

The Peñafiel Vocabulary from San Juan Elotepec

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This paper analyzes and makes available the contents of an unpublished nineteenth-century lexical questionnaire in Elotepec Zapotec, an endangered and under-documented indigenous language of Mexico. This unique document forms part of the survey of Mexican indigenous languages conducted in the 1880s and 1890s by the Dirección General de Estadística de la República Mexicana. The paper provides a transcription of the Elotepec Zapotec forms, a study of the document's orthography, and a linguistic analysis of the data.

1. Introduction

In the 1880s, Antonio Peñafiel Barranco, head of the newly founded Dirección General de Estadística de la República Mexicana, launched a far-flung, multiyear survey of the indigenous languages of Mexico.¹ The goal of the survey was to assemble basic, practical information about the languages in order to catalog them, determine their geographical distribution, assess their vitality and, in some cases, “consignar idiomas que no eran conocidos, como el cahuilla de la Baja California” [to record languages that were not known, like Cahuilla from Baja California] (Peñafiel 1897: 93). The practical orientation of the survey was emphasized in Peñafiel's report to the Eleventh Congress of Americanists, held in Mexico City in 1895:

No se quería la clasificación de las lenguas, ni concienzudos estudios de Filología, sino simplemente una recopilación, un catálogo general comparativo para aplicaciones útiles y prácticas (Peñafiel 1897: 92)²

The survey instrument consisted of a numbered list of 250 lexical items in Spanish which were to be translated into the various indigenous languages by local residents (Peñafiel 1897: 93). The thematic breakdown of the word list is as shown in (1).

¹ The precise beginning and end dates of the survey are somewhat unclear. Bright (1967) and Suárez (1972) each note that the dates of the Peñafiel vocabularies examined by them ranged between 1880 and 1894. On the other hand, Peñafiel observes in his presentation to the Eleventh Congress of Americanists that assembling the vocabularies has taken him nine years (Peñafiel 1897: 92). The Dirección General de Estadística was founded in 1882; Peñafiel served as its general director for 28 years, beginning in 1883 (INEGI 2009: 20).

² “What was wanted was neither classification of the languages nor painstaking philological study but rather a simple compilation, a general comparative catalog for functional and practical uses”.

(1) <u>Item</u>	<u>Category</u>
1-3	religion
4-24, 53-55	humans, kinship terms
25-51	body parts
52, 56-68	tools, dwellings, related vocabulary
69-101	natural environment, times of day, seasons, metals
102-151	plants, animals, related vocabulary
152-169	word for “name”; adjectives
170-180	pronouns and quantifiers
181-189	adverbs
190-211	numerals
212-240	verbs
241-250	abstract nouns

Since the Peñafiel questionnaires were filled out by individuals who “had no previous experience in work of this kind”, they necessarily vary in quality and accuracy (Mechling 1912: 643). Though some have previously been used for linguistic research (Mechling 1912; Smith Stark 1999), only a fraction have been published, and the observations below appear to be as accurate today as at the time of their publication more than a century ago:

In the year 1886 Dr Antonio Peñafiel collected vocabularies of native languages from all parts of Mexico The volume of these vocabularies that has been printed deals entirely with the well-known Mexican of the Central Plateau region With the other four volumes into which Peñafiel divides his manuscripts nothing has been done, although it is hoped that they will soon be published by the Mexican Government. (Mechling 1912: 643)

Among the Peñafiel vocabularies that have not yet been published or analyzed is the one from the town of San Juan Elotepec. The language it records, Elotepec Zapotec (ISO code *zte*), is only scantily documented, the only publications on this variety being an eighteen-page long *Breve noticia del idioma papabuco del pueblo de Elotepec* by Francisco Belmar (Belmar 1901) and an about twenty-page long article by Juan José Rendón (Rendón 1971). The latter researcher was unable to reach the town of San Juan Elotepec due to heavy rains and had to settle for conducting his fieldwork in the vicinity.

Elotepec Zapotec is one of the three languages that form the Papabuco branch of Zapotec, the other two being Zaniza Zapotec (ISO code *zpw*; see Operstein 2015a, 2015b, 2016, 2017b) and Texmelucan Zapotec (ISO code *zpz*; see Speck 1978, 2005a, 2005b).³ *The Ethnologue* (Eberhard et al. 2019) reports Elotepec Zapotec’s intelligibility with Zaniza Zapotec as 68% and with Texmelucan Zapotec as 10%; its most recently reported vitality level is 8a (“moribund”). In light of its critical endangerment and a severe dearth of both primary data and published research, it is hoped that the present paper will provide a stimulus for undertaking systematic documentation of Elotepec Zapotec, as well as a basis for its inclusion in historical and comparative research on Zapotec and Zapotecan languages. Since the Peñafiel vocabulary reflects the state of Elotepec Zapotec in the late 1880s, it also provides a unique dataset with which to observe linguistic change in a Zapotec language over the period of more than a century.

³ These publications are the source of the Texmelucan Zapotec forms cited in the paper.

The paper is organized as follows. Section 2 provides a general description of the Peñafiel vocabulary from San Juan Elotepec. Sections 3 and 4 focus on the consonant and vowel inventories of Elotepec Zapotec, respectively, paying particular attention to the orthographic representation of the phonological contrasts. Section 5 looks at the morphological and syntactic features of Elotepec Zapotec reflected in the responses, and section 6 examines the Spanish loanwords in the data. Section 7 discusses the apparent misunderstandings and occasional errors, as well as the responses in Elotepec Zapotec that, for now, remain unanalyzed. Section 8 closes the paper with concluding remarks.

2. Peñafiel vocabulary from San Juan Elotepec

The vocabulary from San Juan Elotepec appears on the folios 656 through 659 of the manuscript identified by Jorge Suárez (1972: 231) as *Lenguas indígenas de Oaxaca* (see Peñafiel 1880-1894). The vocabulary consists of eight photocopied pages and comprises printed and handwritten text. The centered printed heading at the top of the title page states in large block letters “Dirección General de Estadística de la República Mexicana” and is followed by the centered heading, in smaller block letters, stating “Instrucciones sobre la etnología y filología nacionales”. Underneath is the following list of preliminary questions, printed in italics, and the corresponding handwritten answers:

<i>Nombre del Estado</i>	Oaxaca = Lolá
<i>Id. del Municipio</i>	Agencia
<i>Id. del Pueblo</i>	San Juan Elotepec, Tiyé es Zuá
<i>Id. del idioma</i>	Zapoteco Papabuco
<i>Id. del gentilico en que se habla</i>	Entre Zapoteco y Chatino
<i>Nombre de la persona que escriba las palabras que corresponden á las castellanas escritas por orden numérico</i>	C. Lorenzo Salinas, soltero de 22 años, actual secretario del municipio
<i>Fecha y lugar en que se escribe la traducción de este vocabulario</i>	

Immediately underneath is the centered heading “Vocabulario comparativo”, printed in block letters and followed by a numbered list of 250 lexical entries.

