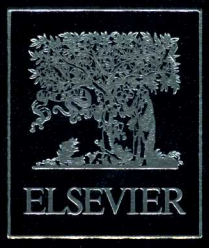

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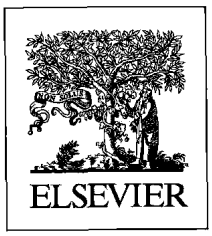

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GUIDE TO USE OF THE ENCYCLOPEDIA

Structure of the Encyclopedia

The material in the Encyclopedia is arranged as a series of articles in alphabetical order. To help you realize the full potential of the material in the Encyclopedia we have provided several features to help you find the topic of your choice: an Alphabetical list of Articles, a Subject Classification, Cross-References and a Subject Index.

1. Alphabetical List of Articles

Your first point of reference will probably be the alphabetical list of articles. It provides a full alphabetical listing of all articles in the order they appear within the work. This list appears at the front of each volume, and will provide you with both the volume number and the page number of the article.

Alternatively, you may choose to browse through the work using the alphabetical order of the articles as your guide. To assist you in identifying your location within the Encyclopedia, a running head line indicates the current article.

You will also find 'dummy entries' for certain languages for which alternative language names exist within the alphabetical list of articles and body text.

For example, if you were attempting to locate material on the *Apalachee* language via the contents list, you would find the following:

Apalachee *See* Muskogean Languages.

The dummy entry directs you to the *Muskogean Languages* article.

If you were trying to locate the material by browsing through the text and you looked up *Apalachee,* you would find the following information provided in the dummy entry:

Apalachee *See:* Muskogean Languages.

2. Subject Classification

The subject classification is intended for use as a thematic guide to the contents of the Encyclopedia. It is divided by subject areas into 36 sections; most sections are further subdivided where appropriate. The sections and subdivisions appear alphabetically, as do the articles within each section. For quick reference, a list of the section headings and subheadings is provided at the start of the subject classification.

Every article in the encyclopedia is listed under at least one section, and a large number are also listed under one or more additional relevant sections. Biographical entries are an exception to this policy; they are listed only under biographies. Except for a very few cases, repeat entries have been avoided within sections, and a given

article will appear only in the most appropriate subdivisions. Again, biographical entries are the main exception, with many linguists appearing in several subdivisions within biographies.

As explained in the introduction to the Encyclopedia, practical considerations necessitate that, of living linguists, only the older generation receive biographical entries. Those for members of the Encyclopedia's Honorary Editorial Advisory Board and Executive Editorial Board appear separately in Volume 1 and are not listed in the classified list of entries.

3. Cross-References

All of the articles in the Encyclopedia have been extensively cross-referenced. The cross-references, which appear at the end of each article, serve three different functions. For example, at the end of *Norwegian* article, cross-references are used:

1. to indicate if a topic is discussed in greater detail elsewhere

> Norwegian
> *See also:* Aasen, Ivar Andreas (1813–1896); Danish; Inflection and Derivation; Language/Dialect Contact; Language and Dialect: Linguistic Varieties; Morphological Typology; Norway: Language Situation; Norse and Icelandic; Scandinavian Lexicography; Subjects and the Extended Projection Principle; Swedish.

2. to draw the reader's attention to parallel discussions in other articles

> Norwegian
> *See also:* Aasen, Ivar Andreas (1813–1896); Danish; Inflection and Derivation; Language/Dialect Contact; Language and Dialect: Linguistic Varieties; Morphological Typology, Norway: Language Situation; Norse and Icelandic; Scandinavian Lexicography; Subjects and the Extended Projection Principle; Swedish.

3. to indicate material that broadens the discussion

> Norwegian
> *See also:* Aasen, Ivar Andreas (1813–1896); Danish; Inflection and Derivation; Language/Dialect Contact; Language and Dialect: Linguistic Varieties; Morphological Typology; Norway: Language Situation; Norse and Icelandic; Scandinavian Lexicography; Subjects and the Extended Projection Principle; Swedish.

4. Subject Index

The index provides you with the page number where the material is located, and the index entries differentiate between material that is an entire article, part of an article, or data presented in a figure or table. Detailed notes are provided on the opening page of the index.

