic” stress or “controlled” stress on stem syllables. In Palantla, Tepetotutla, Sochiapan, and Comaltepec, ballistic syllables have been characterized by an initial surge and rapid decay of intensity, and a loss of voicing of post-vocalic elements; controlled syllables exhibit no such initial surge of intensity, displaying a more evenly controlled decrease of intensity, and a lack of post-vocalic devoicing. Ballistic syllables tend to be shorter in duration than controlled syllables, and may possess a smaller inventory of tonal patterns. In at least several Chinantecan languages, ballistic syllables cross-classify with almost every other syllable type. Both oral and nasal vowels, both long and short vowels, pre-aspirated and pre-glottalized onsets and plain onsets, and open and checked syllables, and nasally closed syllables, may all possess ballistic stress. Ballistic stress interacts most significantly with tone, tending to raise high tones and lower low tones. In Lalana, ballistic stress (considered post-vocalic h in some analyses) may not occur with glottal checking, and may occur with only H, L, and HL tones, whereas controlled syllables reportedly also possess MH, LH, and HLH, and may be checked. In Lealao, only level tones (L, M, H, VH) may occur

Table 3

Non-sandhi context	Sandhi context	Gloss
to:]	kwa to:]	give a banana
ŋih]	kwa ŋih]	give a chayote
ku:†	kwa ku:†	give money
hi†	mi:† hi]	I ask for a book
moh?†	mi:† moh?]	I ask for squash

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with ballistic stress, whereas controlled syllables may also occur with tonal contours (LM, LH). In Comaltepec, ballistic syllables may occur with almost any tonal pattern.

The ballistic stress found in some Chinantec languages corresponds to tonal lowering in Ojitlán and Usila. Quiotepec is variously characterized as possessing ballistic accent or raised tones in these same contexts, often accompanied by post-vocalic aspiration. The Chinantecan ballistic syllable corresponds to post-vocalic aspiration in related Mixtecan and Otopamean languages, to pre-vocalic aspiration in related Popolocan languages, and to glottally “interrupted” (CV?V) syllables in the Chatino, Zapotec, and Tlapanec languages. Chinantecan ballistic syllables may derive from Proto-Otomanguean *CVh syllables (which may or may not have been phonetically realized as interrupted vowels). Indeed, recent phonetic and phonological investigations have recharacterized the ballistic phenomenon as largely laryngeally-based, involving post-vocalic aspiration.

Segmental sandhi is rather limited in Chinantecan, although tone sandhi is widespread, being both phonologically and morphologically conditioned. The best-studied tone sandhi system is that of Comaltepec. Here, LH tones spread their H component on to a following vowel. Furthermore, M tones on unchecked controlled syllables (deriving from Proto-Chinantec H) trigger the presence of an H tone on the following syllable.

See also: Oto-Manguean Languages (02286); The Phonetics of Stress (00000).

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