The handwritten part of the vocabulary evidences what appear to be three different hands. The answers to the preliminary questions above and the responses to the questionnaire all appear to be written by the same hand, presumably that of Lorenzo Salinas. The other two handwritings are confined to the title page. One is seen in the words “Oaxaca” and “Villa alvarez”, written close to the top of the page, and the other is responsible for the words “C. Presidente mpal de S. Juan Elotepec” on the very top of the page, and for the word “Papabuco”, which is written twice, first next to and after crossing out Salinas’s response “Zapoteco” to the question *Id. del idioma* [name of the language], and then again above the printed heading “Vocabulario comparativo” (see Figure 1).⁴

⁴ The fact that the person who filled out the questionnaire identified the language as Zapotec rather than Papabuco is commented upon by Suárez (1972: 229), who also reminds us of Belmar’s observation that “in the administrative memory of 1873” the language of San Juan Elotepec was called Zapotec rather than Papabuco (see Belmar 1901: 4).

In its top left-hand margin the title page bears an oval seal with the Mexican coat of arms and the words “Municipalidad S. Juan Elotepec” printed around its edge. The same seal appears in the bottom left-hand margin of the last page, to the left of what appears to be Salinas’s signature under two handwritten lines, which are not legible on my copy. Jorge Suárez, whose research was conducted with the help of the original Peñafiel manuscript, gives the date of the Elotepec Zapotec vocabulary as 1886 (Suárez 1972: 220, fn. 2; 229).

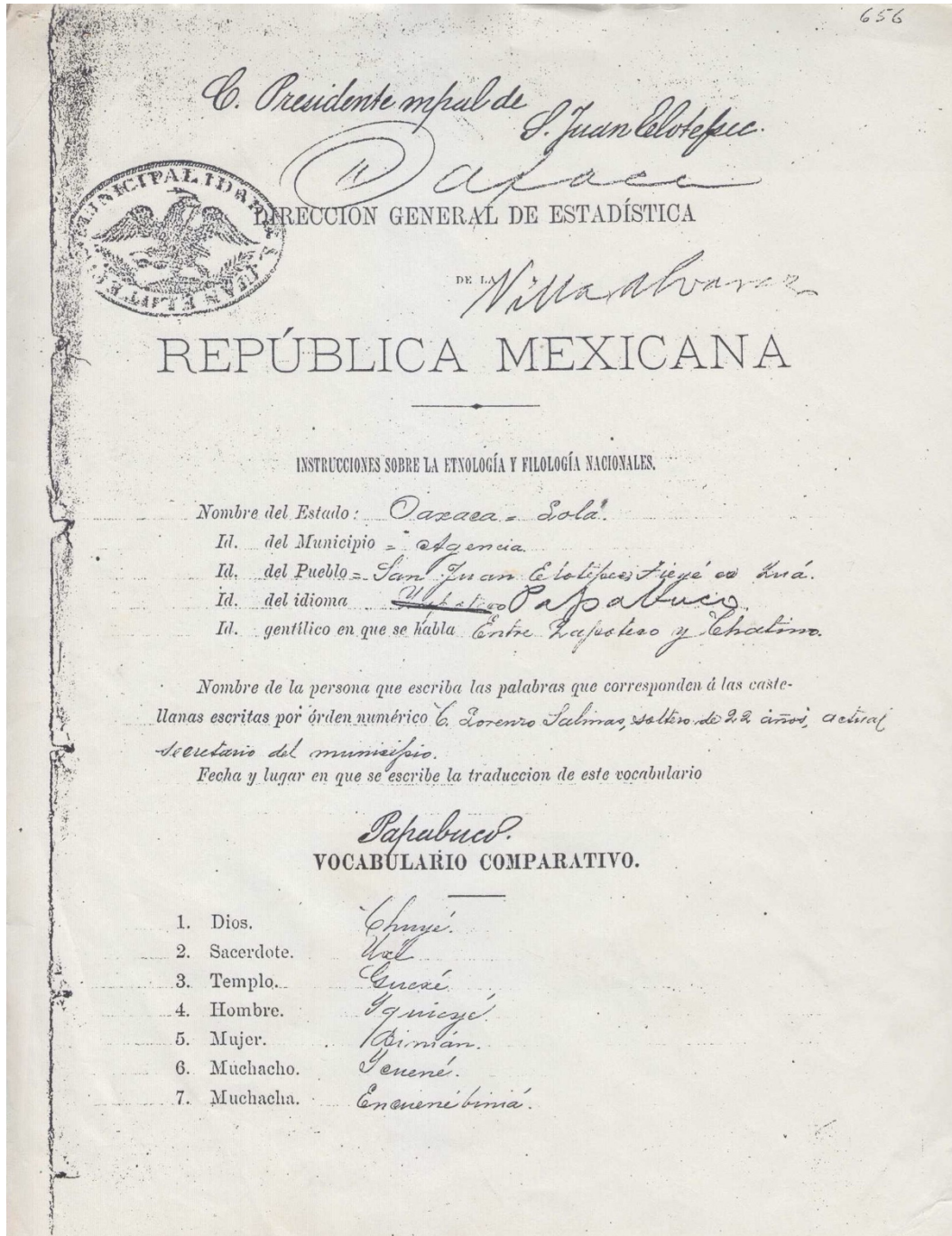


FIGURE 1. The title page of the Peñafiel vocabulary from San Juan Elotepec

3. Elotepec Zapotec consonants

The consonant inventory of Elotepec Zapotec which may be deduced from the orthography of the Peñafiel vocabulary, supplemented by Belmar's (1901) and Rendón's (1971) orthographies and observations and a comparison with the other Papabuco languages, is shown in Table 1. The fricatives /f/ and /h/ are confined to Spanish borrowings; apparent distributional gaps in native words include the absence of morpheme-initial /p/ and /z/ and root-medial /ʎ/, /k^w/ and /g^w/.

p	t				k	k ^w	
b	d			g'	g	g ^w	
	r						
			tʃ				
			dʒ				
(f)	s	ʂ	ʃ				(h)
	z	ʒ	ʒ				
m	n		ɲ				
	l		ʎ				
w			j				

Table 1. Elotepec Zapotec consonants

The status of the consonant provisionally represented in Table 1 as /g'/ is unclear; this is one possible interpretation of the recurrent orthographic sequence <gui> ~ <qui> before <a> and <e> (see Table 2).

ÉLOTEPEC	ZANIZA	TEXMELUCAN	PROTO-ZAPOTEC ⁵	
<guiagua>	/dʒaaw/	/ʃoow/	*ke:ʔku	'river'
<quial(dó)>	/dʒal (doo)/	/ʃel/	*keʔla	'lake'
<quia(ná)>	/gi'/	/ʃi'/	*k-iʔja	'foot'
<guieté>	/get/	/ʃet/	*kettu	'squash'
<quieiyé>	/gej/	/ʃej/	*kijok	'rain'
<(y)quieyé>	/(i)gej/	/(ju)jeej/	*(k ^w e-) kiʔju	'man'
<(ez)quin(cazá)>	/(ʂi)gip/	/(tʃi)ʃip/	*(k ^w e-) kinni	'bird'
<guiñi>	/gip/	/ʃip/	*ki:ʔnaʔ	'chili'
<quis(iquí)>	/giʂ/	/ʃitʃ/	*kittza(ʔ)	'hair'
<quid(labá)>	/gid (lab)/	/ʃid (lab)/	*kiti	'leather'
<quib(iagá)>	/gib (jag)/	/ʃib(ag)/	*ki:ʔk ^w a	'metal, iron'

Table 2. Elotepec Zapotec /g'/

Interpreting the orthographic sequence <gui> ~ <qui> before <a> and <e> as a single segment is suggested by the cognates in the other Papabuco languages, Rendón's (1971) use of the digraphs <gy> (in <gya7a¹N> 'foot') and <ky> (in <kye¹ye> 'rain') (226, 228), and Belmar's (1901) use of <gui> before <a> and <e> in such forms as <(gal)guiaa> 'height', <(ru)guiao> 'river mouth',

⁵ Proto-Zapotec reconstructions are cited after Kaufman (2016). The symbols <ʔ>, <y>, <k^w> and <t'> have been replaced with <ʔ>, <j>, <k^w> and <t'>, respectively.