Other End Matter

In addition to the articles that form the main body of the Encyclopedia, there are 176 Ethnologue maps; a full list of contributors with contributor names, affiliations, and article titles; a List of Languages, and a Glossary. All of these appear in the last volume of the Encyclopedia.

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Torricelli Languages

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The approximately 50 languages of the Torricelli are spoken in north Papua New Guinea. The family extends from the eastern Bewani mountains in Sandaun Province; through the Torricelli ranges to Maprik, where Ndu speaking villages reach through to the north coast; and continuing east of Wewak in Sepik Province in the Marienberg ranges and ground south of the Murik lakes, with a final outpost at Bogia in Madang province. The languages are remarkable for non-Austronesian languages in New Guinea for having a basic SVO word order, whereas the norm is SOV. They have been grouped into seven subgroups, whose internal constituency appears to be valid, although the seven-way division still awaits proof. The membership of the family as a whole appears to be accurate.

There are typically no phonetically unusual segments in Torricelli languages, and, although stress is frequently contrastive, reports of tonal differences are rare. The languages near Nuku share with the adjacent Ndu languages the presence of creaky or glottalized vowels, ranging from just one (/a/) to contrasts present on the whole vowel inventory. The vowel inventories tend to be large, with seven or eight vowels being not uncommon in the western languages (a typical inventory is /i e ɛ a ɔ o u ʉ/) and five or six vowels being more common in the east. The loss of velar segments in some western languages has led to the unusual case of languages without velar contrasts at all. Voicing contrasts are usually associated with prenasalization.

There is significant diversity within the family, and the Torricelli languages are also significantly different from most other languages of New Guinea. Although they all show SVO order, typically with prefixal agreement for the subject and suffixal agreement for the object and lacking case marking on (core) nominals – all features that are unusual in New Guinea – other details of their morphological and syntactic structure show considerable diversity. In the eastern languages, such as Monumbo and Arapesh (Bukiyip, also known as Muhiang), multiple class systems with extensive concord are found, whereas in the west only remnant traces of noun classification can be found in the synchronically irregular plural endings of One and Olo.

For example, in Bukiyip 'stone' is *utom* (SING) *utabal* (PL), showing the *-m* and *-bal* suffixes typical of class 5 nouns (compare this with a class 2 noun, such as 'village' *wa-bél* SING, *wa-lúb* PL). Adjectives show similar suffixes, agreeing in class and number with their noun, and verbs have cognate prefixes:

yopi-**mi** uto-**m** m-a-pwe agnú
'(the) good stone is there'

yopi-**bili** wa-**bél** **bl**-a-pwe agnú
'(the) good village is there'

In the western Torricelli language One, 'stone' is *toma* (SING) *tomu* (PL), showing an *-a* versus *-u* pattern, just as in 'flower' *sula* (SING), *sulu* (PL), indicating that, although it is a minority pattern, the alternations in 'stone' are regular. The word for 'village' *wapli* can be singular or plural, with the common *-li* plural suffix, but *wap* is only singular (this form is commonly found in compounds, such as *wap oi* 'village grounds, area'). Concord on other words is not as strong, however:

upo toma w-ae nu
'the good stone is there'

This sentence shows no agreement on *upo* 'good,' and only the general second/third-person singular *w-* on the verb 'sit, be at.' The same forms as are found in:

upo wapli w-ae nu
'the good village is there'

A few adjectives do show alternations:

plola toma w-ae nu
'the short stone is there'

plolu tomu n-ai n-e nu
'the short stones are there'

with variation for number (the verb 'sit' has irregular singular and plural forms). Different noun classes, however, do not show different agreement patterns. Using the same inflecting adjective, *plola*, with a different noun shows the same inflectional pattern:

plola wap w-ae nu
'the short village is there'

plolu wapli n-ai n-e nu
'the short villages are there'

There are also no differences in verbal morphology. Another striking aspect of the NP in One involves the lack of a fixed word order: Gen N as well as N Gen, Dem N as well as N Dem, and Adj N as well as N Adj are found, with only relative clauses being restricted to postnominal position.

