

Counting

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The Zapotec Grammar Files

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1 Introduction

This paper explains how numbers are used for counting.¹ (The numbers themselves are presented in another paper (in preparation).) This is an important topic to document since in many regions counting in Zapotec is rapidly declining in favor of using Spanish numbers, especially above the number twenty.²

2 Listing the numbers

When one is just listing the numbers in order and not counting any objects, the numbers are usually simply stated, and usually in increasing order, as shown in (1).

- (1) tu, tiop, chonn, tap, ...
 [zts] tu tiop tʃon: tap
 one two three four
 'uno, dos, tres, cuatro, ...'
 'one, two, three, four, ...'

[Merrill (f.n.)]

Note that the word for '*one*' in this list is *tu* /*tu*/ (or its cognate in other variants). In some variants, however, including Tilquiapan [zts], the number for one is *tuby* /*tub*^j/ when the word for '*one*' occurs in any compound number (such as for '*twenty-one*'). See appendix A for details on the language variation.

In some varieties, however, even in this context a pronoun is used after the number; see section 3 and appendix A.

¹We thank Profeta Chávez Vásquez for her helpful comments. The following are found in other files: [Transcription Conventions](#) and a table of all [Data Sources](#) for Zapotec. The abbreviations used in this paper are: 3AN = third person animal, 3H = third person human, 3IN = third person inanimate, C = completive, PL = plural.

²See Pickett, Black & Marcial (2001:41) with respect to Isthmus Zapotec [zai]; they note that only the numbers from one to ten, and twenty and 100, are commonly used in that variety.

3 Counting Items

When any set of items is counted, the utterance consists of a series of numbers, each followed by the third person (enclitic) pronoun that is appropriate for the item being counted, as shown in (2).

- (2) Number Pronoun, Number Pronoun, Number Pronoun, ...

See the inventory of personal pronouns paper (in preparation) for details on the pronouns themselves. Examples of counting animals are given in (3) and of counting most inanimate objects in (4).

- (3) tu ma, tiop ma, chonn ma, tap ma,
 [zts] tu ma tiop ma tʃon: ma tap ma
 one 3AN two 3AN three 3AN four 3AN
 'uno, dos, tres, cuatro, ...' (animales)
 'one, two, three, four, ...' (animals) [Merrill (f.n.)]

- (4) tubi-n, tiop in, chonn in, tap in,
 [zts] tubi-n tiop in tʃon: in tap in
 one-3IN two 3IN three 3IN four 3IN
 'uno, dos, tres, cuatro, ...' (objetos)
 'one, two, three, four, ...' (objects) [Merrill (f.n.)]

It is worth pointing out that the pronoun in this counting situation is **not** marked for plurality in any documented variety of Zapotec even when that variety expects or allows, as Tilquiapan does, the presence of a plural marker before the pronoun in ordinary sentences. Compare the following examples.

- (5) *tu ma, tiop ra ma, ...
 [zts] tu ma tiop ra ma
 one 3AN two PL 3AN
 ('uno, dos, ...') (animales)
 ('one, two, ...') (animals) [Merrill (f.n.)]

- (6) Biu'u tu dxi, tu nani'i gup ba chonn ra be'ekw.
 [zts] biu? tu tʃi tu na'ni? gup ba tʃon: ra be?k^w
 C.be one day a/one woman C.have 3H three PL dog
 'Había una vez, una mujer tenía tres perros.'
 'Once there was a woman who had three dogs.' [Chávez Vásquez (unpublished text)]

4 Vestiges of noun classes reflected in the counting system

In Colonial Zapotec documents (Smith-Stark 2008), there is evidence of two counting systems that were dependent on noun classes. As outlined by Smith-Stark, Córdova's work (Cordoua 1578, in particular) gives information on two number systems used in the colonial period. Some of the data he provides (with phonological correspondences supplied here, based on Smith-Stark 2003) are given in (7).