<guier(guñi)> ‘candle’, <(ita)guieye> ‘hail’, <guieche> ‘hole’, <guiee> ‘deep’, <guieshe> ‘town’ and of <ki> in <kieshe> ‘thorn’ and <kiete> ‘squash’. Since the Peñafiel vocabulary does not mark palatalization before <i> (see the words for ‘bird’, ‘chili’, ‘hair’, ‘leather’ and ‘metal, iron’ in Table 2), the orthographic <gu> ~ <qu> in that environment is interpreted as /g/.

Table 3 illustrates the occurrence of Elotepec Zapotec consonants other than /g/ in initial and medial positions. The Elotepec forms are transcribed in IPA and, where applicable, are divided into morphemes. The morphemes in the Elotepec responses which are not anticipated by the corresponding Spanish prompts, such as the first person plural pronoun clitic *-na*, are enclosed in brackets.

/p/	/tapa/ <tapa>	‘four’	/ʃ/	/ʃona/ <zosná>	‘three’
	/fopa/ <llopa>	‘six’		/giʃi ru(-na)/ <quisi runá>	‘beard’
/b/	/bi/ <viy>	‘wind’	/z/	/ziʃi/ <llini>	‘deer’
	/oba/ <obá>	‘corn’		/weze/ <guexé>	‘church’
/t/	/tibi/ <tibi>	‘one’	/ʃ/	/fopa/ <llopa>	‘six’
	/riti/ <riti>	‘bone’		/kuʃ giʃe/ <cusquillé>	‘wild boar’
/d/	/do/ <dó>	‘sea’	/z/	/dʒuʒe/ <chuyé>	‘God’
	/bada/ <badá>	‘duck’		--	--
/k/	/kola/ <cola>	‘turkey’	/h/	/hefe-sõ/ <jefeson>	‘boss’
	/beko/ <beco>	‘dog’		--	--
/g/	/ga/ <gá>	‘nine’	/m/	/mil/ <mil>	‘thousand’
	/jaga/ <lliajá>	‘wood’		/en-mi/ <enmihí>	‘small’
/k ^w /	/k ^w ir(-ã)/ <cuirán>	‘leg’	/n/	/nisi/ <nisi>	‘water’
	/i-k ^w ene/ <ycuené>	‘boy’		/kano(-re)/ <canoré>	‘trough’
/g ^w /	/g ^w i il(-re)/ <cuilré>	‘star’	/ɲ/	/per jeɲa/ <nierrieña>	‘neck’
	/i-g ^w i(-na)/ <higuiná>	‘see’		/baɲa/ <baña>	‘horse’
/tʃ/	/tʃo/ <chó>	‘forty’	/r/	/riti/ <riti>	‘bone’
	/(m)betʃe/ <beché>	‘people’		/uraga/ <uraga>	‘dove’
/dʒ/	/dʒuʒe/ <chuyé>	‘God’	/l/	/lede/ <ledé>	‘bark’
	/gedʒe/ <gueché>	‘seven’		/bala/ <balá>	‘meat’
/f/	/fletʃe-sõ/ <fleche essón>	‘arrow’	/ʎ/	/ʎaga/ <leagá>	‘leaf’
	/hefe-sõ/ <jefeson>	‘boss’		/ʎag(-re)/ <liagré>	‘grass’
/s/	/solteré/ <solteré>	‘young’	/w/	/weze/ <guexé>	‘church’
	/nisi/ <nisi>	‘water’		/g'awa/ <guiagua>	‘river’
/z/	/zede/ <zedé>	‘salt’	/j/	/ju/ <yuhú>	‘house’
	/uze/ <uxé>	‘priest’		/beje/ <beyé>	‘moon’

Table 3. Examples of Elotepec Zapotec consonants

The orthographic representation of Elotepec consonants in the Peñafiel vocabulary relies on Spanish orthographic conventions. These include representation of velar stops by means of <qu>, <gu> or <c>, <g> depending on whether the following vowel is front or back, the use of both and <v> to spell /b/, and an occasional silent <h>. Innovative uses of Spanish orthographic devices are found in the representation of Elotepec sounds that do not occur in Spanish; some of these, like the use of <y> to represent palatal fricatives, may have been inspired by pronunciations current in local Spanish (see, e.g., Alvar 1965-1966: 360-362 and Lope Blanch 1966:52 on *rehilamiento*, or fricative realization of /y/, spelled <y>, <ll>, in Oaxacan Spanish).

Interpretation of the surface phonetics of some of the spellings is helped by comparison with Zaniza and/or Texmelucan Zapotec cognates.

The greatest challenge for the transcriber was posed by the coronal fricatives of Elotepec Zapotec (see Table 4). In some cases, the same grapheme or digraph is used for spelling different fricatives; for example, <x> stands for /z/ in <uxé> ‘priest’, /z/ in <guexé> ‘church’ and /ʃ/ in <xilquité> ‘(rain)bow’. In other cases, the same fricative receives multiple orthographic representations; for instance, /z/ is represented by <x> in <uxé> ‘priest’, by <s> in <usanré> ‘my father’ and by <z> in <zedé> ‘salt’. The different orthographic solutions may be found in the spelling of the same morpheme: compare <bizná> (/m)biz-na/ ‘fingers’ with <bişilná> (/m)biz-il-na/ ‘thumb’ or the spelling of the animacy prefix in <esquinloyec> ‘bird’ and <esquienú> ‘mosquito’, on the one hand, and <ezquincazá> ‘crow’ and <ezquiegué> ‘fly’, on the other. The native fricatives are thus orthographically under-distinguished, both with respect to their place of articulation and voicing (or, more accurately, their distinction along the fortis/lenis dimension, partially realized through voicing) (Nellis & Hollenbach 1980; Avelino 2001; Pickett et al. 2010; Operstein 2016). The velar and labiovelar stops, and the affricates are also under-distinguished with respect to the fortis/lenis distinction; for example, <ch> is used for /tʃ/ in <cho> ‘forty’ and <beché> ‘people’, on the one hand, and for /dʒ/ in <chuyé> ‘God’ and <gueché> ‘seven’, on the other (cf. /tʃu/, /mbetʃe/, /dʒuʒ/ and /gadʒ/ in Zaniza Zapotec).