Like most languages of New Guinea, there is no evidence of a voice system operating in any of the Torricelli languages, but applicatives are almost universal in the Torricelli languages, being found in at least fossilized form even on the more isolating

members of the family. In some languages the applicative and the verb 'give' show close similarities (One: *-ne* APPL and *an(e)* 'give'), whereas in other languages the two morphemes bear no obvious resemblance to each other (Olo: *-f(i)* APPL, *wa* 'give'; Arapesh *-'ma* APPL, *se'* 'give'). There does not seem to be a single historical source for the various applicatives attested in different branches of the family. An applicative is often required lexically by low-transitive verbs. One has *y-upa-ne* 'follow,' with a lexicalized applicative, for instance.

Serial verbs are a regular feature of Torricelli languages, although clause chaining is not. One, the westernmost Torricelli language has an unusual syntactic parameter setting whereby word order within the NP is free but the position of NPs and PPs within the clause is rigidly fixed, implying that there is configurationality at the clause level but not at the phrase level.

Over the years, there have been various suggestions concerning the history of the Torricelli languages. Authors have suggested a relationship with the Asli languages of Malaysia and with the East Bird's Head languages of western New Guinea. None of these claims has yet stood up to any serious investigation. The SVO order of the Torricelli languages, unusual in New Guinea, has been attributed to Austronesian contact (as has also been proposed for the similarly SVO languages of the Bird's Head), but it could just as easily be innate. The Torricelli languages are, indeed, not highlands languages, and there is no reason to suppose that SVO is not the original Torricelli order.

See also: Papua New Guinea: Language Situation; Papuan Languages.

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Totonacan Languages

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The Totonacan languages are spoken in central Mexico in a region that includes parts of three states: southern Hidalgo, northern Puebla, and northwestern Veracruz (see **Figures 1** and **2**). Although proposals have sometimes been made to relate the Totonacan languages to Mayan, Mixe-Zoquean, and other languages in Mesoamerica (McQuown, 1942), these relationships have never been demonstrated. Today, the Totonacan language family is generally regarded as an 'isolate' in the classification of Mesoamerican languages (Suárez, 1983; Campbell, 1997). It is thought that speakers of these languages settled near the Gulf Coast around 800 A.D. Their original homeland is unknown; however, based on ethnohistorical sources and loanwords found in other Mesoamerican languages, it has been proposed that Totonacs may have founded Teotihuacan and moved to their current location following its collapse (Justeson *et al.*, 1985).

Totonacan Language Family

The Totonacan language family is made up of two branches: Totonac, consisting of four languages, with roughly 220 736 speakers, and Tepehua, consisting of three languages, with approximately 8252 speakers (INEGI–XII Censo General, 2000). Although the Totonac and Tepehua languages are mutually unintelligible today, they share a great deal of vocabulary and exhibit many structural similarities. These similarities indicate that the languages developed, historically, from a common ancestor, Proto-Totonacan. **Figure 3** provides a simplified representation of the relationships of the various languages. As linguistic investigation proceeds, further groupings and subgroupings within the family will undoubtedly emerge.

As illustrated in **Figure 3**, the Totonac branch consists of four languages, referred to here as Misantla, Papantla, Sierra, and Northern:

Misantla Totonac, the southernmost variety, is spoken between the cities of Xalapa and Misantla in Veracruz. Towns where speakers may still be found include Yecuatla (192 speakers), San Marcos Atexquilapan (13), Landero y Coss (61), Chiconquiaco (56), and Jilotepec (11) (INEGI–XII Censo General, 2000). Misantla Totonac is moribund, with few native speakers remaining, all over the age of 45. The largest concentration of speakers is found in Yecuatla, but their number is dwindling rapidly. According to the Mexican Census, 486 individuals spoke Totonac in Yecuatla in 1980; in 2000, only