(7)

Number	System 1		System 2	
1	tòbi	[tobi]	chàga ~ chàa	[tʃaga] ~ [tʃaa]
2	tòpa	[topa]	càto	[kato]
3	chòna	[tʃona]	càyo	[kajo]
4	tàpa	[tapa]	tàa	[taa]

It is not clear what the distinguishing characteristics of the noun classes were, especially since (reportedly) some nouns could be used with either number system. To summarize briefly what Smith-Stark reports, system 1 was used with animate things, plants and plant material, things that belong in pairs or parts of things, and some other semantic domains. System 2 seemed to be used with (among other things) manufactured types of things that are mostly flat: leather and fabric, plates, books, and especially tortillas. Articles that could work in either system included big things such as beams, branches, handfuls, piles, and jiquipiles (a measurement) of cocoa.

In modern Zapotec some variants retain vestiges of that system. The evidence is found in, for example, the fact that in some variants a different word for *'one'* is used when counting certain types of objects.³ In Tilquiapan [zts], for example, the word for *'one'*, when counting, is *cha'a /tʃa²/* when tortillas are being counted. (No other number words are different in Tilquiapan when counting tortillas.)

- (8) *cha'a n, tiop in,...*
 [zts] *tʃa² n tiop in*
one 3IN two 3IN
'una, dos, ...' (tortillas)
'one, two, ...' (tortillas)

[Merrill (f.n.)]

San Pedro Quiatoni [zpf] has a special word for *'one'*, but it also has a special word for *'two'* which may be falling into disuse. While the normal word for *'two'* is *chop*, the word for *'two'* when quantifying the noun for *'peso'* is *tiop /tiop/* (Martínez & Martínez f.n.).

This aspect of the numbering system has not been widely documented in the literature. See appendix A for other languages which show something similar.

³The word *<chaga>* is listed in Junta Colombina (1893) for Valley Zapotec, alongside *<tobi>* and *<tubi>*, without explanation.

Appendix A: Various details regarding counting and 'one'

This table brings together information on this topic for multiple varieties of Zapotec.⁴

ISO 639-3 code	Identifier as in Ethnologue	'one' in list of numbers	Uses pronoun after number when counting items?	'one' in NP	'21'	Special word for 'one'?
zaa	Sierra de Juárez	tùbí		tū	tū ērùà?	
zab	San Juan Guelavía	tub ^j		tib ^j	gal̄d-bi-tub ^j	tʃa ⁵
zab-quiav	San Lucas Quiavini	teʔi ^{hb}			ga ^ʔ ʒ ^j a ^{hb} -teʔi ^{hb}	
zab-tlaco	Tlacolula			tubi		
zac	Ocotlán			tubi, tu ⁶		
zad	Cajonos	to		to	tojiɕgoa	
zae	Yareni	tubi ⁷	no	tu	tu erua	no
zaf	Ayoquesco	tub	yes	tub	gal-tùb	
zai	Isthmus	tobi	no	ti	gande nu tobi	no
zam	Miahuatlán	θib		θib		
zao	Ozolotepec			θib		
zaq	Aloápam	tubi ⁸	no	tu	tu erua	no
zar	Rincón			tu		
zas	Santo Domingo Albarradas			t ^{hb}		
zat	Tabaa			tu		
zav	Yatzachi	to	yes	to	toɕgoa	no

⁴Column four refers to situations such as when counting passing animals, counting out coins, etc.

⁵Used with the words for tortilla and palm mat.

⁶Both occur in the same text (Olson 1970) repeatedly.

⁷Data provided by Odilón Chávez Hernández (p.c.)

⁸Data provided by Victoria López Cruz (p.c.)