/p/	<p>			
	<tapa> ‘four’			
/b/		<v>		
	<beyé> ‘moon’	<viy> ‘wind’		
/t/	<t>			
	<tiñia> ‘nose’			
/d/	<d>			
	<do> ‘sea’			
/k/	<c>	<qu>		
	<cola> ‘turkey’	<quisiquí> ‘hair’		
/g/	<g>	<qu>		
	<gá> ‘nine’	<quisiquí> ‘hair’		
/gʷ/	<gi>	<qui>	<gui>	
	<tiomgieyé> ‘spring’	<quieiyé> ‘rain’	<guiagua> ‘river’	
/kʷ/	<cu>	<qu>		
	<cuirán> ‘leg’	<xilquité> ‘bow’		
/gʷ/	<cu>			
	<cuiilré> ‘star’			
/r/	<r>	<rr>		
	<riti> ‘bone’	<nierrieñá> ‘neck’		
/tʃ/	<ch>			
	<chó> ‘forty’			
/dʒ/	<ch>			
	<chuyé> ‘God’			
/s/	<s>	<ss> (?)	<c>	
	<encasa> ‘black’	<fleche essón> ‘arrow’	<bilñici> ‘water snake’	
/z/	<x>	<s>	<z>	
	<uxé> ‘priest’	<brisi> ‘squirrel’	<zede> ‘salt’	
/ʃ/	<x>	<ll>	<y>	
	<xilquité> ‘bow’	<llopa> ‘six’	<heryímmá> ‘to bark’	
/ʒ/	<y>			

	<chuyé> ‘God’			
/ʃ/	<s>	<z>	<ll>	
	<cusquillé> ‘wild boar’	<zosná> ‘three’	<billi> ‘rabbit’	
/z/	<s>	<z>	<ll>	<y>
	<billisí> ‘pine’	<rezná> ‘to shout’	<lliná> ‘day’	<tiguyé> ‘town’
	<x>	<xh>	<ch>	
	<guexé> ‘church’	<chixhé> ‘coati’	<chixhé> ‘coati’	
/f/	<f>			
	<jefeson> ‘boss’			
/h/	<j>			
	<jefeson> ‘boss’			
/m/	<m>			
	<mil> ‘thousand’			
/n/	<n>			
	<nisi> ‘water’			
/ɲ/	<ñ>	<ñi>	<ni>	<nn>
	<baña> ‘horse’	<reñie> ‘blood’	<binián> ‘woman’	<beigidebesinnís> ‘bat’
	<nñ>	<ny>		
	<bixinñí> ‘mouse’	<tenyia> ‘bad’		
/l/	<l>	<ll>		
	<ledé> ‘bark’	<heita illi> ‘stone, rock’		
/ʎ/		<le>		
	<liagré> ‘grass’	<leagá> ‘leaf’		
/j/	<y>	<hi>	<i>	<lli>
	<yu> ‘earth’	<hianá> ‘hand’	<nierrieña> ‘neck’	<lliagá> ‘wood’
/w/	<gu>	<qu>	<u>	<hu>
	<guexé> ‘church’	<tieonquasá> ‘fall’	<tabaueré> ‘tobacco’	<huillé> ‘afternoon’

Table 4. Orthographic representation of Elotepec Zapotec consonants

Given that the number of Elotepec forms containing coronal fricatives is relatively small and in view of the variety of the orthographic solutions, interpreting the surface phonetics of the spellings necessitates a comparative approach. A comparison of the Elotepec forms with their cognates in Zaniza and Texmelucan Zapotec makes it likely that Elotepec Zapotec distinguishes coronal fricatives at three places of articulation (see the examples in Table 5).

ELOTEPEC ZAPOTEC	ZANIZA ZAPOTEC	TEXMELUCAN ZAPOTEC	
/s/	/s/	/s/	
/-sil-/	/siʎ/	/siiʎ/	‘breakfast’
/nisi/	/nis/	/nis/	‘water’
/z/	/z/	/z/	
/zede/	/zed/	/zed/	‘salt’
/uzé/	/uz/	/uz/	‘father, priest’
/ʃ/	/ʃ/	/ʃ/	
/ʃopa/	/ʃup/	/ʃuup/	‘six’
/kuʃ giʃe/	/kuʃ giʃ/	/kutʃ ʒiʃ/	‘wild boar’
/ʒ/	/ʒ/	/ʒ/	
/dʒuʒe/	/dʒuʒ/	/ŋʒooʒ/	‘God’
/giʒe/	/giʒ/	/ʒiʒ/	‘straw’
/ʂ/	/ʂ/	/tʃ/	
/ʂona/	/ʂun/	/tʃon/	‘three’
/giʂi/	/giʂ/	/ʒitʃ/	‘hair’
/zʒ/	/zʒ/	/dʒ/	
/zʒe/	/zʒe/	/dʒiidʒ/	‘coati’
/weʒe/	/ju' weʒ/	/ju' wedʒ/	‘church’

Table 5. Elotepec Zapotec fricatives

Another area in which the Peñafiel vocabulary apparently provides a less than accurate representation of the data are word-initial sequences consisting of a lenis stop preceded by a homorganic nasal. While the pre-stop nasals are not written in the Elotepec responses, their existence in these forms is likely in view of the cognates shown in Table 6 and the description in Rendón (1971), as well as the forms <mbetche> ‘people’ and <ngo> ‘egg’ cited in the same publication (Rendón 1971: 216, 224, 225). Based on the evidence of their cognates in Zaniza and Texmelucan Zapotec, it is likely that the last two forms in Table 6, <niaré> /ɲare/ ‘husband’ and <nierrieñá> /ɲerjeɲa/ ‘neck’, derive their initial /ɲ/s from the earlier (or underlying) sequence [ɲgʷ].

ELOTEPEC ZAPOTEC	ZANIZA ZAPOTEC	TEXMELUCAN ZAPOTEC	
<beché>	/mbetʃ/	/mbec/	‘people’
<biz>	/mbiz/	/mbiz/	‘finger’
<go>	/ɲgu/	/ɲguu/	‘egg’
<niaré>	/ɲge/	/ɲje/	‘husband’
<nierrieñá>	/ger jeɲ/	/jeɲjeɲ/	‘throat’

Table 6. Initial nasal-stop sequences in Elotepec Zapotec

Both Zaniza and Texmelucan Zapotec display stress-conditioned split of Proto-Zapotec *tʰ (Operstein 2012) which has produced the tap in pretonic contexts, including at the end of initial members of compounds, and a palatal obstruent in posttonic contexts (see Table 7). The presence in the Peñafiel vocabulary of forms like /riti/ ‘bone’ (spelled <riti>), /repe/ ‘blood’ (<reñié>) and /ru/ ‘mouth’ (in <runá>), on the one hand, and of /gedʒe/ ‘seven’ (spelled <gueché>), on the other, along with forms like <ru> ‘mouth’, <ree> ‘jug’ (<*tʰeʔe>), <nichi> ‘milk’ (<*ni:ʔtʰiʔ>) and

<richi> ‘laugh’ (< *o-xit'i) reported in Belmar (1901), appear to point to the same types of outcomes of Proto-Zapotec *t' in Elotepec Zapotec.