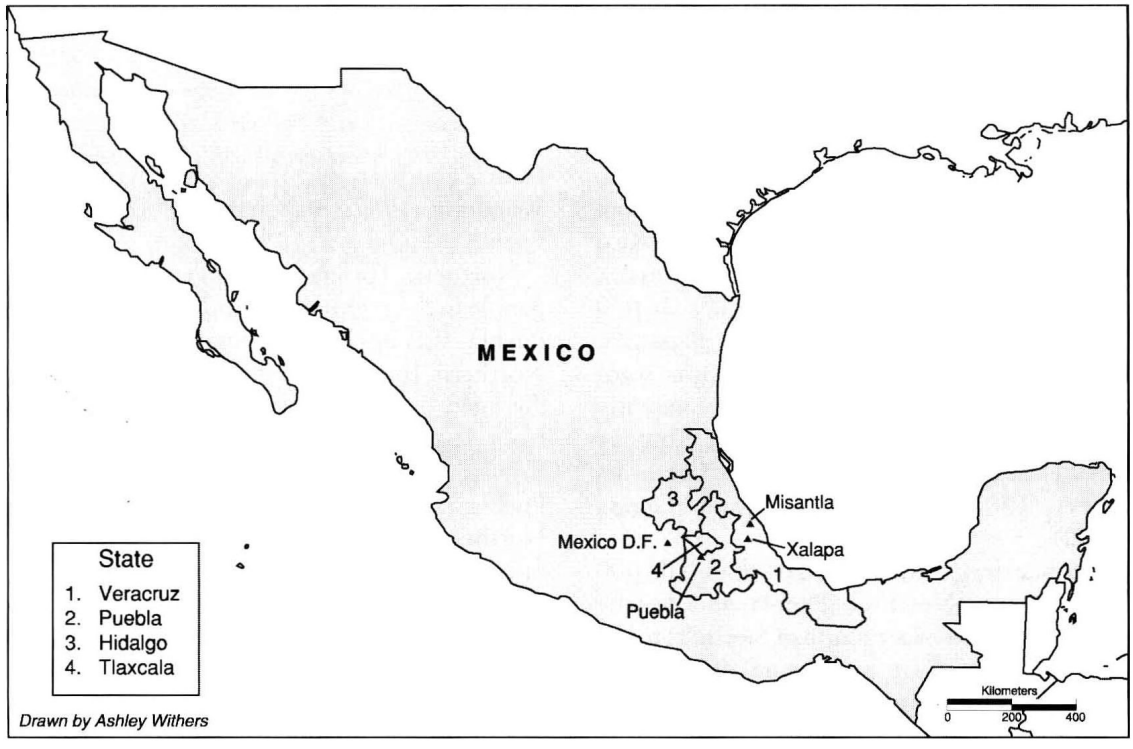

Figure 1 Mexico (adapted from a map drawn by Ashley Withers).