ISO 639-3 code	Identifier as in Ethnologue	'one' in list of numbers	Uses pronoun after number when counting items?	'one' in NP	'21'	Special word for 'one'?
zaw	Mitla	te ² b	no	te ^h , te ⁹	gal:-bi-te ² b	
zax	Xadani					
zca	Coatecas Altas	tub+pronoun	yes	tu	gal-bi-tub	tʃa ¹⁰
zoo	Asunción Mixtepec					
zpa	Lachiguiri					
zpb	Yautepec					
zpc	Choapan	tu	yes	tu	galo be tu	no
zpd	Southeastern Ixtlán					
zpe	Petapa					
zpf	San Pedro Quiatoni	to ^h b	yes	to ^h b	ga ^h l to ^h b	tsa ^{h11}
zpg	Guevea de Humboldt	to ^h b ^j	optionally	to	gal:-b ^j -to ^h b ^{j12}	dib ^{j13}
zph	Totomachapan					
zpi	Santa María Quiegolani	teb+pronoun	yes	te	gal-b-teb	no
zpj	Quiavicuzas					
zpk	Tlacolulita					
zpl	Lachixío	tuku	no	tuku	ala tʃe tuku	tʃeka ¹⁴
zpm	Mixtepec	tíb	yes	tíb, tí ¹⁵	gál:-p-tíb	no
zpn	Santa Inés Yatzechi	tu		tu		

⁹The word is basically /teh/ but is /te/ in some combinations such as 'one hundred'.

¹⁰Used with the words for tortilla, bread, 'memela' (a flat food item), and palm mat.

¹¹For tortillas and bread.

¹²Falling into disuse in favor of Spanish.

¹³Used with the noun meaning 'piece' and the noun meaning 'peso'.

¹⁴This word is only used in a normal noun phrase with the noun for 'tortilla'. It is not used when counting tortillas.

¹⁵The form /tí/ is most common; /tíb/ is possible in slow speech.

ISO 639-3 code	Identifier as in Ethnologue	'one' in list of numbers	Uses pronoun after number when counting items?	'one' in NP	'21'	Special word for 'one'?
zpo	Amatlán	tub+pronoun	yes	tub	gal-b-tub+pronoun	tʃa ¹⁶
zpp	El Alto					
zpq	Zoogocho	to	yes	to	to ^h ɟzoa	no
zpr	Santiago Xanica					
zps	Coatlán					
zpt	San Vicente Coatlán	dub+pronoun	yes	dub	gal-b-dub	tʃa ¹⁷
zpu	Yalálag	to	yes	to	toaɟzoa	no
zpv	Chichicapan	tùbì	yes	tùbì	gal̄da-bi-tubi	ts ^h a ~ ts ^h aga ¹⁸
zpw	Zaniza			tib		
zpx	San Baltazar Loxicha					
zpy	Mazaltepec					
zpz	Texmelucan			tub		
zsr	Southern Rincón			tu		
zte	Elotepec					
ztg	Xanaguía	tib+pronoun	yes	tib	gal-p-tib	tsag
ztl	Lapaguía-Guivini	tib	yes		gal:-p-tib	
ztm	San Agustín Mixtepec					
ztn	Santa Catarina Albarradas					
ztp	Loxicha	θib+pronoun	yes	θib		no
ztq	Quioquitani-Quierí	tu	yes	tu	kāl-p-tu	no

¹⁶For tortillas and bread.

¹⁷Used only for tortillas.

¹⁸From Smith-Stark (2003).

ISO 639-3 code	Identifier as in Ethnologue	'one' in list of numbers	Uses pronoun after number when counting items?	'one' in NP	'21'	Special word for 'one'?
zts	Tilquiapan	tu ¹⁹	yes	tub ^{j20}	gaḽd-b-tub ^j	tʃa ²¹
ztt	Tejalapan	tu		tube		
ztu	Güilá					tʃa ²²
ztx	Zaachila					
zty	Yatee					

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¹⁹One subdialect (within the same town) reportedly uses /tub^j/ in all counting situations (simple listing and also counting objects) in which other people in Tilquiapan use /tu/ (Profeta Chávez Vásquez, p.c.), although they also use /tu/ as the word for 'one' in a noun phrase.

²⁰The final consonant in this word is pronounced [bi] before the 3IN pronoun, as in /tubi-n/ 'one (inanimate)'. See example (4).

²¹For tortillas only.

²²From Smith-Stark (2003).