PROTO-ZAPOTEC	PRETONICALLY		POSTTONICALLY	
	ZANIZA	TEXMELUCAN	ZANIZA	TEXMELUCAN
*t'oʔwa ‘mouth’	/ru'/	/ru'/		
*t'ene ‘blood’	/rep'/	/rep'/		
*kat'i ‘seven’			/gadʒ/	/gaj/
*kkoʔt'V(k) ‘leg, thigh’			/kʷidʒ/	/kʷiiʃ/
*ke:ʔt'u ‘hole’	/ger-/	/jer-/	/gedʒ/	/jeeʃ/
*laʔt'iʔ ‘center of emotions’	/lar-/	/lar-/	/ladʒ/	/laʃ/

Table 7. Stress-conditioned split of Proto-Zapotec *t' in Zaniza and Texmelucan Zapotec

The Peñafiel vocabulary contains Elotepec cognates to several of the Zaniza and Texmelucan Zapotec nouns that display stress-conditioned allomorphy depending on whether the noun is used as a free form or as an initial member of a compound (cf. the words for ‘hole’ in Table 7). The Elotepec word for ‘heart, breast’ (<lere>) unexpectedly shows a tap in the free form, and so does the word for ‘leg, thigh’ (<cuir(án)>), for which this is the only form recorded (see Table 8). A potential explanation for the tap outcome in these forms is generalization of the corresponding pretonic allomorphs.

ELOTEPEC	ZANIZA	TEXMELUCAN	
<lere>, <ler(án)>, <ler(ná)>, <lec(binián)>	/ladʒ/ ~ /lar-/	/laʃ/ ~ /lar-/	‘heart, breast’
<nierr(ieñá)>	/gedʒ/ ~ /ger-/	/jeeʃ/ ~ /jer-/	‘hole’
<ur(loná)>, <ur(sá)>	/udʒ/ ~ /ur-/	/uuʃ/ ~ /ur-/	‘fruit; pit, stone, seed’
<berlabá>	/bidʒ/ ~ /bir-/ ~ /ber-/	/biʃ/ ~ /bir-/	‘frog; toad’

Table 8. Outcomes of *t' in Elotepec Zapotec

The orthography of the Peñafiel vocabulary reflects place assimilation in nasals, as seen in the variable spelling of the prefixes in (2).

- (2) <enhili> ‘big’ <eññan> ‘red’
<encuenébiniá> ‘girl’ <embedo> ‘child’

Several Elotepec words in the Peñafiel vocabulary contain final consonants not found in their cognates in Zaniza or Texmelucan Zapotec, or in the corresponding forms collected by Belmar (1901) (see Table 9). The source of these consonants and their function, if any, are unclear, and their presence clashes with the strong tendency that is otherwise seen in the Elotepec responses to end words in vowels, cf. the paragogic [e] in the Spanish loanword /dʒuʒe/ ‘God’ (< Sp. *dios*). There are also unexplained coda consonants in <zecto> ‘far’ and <zosná> ‘three’, unless these are merely typographical errors for <zeeto> and <zoná>, respectively (cf. /zet/, /ʃun/ in Zaniza and /zet/, /tʃon/ in Texmelucan Zapotec).⁶

⁶ A reviewer suggests that the final <c> may represent a glottal stop or checked vowel.

ELOTEPEC (PEÑAFIEL)	ELOTEPEC (BELMAR)	ZANIZA	TEXMELUCAN	
<chís>	<chii>	/tʃi/	/tii/	‘ten’
<beigidebesinnís>	<beguitbiziñe>	/beˈjgid bizip/	/biˈid/, /bzip/	‘bat’
<guíneç>	<uñie>	/upe/	/gunẽ/ ~ /guanẽ/	‘scorpion’
<chumdec>	<chuun>	/tʃup/	/cu/	‘who’
<esquinloyec>		/ʃigip/	/tʃip/	‘bird’
<gansex>				‘goose’

Table 9. Final consonants in Elotepec Zapotec

4. Elotepec Zapotec vowels

The vowel qualities represented in the responses to the Peñafiel questionnaire comprise /a e i o u/. The description of Elotepec Zapotec vowels in Belmar (1901: 4) confirms the existence of five vowel qualities, while Rendón (1971: 216) tentatively adds an [ɛ] (“probablemente *E*, palatal-baja-abierta” [probably *E*, palatal-low-open]), and uses it in his transcription of the word <Iere> ‘heart’. Variation in the spelling of what appears to be underlying /i/ in the linking element <bi> ~ <rebi> in numerals, and in pretonic syllables elsewhere, points to surface variation in the realization of this vowel (see 3). The same inference may be drawn from comparing the transcriptions of one of the animacy-marking prefixes in different sources: while Rendón (1971) transcribes it with <i> (<i¹SSki³ñi> ‘bird’), in the Peñafiel vocabulary it is transcribed with <e> (<esquinloyec> ‘bird’, <ezquiegué> ‘fly’).

(3) <chib <u>i</u> tubi>	‘eleven’	<chib <u>e</u> chopa>	‘twelve’
<quionreb <u>i</u> chí>	‘seventy’	<galreb <u>e</u> chí>	‘thirty’
<bi <u>x</u> inñi>	‘mouse’	<beigideb <u>e</u> sinnís>	‘bat’
<yta quiey <u>e</u> >	‘snow’	<h <u>e</u> ita illi>	‘stone, rock’
		<h <u>e</u> itaquibiora>	‘gold’

The vowels in the Peñafiel vocabulary are usually spelled <a, e, i, o, u>; in several cases, a silent <h> is added before the vowel in a word- or morpheme-initial position. Outside the variation shown in (3) above, word-initial /i/ is consistently spelled by means of <y>; word-finally, it is spelled with <iy> about three times (see Table 10). The spellings <i>/<hi> and <u>/<hu> are also used for the palatal and labial glide, respectively, while <i>/<e> and <u> also serve as markers of palatalization and labialization, respectively (see 4a-b).

repeating the vowel (see Table 11). The laryngealization contrast is directly reflected in the minimal pair <yú> ‘earth’ / <yuhu> ‘house’. Vowel length and nasalization apparently co-occur when a vowel-final stem is followed by the first-person singular clitic pronoun /-ã/ (see, e.g., the words ‘(my) ear’, ‘(I) walk’ and ‘(I) stand (up)’ in Table 11).

<ruu>	[ru:]	‘you (sg.)’	LENGTH
<naá>	[na:]	‘today’	
<encaá>	[enkaʼ]	‘sky-blue’	LARYNGEALIZATION
<yuhú>	[juʼ]	‘house’	
<enmihi>	[enmiʼ]	‘small’	NASALIZATION
<eññan>	[eɲɲã]	‘red’	
<aan>	[ã:]	‘I’	
<ydagaán>	[idagã:]	‘(my) ear’	
<binián>	[biɲã]	‘(my) wife’	
<usanré>	[uzãre]	‘(my) father’	
<ysoban>	[izobã]	‘(I) sit down’	
<zanán>	[zã:]	‘(I) walk’	
<guasonón>	[wasõ:]	‘(I) stand (up)’	

Table 11. Vowel length, laryngealization and nasality in Elotepec Zapotec

A puzzling feature of the Peñafiel orthography is the acute accent mark on most final vowels. According to Rendón (1971: 217), Elotepec words of more than one syllable are generally stressed on the penult; accordingly, in such words the accent mark does not show the location of stress. The same conclusion applies to words in which the accent mark is placed on a clitic, such as the deictic <-ré> or the enclitic first person pronouns <-án> and <-ná>. The location of the accent mark coincides with that of stress only in certain types of words, such as monosyllabics, compounds whose final constituents are monosyllabic, and disyllabic words beginning with a prefix (see Table 12). Though it is possible that in some of the words the acute accent indicates tone (according to Rendón 1971: 216, Elotepec Zapotec has four contrastive tones and a “posible tono neutro”), such interpretation would leave open the question of why the tones on all other vowels, including stressed vowels, are ignored. In the absence of a clear indication for its function, the acute accent mark on final vowels may perhaps be interpreted as an orthographic flourish that helps to mark the end of a word.