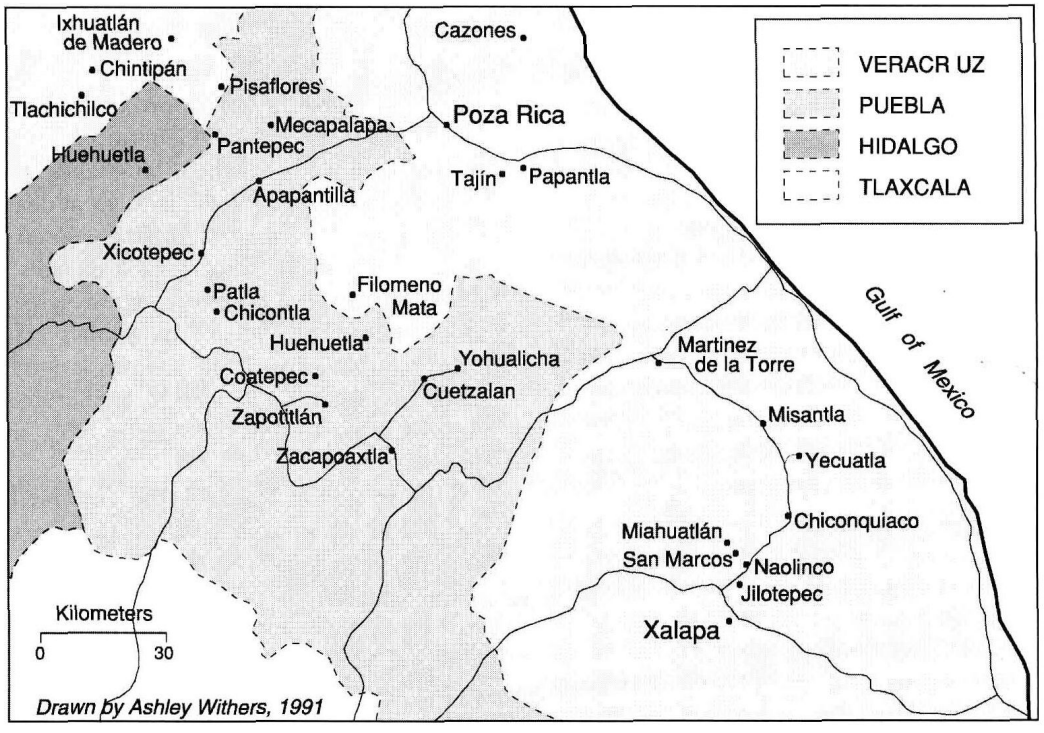

Figure 2 Totonacan language area (adapted from a map drawn by Ashley Withers).

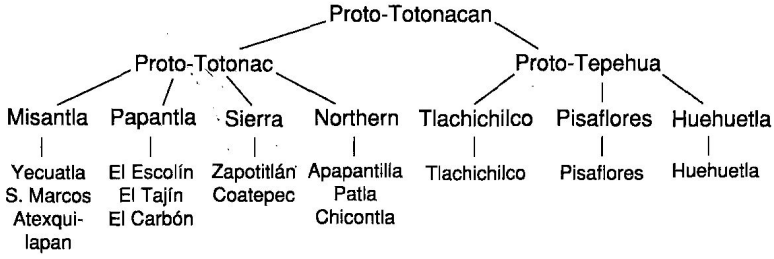

Figure 3 Totonacan language family.

192 speakers remained (INEGI–Censo General, 1980, 2000). Data on Misantla Totonac come from Yecuatla and San Marcos Atexquilapan (MacKay, 1994, 1999; MacKay and Trechsel, 2003, in press).

Papantla Totonac is spoken by roughly 36 000 individuals in and around the city of Papantla, Veracruz. Children are still learning Papantla Totonac, but the language is being used less frequently within the communities. Data on Papantla Totonac come from El Escolín (Aschmann, 1973), Cerro del Carbón (Levy, 1987, 1990), and El Tajín (García Ramos, 2000).

Sierra Totonac is spoken by more than 100 000 people in the Sierra Norte de Puebla and nearby towns in Veracruz. The exact limits of Sierra Totonac and Northern Totonac are still being determined. Children continue to learn Sierra Totonac as their native language, and it is the main language used in many communities. Data on Sierra Totonac come from Zapotitlán de Méndez, Puebla (Aschmann and Wonderly, 1952; Aschmann, 1962), and Coatepec, Puebla (McQuown, 1990).

Northern Totonac is spoken by roughly 10 000 people in the region surrounding Xicotepec de Juárez, Puebla. It is unclear how many children are learning Northern Totonac; most speakers appear to be middle aged or older. Data on Northern Totonac come from Apapantilla, Puebla (Reid *et al.*, 1968; Reid and Bishop, 1974; Reid, 1991) and Patla and Chicontla, Puebla (Beck, 2004). Beck refers to the variety of Northern Totonac spoken in the latter two communities as Upper Necaxa Totonac.

The Tepehua branch of Totonacan consists of three languages, identified here as Tlachichilco, Pisaflores, and Huehuetla.

Tlachichilco Tepehua is spoken in Tlachichilco, Veracruz, and in the surrounding communities of Chintipán, Tierra Colorada, and Tecomajapa.

	Labial	Alveolar	Alveo-palatal	Palatal	Velar	Uvular	Glottal
Plosive	p	t			k	q	ʔ
Affricate		ts, tl̥[a]	tʃ				
Nasal	m	n					
Fricative		s, ɬ	ʃ				h
Approximant	w			y			
Lateral approximant		l					

[a]tl̥ is found only in Sierra Totonac, Northern Totonac and Papantla Totonac.

