

# Counting

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The Zapotec Grammar Files

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## 1 Introduction

This paper explains how numbers are used for counting.<sup>1</sup> (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.<sup>2</sup>

## 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*<sup>j</sup>/ 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.

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<sup>1</sup>We 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.

<sup>2</sup>See 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 [Personal pronouns: inventory, this series](#) 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'ɨ gup ba chonn ra be'ekw.  
 [zts] biu' tu dʒi tu na'ni' gup ba tʃon: ra be'kʷ  
 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.<sup>3</sup> In Tilquiapan [zts], for example, the word for *'one'*, when counting, is *cha'a /tʃa<sup>2</sup>/* when tortillas are being counted. (No other number words are different in Tilquiapan when counting tortillas.)

(8) *cha'a n, tiop in,...*

[zts] *tʃa<sup>2</sup> 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.

## Appendix A: Various details regarding counting and 'one'

This table brings together information on this topic for multiple varieties of Zapotec.<sup>4</sup>

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

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

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 <sup>j</sup>		tib <sup>j</sup>	gaḽd-bi-tub <sup>j</sup>	tʃa <sup>5</sup>
zab-quiav	San Lucas Quiavini	teʔi <sup>hb</sup> <sup>j</sup>			ga <sup>ʔz</sup> a <sup>hb</sup> -teʔi <sup>hb</sup> <sup>j</sup>	
zab-tlaco	Tlacolula			tubi		
zac	Ocotlán	tubi	no	tubi, tu <sup>6</sup>	galdì-bi-tubi	no
zad	Cajonos	to		to	tojidʒoa	
zae	Yareni	tubi <sup>7</sup>	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 <sup>8</sup>	no	tu	tu erua	no
zar	Rincón			tu		
zas	Santo Domingo Albarradas			ti <sup>hb</sup>		
zat	Tabaa			tu		
zav	Yatzachi	to	yes	to	toʒoa	no
zaw	Mitla	te <sup>ʔb</sup>	no	te <sup>h</sup> , te <sup>9</sup>	gal:-bi-te <sup>ʔb</sup>	
zax	Xadani					
zca	Coatecas Altas	tub+pronoun	yes	tu	gal-bi-tub	tʃa <sup>10</sup>
zoo	Asunción Mixtepec					

<sup>5</sup>Used with the words for tortilla and palm mat.

<sup>6</sup>Both occur in the same text (Olson 1970) repeatedly.

<sup>7</sup>Data provided by Odilón Chávez Hernández (p.c.)

<sup>8</sup>Data provided by Victoria López Cruz (p.c.)

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

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

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'?
zpa	Lachiguirí					
zpb	Yautepec					
zpc	Choapan	tu	yes	tu	galo be tu	no
zpd	Southeastern Ixtlán					
zpe	Petapa					
zpf	San Pedro Quiatoni	to <sup>hb</sup>	yes	to <sup>hb</sup>	ga <sup>h</sup> l to <sup>hb</sup>	tsa <sup>h</sup> 11
zpg	Guevea de Humboldt	to <sup>hb</sup> j	optionally	to	gal:-b <sup>j</sup> -to <sup>hb</sup> j <sup>12</sup>	dib <sup>j</sup> 13
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 <sup>14</sup>
zpm	Mixtepec	tíb	yes	tíb, tí <sup>15</sup>	gál:-p-tíb	no
zpn	Santa Inés Yatzechi	tu		tu		
zpo	Amatlán	tub+pronoun	yes	tub	gal-b-tub+pronoun	tʃa <sup>16</sup>
zpp	El Alto					
zpq	Zoogocho	to	yes	to	to <sup>h</sup> dʒoa	no
zpr	Santiago Xanica					
zps	Coatlán					

<sup>11</sup>For tortillas and bread.

<sup>12</sup>Falling into disuse in favor of Spanish.

<sup>13</sup>Used with the noun meaning '*piece*' and the noun meaning '*peso*'.

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

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

<sup>16</sup>For tortillas and bread.

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'?
zpt	San Vicente Coatlán	dub+pronoun	yes	dub	gal-b-dub	tʃa <sup>17</sup>
zpu	Yalálag	to	yes	to	toaɟoa	no
zpv	Chichicapan	tùbì	yes	tùbì	gaḷda-bi-tubi	ts <sup>h</sup> a ~ ts <sup>h</sup> aga <sup>18</sup>
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	kǎl-p-tu	no
zts	Tilquiapan	tu <sup>19</sup>	yes	tub <sup>20</sup>	gaḷd-b-tub <sup>j</sup>	tʃa <sup>21</sup>
ztt	Tejalapan	tu		tube		

<sup>17</sup>Used only for tortillas.

<sup>18</sup>From Smith-Stark (2003).

<sup>19</sup>One subdialect (within the same town) reportedly uses /tub<sup>j</sup>/ 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.

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

<sup>21</sup>For tortillas only.

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'?
ztu	Güilá					tʃa <sup>22</sup>
ztx	Zaachila					
zty	Yatee					

## References

- Cordoua, Iuan de. 1578. *Arte en lengva zapoteca*. Mexico: Casa de Pedro Balli. Republished by Nicolás León as *Arte del idioma zapoteco de Juan de Córdoba* (Imprenta del Gobierno en la Escuela de Artes, Morelia, Michoacán, 1886). A facsimile edition of León's edition was published as *Arte del idioma zapoteco* (Ediciones Toledo and INAH, Mexico City, 1987).
- Junta Colombina de México. 1893. *Vocabulario castellano-zapoteco*. Mexico City: Oficina Tipográfica de la Secretaría de Fomento.
- Martínez, Nicasio and Valerie Martínez. f.n. "Field notes on San Pedro Quiatoni Zapotec." SIL.
- Merrill, Elizabeth D. f.n. "Field notes on Tilquiapan Zapotec." SIL.
- Olson, Donald. 1970. "The earthquake in Ocotlán: Three texts in Zapotec." *Tlalocan* 6:229-39.
- Pickett, Velma B., Cheryl Black & Vicente Marcial Cerqueda. 2001. *Gramática popular del zapoteco del Istmo*. 2nd Edition. Juchitán, Oaxaca and Tucson: Centro de Investigación y Desarrollo Binnizá and Instituto Lingüístico de Verano. <http://www.sil.org/mexico/zapoteca/istmo/G023a-GramaticaZapIstmo-zai.htm>
- Smith-Stark, Thomas C. 2003. "La ortografía del zapoteco en el "Vocabulario de fray Juan de Córdoba". In María de los Ángeles Romero Frizzi, ed. *Escritura zapoteca. 2500 años de historia*, 173-240. Mexico City: CIESAS, Miguel Ángel Porrúa, CONACULTA-INAH.
- Smith-Stark, Thomas C. 2008. "Las lenguas otomangues y oaxaqueñas ante el siglo XXI." In Michael Swanton and Aurea López Cruz, eds. *Proceedings of the (April 2008) Coloquio María Teresa Fernández de Miranda*. Oaxaca.

<sup>22</sup>From Smith-Stark (2003).