ACUTE ACCENT MARK COINCIDES WITH THE PRESUMED LOCATION OF STRESS		ACUTE ACCENT MARK DOES NOT COINCIDE WITH THE PRESUMED LOCATION OF STRESS	
<yú> ‘earth’	<quialdó> ‘lake’	<uxé> ‘priest’	<usanré> ‘(my) father’
<dó> ‘sea’	<ytó> ‘dead’	<galá> ‘twenty’	<cuirán> ‘(my) leg’
<gá> ‘nine’	<encaá> ‘sky-blue’	<enquesé> ‘yellow’	<loná> ‘(our) face’
<chó> ‘forty’	<binián> ‘(my) wife’	<yquieyé> ‘man’	<dalná> ‘(we) dance’

Table 12. Acute accent mark in the Peñafiel vocabulary

Zapotec languages vary with respect to their treatment of unstressed final vowels, with some varieties keeping them intact and others displaying various degrees of weakening (Uchihara 2016). The Papabuco languages display the full range of possibilities in this regard: while in the Peñafiel vocabulary the final vowels are generally kept, at least in standalone forms, in

Texmelucan Zapotec they are lost and in Zaniza Zapotec they neutralize to an [a]-quality vowel in citation and pre-pausal forms and are dropped elsewhere (see Table 13).

ELOTEPEC	ZANIZA	TEXMELUCAN	
<uxé>	[uza] ~ [uz]	[uz]	‘father, priest’
<ledé>	[lada] ~ [lad]	[lad]	‘bark’
<quieté>	[geta] ~ [get]	[jet]	‘squash’
<nisi>	[nisa] ~ [nis]	[nis]	‘water’
<riti>	[rita] ~ [rit]	[rit]	‘bone’
<bixinñí>	[bizɪɲa] ~ [bizɪɲ]	[bizɪɲ]	‘mouse’
<obá>	[uba] ~ [ub]	[uub]	‘corn’
<leagá>	[ʎaga] ~ [ʎag]	[ʎag]	‘leaf’
<guiagua>	[dʒaawa] ~ [dʒaaw]	[ɟooʋ]	‘river’
<beco>	[beh ^w a] ~ [beh ^w]	--	‘dog’

Table 13. Posttonic vowels in Papabuco languages

Several kinds of evidence point to the ongoing weakening of posttonic vowels in Elotepec Zapotec as well. For example, the Peñafiel vocabulary contains a mere handful of words with an unstressed final /o/ or /u/, limiting the productive inventory of posttonic vowels to /a/, /e/ and /i/. In several Spanish loans, the unstressed final vowel has been adapted as [e] (see 5). This fact, along with the use of [e] as a paragogic vowel in the loan noun <chuyé> /dʒuʒe/ ‘God’ (< Sp. *dios*), argues for the default status of word-final [e] in Elotepec Zapotec, a state of affairs reminiscent of posttonic vowel neutralization in Zaniza Zapotec (see Table 13).

(5)	<u>Spanish</u>	<u>Elotepec Zapotec</u>	
	soltero	<solteré>	‘young (man)’
	tabaco	<tabaueré>	‘tobacco’
	tiempo	<tiemnέ>	‘time’
	flecha	<fleche essón>	‘arrow’
	ganso	<gansex>	‘goose’
	dios	<chuyé>	‘God’

Several forms in the Peñafiel vocabulary have two allomorphs distinguished by the presence versus absence of the posttonic vowel. The full forms typically appear as standalone responses to the Spanish prompts whereas the vowelless forms are found, e.g., before clitics or second constituents of compounds (see Table 14). Preservation of the stressed final vowel in the noun ‘stone, rock’ in (6), in spite of its use as the initial member of several compounds, confirms that only unstressed vowels are subject to deletion in this environment.

	FULL FORM	VOWELLESS FORM
‘twenty’	[gala] <galá> ‘twenty’	[gal] <galrebechí> ‘thirty’
‘leaf, grass’	[ʎaga] <leagá> ‘leaf’	[ʎag] <liagré> ‘grass’
‘father, priest’	[uze] <uxé> ‘priest’	[uz] <usanré> ‘(my) father’
‘iron, metal’	[gibe] <quis quibé> ‘knife’	[gib] <quibiagá> ‘axe’
‘head’	[iki] <quisiquí> ‘hair’	[ik] <ycanré> ‘(my) head’
‘hair’	[giʃi] <quisiruná> ‘beard’	[giʃ] <quisiquí> ‘hair’
‘big’	[ili] <enhili> ‘large’	[il] <bisilná> ‘thumb’, <cuiilré> ‘star’

Table 14. Posttonic vowel loss in Elotepec Zapotec

- (6) <yta quieyé> ‘snow’ (lit. ‘stone rain’)
 <heita illi> ‘hail’ (lit. ‘stone large’)
 <heitaquibiora> ‘gold’ (lit. ‘stone metal gold’)

In its gradual, conditioned loss of posttonic vowels Elotepec Zapotec shows greater affinity with Zaniza than with Texmelucan Zapotec. The two languages also appear to show affinity in their preservation and gradual weakening of pretonic vowels, as seen in colonial-era borrowings from Spanish (illustrated in Tables 15 and 16, respectively).

ELOTEPEC	ZANIZA	TEXMELUCAN	
<bixinñí>	/bizij̃n/	/bzij̃n/	‘mouse’
<billisí>	/biziz̃/	/bdʒidʒ/	‘pineapple’

Table 15. Treatment of pretonic vowels in Papabuco languages

SPANISH	ELOTEPEC	ZANIZA	
<i>tomín</i>	<-timienñá>	/timij̃n/	(type of silver coin)
<i>amigo</i>	<ymigaré>	/miw/	‘friend’

Table 16. Treatment of pretonic vowels in early Spanish loans

5. Morphosyntax

The responses to the Peñafiel questionnaire contain a fair amount of information about the inflection, derivation and syntactic structures of Elotepec Zapotec. They show, for instance, that Elotepec Zapotec has both free-standing and clitic forms of personal pronouns (Table 17), that the clitic forms may be used as subjects of verbs (in 7a) and as possessors of nouns (in 7b), that there is at least one deictic clitic (in 7c), that adjectives occur after the nouns they modify (in 7d) and that the modifying member of a nominal compound follows the head (in 7e). The multiword expressions in (7f) that translate Sp. *lloviznar* ‘to drizzle’ and *trabajar* ‘to work’ point,

respectively, to the verb-initial constituent order and the possibility of preverbal placement of nominal objects.