Figure 4 Totonacan consonants.

According to the 2000 census, there are approximately 2463 speakers in these communities, many of whom are middle aged or older (Watters, 1988: 5). James K. Watters is the only linguist to have conducted research on Tlachichilco Tepehua. His publications include discussions of morphosyntax (1988), phonology (1987), verbal semantics (1996), and second-person laryngealization (1994). Although there is as yet no published lexicon or descriptive grammar of Tlachichilco Tepehua, it is the best documented of all the Tepehua languages.

Pisaflores Tepehua is spoken by roughly 2786 individuals in and around Pisaflores, Veracruz. Tepehua is the main language of this community and children are still learning it as their native language. Carolyn J. MacKay and Frank R. Trechsel have been conducting linguistic research in Pisaflores since 1997 and are working on a description of Pisaflores Tepehua.

Huehuetla Tepehua is spoken in and around the towns of Huehuetla, Hidalgo, and Mecapalapa, Puebla. There are approximately 1649 speakers of Huehuetla Tepehua, all of whom are at least middle aged. Publications on the language include a short sketch of sentence structure, a description of Tepehua numerals, and a preliminary description of verb inflection (Herzog, 1974). The Liga Bíblica Mundial del Hogar published the New Testament in Huehuetla Tepehua in 1976.

Totonacan Phonology

Totonacan languages exhibit three vowels, /a/, /i/, /u/, and a length distinction, contrasting short and long vowels. Some languages, like Northern Totonac, have also developed phonemic /e/ and /o/ (Beck, 2004). Plain and laryngealized variants of both short and long vowels exist in all Totonacan languages. Whether this distinction is contrastive or predictable has not yet been determined for all varieties. However, all Totonacan languages employ laryngealization to mark second-person subjects.

(1) Misantla Totonac (MacKay, 1999: 156, 157)

[wḭʃ ka̰tsɨ̰ḭ]	'you know X'
/wḭʃ ka̰tsii/	
[ʔṵ́t ka̰tsíi]	's/he knows X'
/ut ka̰tsii/	
[kiná̰n ká̰a̰yáa]	'we cut X'
/kina̰n ka̰a̰-yaa-wa/	
[wḭʃín ká̰a̰yá̰a̰tat]	'y'all cut X'
/wḭʃin ka̰a̰-yaa-tat/	

Figure 4 presents the consonants that are found in almost all Totonacan languages. In most Totonacan languages, glottal stop is contrastive only in word-final position. However, in Upper Necaxa Totonac, Pisaflores Tepehua, and Huehuetla Tepehua, /ʔ/ has replaced /q/ and therefore occurs in other positions as well.

Consonant alternations to mark degrees of size, force, and intensity have been described in Totonacan. This sound symbolism typically involves the sets of sounds s/ʃ/ɬ, k/q, and ts/tʃ with ɬ̰, q̰, and tʃ̰ being the most intense (Bishop, 1984; Levy, 1987; MacKay, 1999; Beck, 2004).

(2) Misantla Totonac (MacKay, 1999: 114)

[tsṵtsṵ́]	/tsũtsũ/	's/he smokes'
[tʃũtʃṵ́]	/tʃũtʃũ/	's/he sucks'

(3) Papantla Totonac (Levy, 1987: 115)

sukũ	'small hole'
ɬukũ	'medium-sized hole'
ɬuqũ	'large hole'

Totonacan Morphology

Totonacan languages exploit a very complex and productive morphology, characterized by a large number of affixes, both prefixes and suffixes, that do most of the work of the grammar. Verbs and nominals are the major word classes.

Nominals

In some languages (e.g., Misantla Totonac and Sierra Totonac), adjectives and nouns do not differ in their inflectional morphology. In others, however (e.g., Papantla Totonac and Upper Necaxa Totonac), nouns and adjectives are distinct. Nominal inflectional morphology is relatively simple. Nominals are optionally marked for plurality, and in possessive constructions are also marked for person (and sometimes number) of possessors.