	PEÑAFIEL VOCABULARY		BELMAR (1901)		RENDÓN (1971)	
	FREE	CLITIC	FREE	CLITIC ⁹	FREE	CLITIC
1SG	<aan>	<an> ~ <án>	<â>	<â> / <a>	a ³ N	(l)a ^{1/3} N
2SG	<ruú>	<rú>	<ru>	<ru> / <ru>	ru ³	(l)ru ³
3SG	<yrsé>	<ya> ~ <ia>	<iré>	<ire> / <ya>	i ¹ r ¹ e	(y)a ³
1PL	<biegniá>	<na> ~ <ná>	<cikènana> ¹⁰	<nîa> / <na>	bi ² ge ¹ nna ³	(l)na ^{1/3}
2PL	<bigaaná>	--	<bikèru>	<bkieru> / <ru>	bi ² g(i)ru ³	(l)ru ¹
3PL	<bicailié>	--	<bikire>	<bikire> / <ya>	bi ² gi ¹ re ¹	(y)a ¹
3AN	--	<-má>	--	--	--	--

Table 17. Elotepec Zapotec personal pronouns

- (7a) <dezná> <heryimmá>
 <dez-ná> <heryim-má>
 sleep-1PL bark-3ANIMAL
 ‘we sleep’ ‘it barks’
- (7b) <luxná> <cuirán>
 <lux-ná> <cuir-án>
 tongue-1PL leg-1SG
 ‘our tongue’ ‘my leg’
- (7c) <baré> <ycanré>
 <ba-ré> <yc-an-ré>
 ‘sky-DEICTIC’ ‘head-1SG-DEICTIC’
 ‘sky’ ‘my head’
- (7d) <heita illi> <bichibalanré>
 stone large <bichi bal-an-ré>
 ‘large stone’ ‘brother old-1SG-DEICTIC’
 ‘my elder brother’
- (7e) <quisiquí> <tiomgieyé>
 <quis iquí> <tiom gieyé>
 hair head time rain
 ‘(head) hair’ ‘rain season’
- (7f) <yatiguieyé> <riniricháán>
 <yati guieyé> <rini rich-áán>
 fall rain work do-1SG
 ‘it rains’ ‘I work’

⁹ The first form in each set is the possessor clitic and the second form is the subject clitic (Belmar 1901: 4-7).

¹⁰ A likely typo for <bikèna>. According to Belmar (1901: 4-5), <bike> is a plural morpheme.

From the viewpoint of their morphological makeup, the native noun types comprise mono- and disyllabic root nouns, nouns of two or more syllables that contain a prefix, and compounds. Three of the nouns borrowed from Spanish are furnished with what appears to be a suffix (see Table 18).

TYPE OF NOUN	EXAMPLES
Root noun	<dó> ‘sea’ <nisi> ‘water’
Prefixed noun	<ygalá> ‘old (man)’ <bixinñí> ‘mouse’ <ezquiegué> ‘fly’
Compound	<yta quieyé> ‘snow’ (lit. ‘stone rain’) <quisiquí> ‘hair’ (lit. ‘hair head’) <bisilná> ‘thumb’ (lit. ‘finger large’)
Spanish loan noun with a suffix	<jefeson> ‘boss’ <tigreson> ‘tiger’ <fleche essón> ‘arrow’

Table 18. Structural types of nouns in Elotepec Zapotec

The body-part and kinship terms are typically furnished with a first person clitic pronoun and/or the deictic clitic <ré> (see 8a); the deictic is found on other nouns as well (see 8b). If both types of clitics are present, the pronoun occurs closer to the noun stem (see 8c).

- (8a) <loná> /lo-na/ ‘face-1PL’ ‘our face’
 <cuirán> /k^wir-ã/ ‘leg-1SG’ ‘my leg’
 <binián> /biŋ-ã/ ‘woman-1SG’ ‘my wife’
 <bedoré> /bedo-re/ ‘child-DEICTIC’ ‘child’
- (8b) <baré> /ba-re/ ‘sky-DEICTIC’ ‘sky’
 <canoré> /kano-re/ ‘trough-DEICTIC’ ‘trough’
- (8c) <ycanré> /ik-ã-re/ ‘head-1SG-DEICTIC’ ‘my head’
 <usanré> /uz-ã-re/ ‘father-1SG-DEICTIC’ ‘my father’

Identifiable noun prefixes (or proclitics) include animacy markers (see 9a) and what appear to be nominalization markers (see 9b); the prefix <en> is also used with adjectives (see 9b).

- (9a) Animacy markers
- | | |
|-----------------------|-----------------------|
| <bi> ~ | <ez> ~ <es> |
| <binián> ‘woman’ | <ezquiegué> ‘fly’ |
| <bixinñí> ‘mouse’ | <ezquincazá> ‘crow’ |
| <billisí> ‘pineapple’ | <esquienú> ‘mosquito’ |
| <brisi> ‘squirrel’ | <esquinloyec> ‘bird’ |

(9b) Nominalization markers

<y> / <en>		<en>	
<ycuené>	‘boy’	<encasá>	‘black’
<yquieyé>	‘man’	<encaá>	‘sky-blue’
<ygalá>	‘old (man)’	<enguesé>	‘yellow’
<ybana>	‘thief’	<enquiné>	‘green’
<ytó>	‘dead (person)’	<eññan>	‘red’
<embedo>	‘child’	<enmihi>	‘small’
<encuenébiniá>	‘girl’	<enhili>	‘big’

Most cardinal numerals above ten are built by using the linking elements <bi> ~ <be> and <rebi> ~ <rebe> (see 10). The element <nala>, apparently morphologically related to <galá> ‘twenty’, functions with the meanings of ‘twenty’ (in <taabinala> ‘eighty-and-twenty’, i.e. ‘hundred’) and ‘hundred’ (in <chalnalá> ‘half-hundred’, i.e. ‘fifty’). The cognate form in Texmelucan Zapotec has the meaning of ‘twenty’ in /gajnal/ ‘hundred’ (lit. ‘five-twenty’); the cognate in Zaniza Zapotec has the meaning of ‘hundred’, both by itself and in /tʃal nal/ ‘fifty’ (lit. ‘half-hundred’).

(10)	<chi-bi-tubi>	‘10-and-1’	=	‘11’
	<chi-be-chopa>	‘10-and-2’	=	‘12’
	<gal-rebe-chí>	‘20-and-10’	=	‘30’
	<chal-nalá>	‘half-100’	=	‘50’
	<quion-rebi-chí>	‘60-and-10’	=	‘70’
	<taa-bi-chí>	‘80-and-10’	=	‘90’
	<taa-bi-nala>	‘80-and-20’	=	‘100’

Both Zaniza and Texmelucan Zapotec morphologically distinguish five TAM categories: potential, habitual, completive, irrealis and stative/continuative (Speck 1978: 26-28; Operstein 2015a: 28ff). The Peñafiel vocabulary contains a sufficient number of verb forms in its responses to identify four of these in Elotepec Zapotec (see Table 19).

POTENTIAL	HABITUAL	COMPLETIVE	STATIVE/CONTINUATIVE
<hi-ñi-na> ‘we will speak’	<her-yím-má> ‘it barks’	<hu-ni-yá> ‘he spoke’	<yati guieyé> ‘it rains’
<y-sob-an> ‘I will sit down’	<ni er-sob ru-yá> ‘which he puts in his mouth’		
<dau-na> ‘we will eat’	<r-au-rú> ‘you eat’		

Table 19. TAM categories in Elotepec Zapotec¹¹

Texmelucan and Zaniza Zapotec both possess a substantial number of verbs in which the stem used with first-person subjects differs from the one used with second- and third-person subjects (Speck 1978: 37; Operstein 2002: 53-54, 2015a: 55, 2017a). The practice of the Peñafiel

¹¹ The English glosses reflect the morphological makeup of the Zapotec responses rather than the corresponding Spanish prompts.

questionnaire's respondent to supply many of the Spanish verbs with first-person subjects in his transactions provides us with valuable information about this type of suppletion in Elotepec Zapotec. The form <raurú> 'you eat', an apparently erroneous response to the Spanish prompt *correr* 'to run', supplies direct confirmation of the existence of this suppletion type in Elotepec Zapotec in view of the response <dauna> 'we eat' to the prompt *comer* 'to eat' (see Table 20).