(4) Misantla Totonac (MacKay, 1999: 349)

[kíɲtʃík]	1POSS-house	'my house'
/kin-tʃik/		
[kíɲtʃikɨ̱ɨ̱n]	1POSS-house-PL	'my houses'
/kin-tʃik-VVn/		
[kíɲtʃikɨ̱n]	1POSS-house-POSS.PL	'our house'
/kin-tʃik-kan/		
[kíɲtʃikɨ̱ɨ̱ŋkɨ̱n]	1POSS-house-PL-POSS.PL	'our houses'
/kin-tʃik-VVn-kan/		

Numerals

The Totonacan numerical system, like many others in Mesoamerica, is vigesimal. In many of the Totonacan languages, the numerical system is being replaced by the Spanish one.

(5) Misantla Totonac (MacKay, 1999: 393, 394)

[puʃúmpuʃúmpuʃún]	'sixty (20 + 20 + 20)'
/puʃum-puʃum-puʃum/	
[tutún puʃún]	'sixty (3 × 20)'
/tutun puʃum/	

Body Part Prefixes

Body Part Prefixes occur on both nominal and verb stems, but are most productive on verbs. They usually denote either the body part affected by the action of the verb or a spatial relationship ('in front of,' 'behind,' 'beside,' 'above,' etc.).

(6) Misantla Totonac (MacKay, 1999: 230)
[míntaqa̱qa̱nú̱u̱t]
/min-ta-qa̱qa̱-nu̱u̱-Vt/
2POSS-INCHOATIVE-ear rel.-inside-NOM
'your earring'

Verbal Inflection

Totonacan verbal morphology is characterized by a layering of derivational and inflectional affixes. Verbs may be inherently stative, intransitive, transitive, and, in some languages, ditransitive. In all languages, the verbal inflectional system distinguishes two aspectual categories (perfective and imperfective); two tense categories (past and nonpast); and two mood categories (realis and irrealis). In many, but not all, Totonacan languages, the inflectional system also marks categories of future tense and/or perfect aspect. The exact distribution of these latter categories in the family has yet to be determined.

In addition, in all Totonacan languages, verbal inflectional affixes mark categories of person and number of both subjects and objects. For the most part, inflectional affixes are transparent in the sense that they can be easily isolated and their semantic contribution is clear. In transitive sentences involving two nonthird-person arguments, however, certain contrasts are neutralized. In all languages except Sierra Totonac, combinations of a second-person subject and a first-person object, where either or both are plural, are expressed by means of reciprocal verbs with first person inclusive plural subjects. Sentences like the following, from Pisaflores Tepehua, are systematically ambiguous:

(7) Pisaflores Tepehua (MacKay and Trechsel, 2003: 295)
[kiláaláʔtsi̱náaw]
/kin-laa-laʔtsi̱n-yaa-wi/
1OBJ = RECIP-see.X-IMPERF-1SUBJ.PL
'You (sg.) see us,' 'You (pl.) see me,' 'You (pl.) see us'

A similar ambiguity emerges in sentences in which a first person subject acts on a second person object and, again, one or both are plural. In the Tepehua languages, these combinations are expressed by means of reciprocal verbs with first person exclusive plural subjects. The example in (8) is four-ways ambiguous:

(8) Pisaflores Tepehua (MacKay and Trechsel, 2003: 297)
[ʔi̱kláaláʔtsīnáaw]
/ik-laa-laʔtsi̱n-yaa-wi/
1SUBJ-RECIP-see.X-IMPERF-1SUBJ.PL
'I see you (pl.),' 'We see you (sg.),' 'We see you (pl.),'
'We (excl.) see each other'

In contrast, the Totonac languages, with the exception of Sierra Totonac, use reciprocal verbs in 2SUBJ > 1OBJ contexts, but not in 1SUBJ > 2OBJ contexts. Nevertheless, all Totonac languages employ a single verb form to express combinations of first person subject and second person object where one or both are plural. Ambiguities of the sort illustrated in (7) and (8) are pervasive throughout the family.

Verbal Derivation

Totonacan languages exhibit a rich inventory of derivational affixes that affect the valence of both

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