ELOTEPEC		ZANIZA		TEXMELUCAN		
1 person	2/3 person	1 person	2/3 person	1 person	2/3 person	
<dauna>	<raurú>	/daw/	/aw/	/daw/	/o/	'eat'
<diana>		/do'/	/o'/	/do'/	/o'/	'drink'
<dalná>, <dalruná>		/dul/	/ul/	/dul/	/ul/	'dance', 'sing'
<dezná>		/das/	/as/	/das/	/aas/	'sleep'
<dutani>		/dut/	/ut/	/dut/	/ut/	'kill'
<yapaán>		/jap/	/jed/	/jap/	/jed/	'come'

Table 20. Suppletive first-person verb forms in Elotepec Zapotec

6. Spanish loanwords

Twenty-two responses in the Peñafiel vocabulary contain nouns borrowed from Spanish. Several of the borrowings have an added suffix or final consonant (see 11b) and several more occur in hybrid compounds that combine Zapotec and Spanish material (see 11c). The words for 'friend', 'tobacco', 'trough' and, possibly, 'time' are supplied with a deictic. In percentage terms, the lexical items built in whole or in part on Spanish-derived items constitute about 9% of the total.

	<u>Spanish prompt</u>	<u>Elotepec response</u>	
(11a)	dios	<chuyé>	'God'
	indio	<yochí>	'Indian'
	amigo	<ymigaré>	'friend'
	soltero	<solteré>	'young (man)'
	tortuga	<tortuga>	'turtle'
	paloma	<uraga>	'dove' (< urraca)
	pato	<badá>	'duck'
	villa	<villi>	'villa'
	canao	<canoré>	'trough'
	tabaco	<tabaueré>	'tobacco'
	pipa	<barril ó cachimba>	'pipe' (< barril, cachimba)
	mil	<mil>	'thousand'
	tiempo	<tiemné>	'time'
(11b)	jefe	<jefeson>	'boss'
	tigre	<tigreson>	'tiger'
	flecha	<fleche essón>	'arrow'
	ganso	<gansex>	'goose'

(11c)	plata	<guibitimienñá>	‘silver, money’	(< tomín)
	jabalí	<cusquillé>	‘wild boar’	(< cuche)
	primavera	<tiomgieyé>	‘spring’	(< tiempo)
	otoño	<tieonquasá>	‘fall’	(< tiempo)
	verano	<tieomerrubiy>	‘summer’	(< tiempo)

The phonological shape of several of the loans betrays an early date of borrowing. For <chuyé> ‘God’ (< Sp. *dios*), this inference follows from the adaptation of the Spanish sibilant as a palatal fricative, a common strategy for adapting this sound in early Spanish loans in Latin American indigenous languages (Parodi 1995, 2017; Smith Stark 2007; Operstein 2016, 2017b). This type of adaptation is not apparent in <solteré> ‘young (man)’ or <gansex> ‘goose’, which thus appear to have been borrowed more recently. For <chuyé> ‘God’ and <ynchí> ‘Indian’ (< Sp. *indio*), an early date of introduction may additionally be inferred from the adaptation of the sequence /dj/. As seen in Table 21, in the early loan *dios* all Papabuco languages reflect this sequence in the same way as Proto-Zapotec *t’ (Operstein 2005: 110-111, 2012: 8-9) whereas in more recent loans it is borrowed unchanged, cf. Texmelucan /radjo/ (< Sp. *radio*), Zaniza /djeg/ (< Sp. *Diego* (name)). The early date of borrowing of <cus-> ‘pig’ (< Sp. *cuche*) is suggested by deaffrication of the Spanish affricate: this treatment contrasts with the absence of deaffrication in what are apparently later loans <cachimba> ‘pipe’ (< Sp. *cachimba*) and <fleche essón> ‘arrow’ (< Sp. *flecha*). Deaffrication of /tʃ/ in this loan indicates that the Spanish affricate was initially adapted with the native fortis affricate (see Table 21). The early date of entry of <badá> ‘duck’ (< Sp. *pato*) is suggested by the adaptation of the Spanish voiceless stops as lenis (voiced) rather than fortis (unvoiced); this contrasts with the adaptation of voiceless stops in more recent loans such as <tigreson> ‘tiger’ and <tortuga> ‘turtle’. Other early loans include <yimigaré> ‘friend’ and <-timienñá> which show raising of pretonic vowels; this treatment contrasts with the lack of pretonic vowel raising in <tortuga> ‘turtle’ and <solteré> ‘young (man)’. A few of the Spanish-origin words appear to be completely unadapted phonologically; these include <tortuga> ‘turtle’, <mil> ‘thousand’ and <cachimba> ‘pipe’. The remaining borrowings show various degrees of phonological and/or morphological adaptation to the Elotepec structures.

		TEXMELUCAN	ZANIZA	ELOTEPEC	
/dj/	Sp. <i>dios</i>	/ɲʰooʒ/	/dʒuʒ/	<chuyé>	‘God’
*t’	*kat’i	/gaʔ/	/gadʒ/	<gueché>	‘seven’
/tʃ/	Sp. <i>cuche</i>	/kutʃ/	/kuʃ/	<cus(quillé)>	‘pig’
*ttz	*kittza(?)	/jitʃ/	/giʃ/	<quis(iquí)>	‘hair’

Table 21. Adaptation of Spanish /dj/ and /tʃ/ in early Spanish loans

7. Residual issues

Some of the responses to the Spanish prompts present inconsistencies and apparent orthographical errors, which in some cases may affect the correctness of their interpretation. For example, <zan maré> ‘my younger sister’ is an apparent typo for <zan miaré>; this inference follows from comparing this entry with <bichimiaré> ‘my younger brother’, <lechimiré> ‘plain’ and <enmihí> ‘small’, and in light of the Zaniza and Texmelucan Zapotec cognate /mi’/ ‘small’. The form <lechilgré> ‘valley’ is an apparent typo for <lechilré> (i.e. <lech il-ré>), as is

suggested by the immediately following response <lechimiré> (i.e. <lechi mi-ré>) ‘plain’: these entries arguably contain as their second elements the adjectives ‘large’ and ‘small’, respectively. The response <biltí> ‘rabbit’ is an apparent typo for <billí> (/biʃi/); this inference follows from the cognate forms in Zaniza and Texmelucan Zapotec (/biʃ/ and /bitʃ/, respectively) and from Belmar’s (1901) form <bisekuliana> ‘hare’, a compound of <bise> ‘rabbit’ and <kuliana> ‘hare’. The <t> for <l> typo is also found in <biti quillé> ‘snake’ for the intended <bili quillé>, in light of the cognate /biʃ/ ‘snake’ in Zaniza and Texmelucan Zapotec and the immediately following entry, <billesie> ‘rattlesnake’. <lumní> ‘eight’ appears to be a typo for <lluní>, or perhaps <lluñí>, since this form is given as <shuñi> by Belmar (1901) and in view of its cognate /ʃuɲ/ in Zaniza and Texmelucan Zapotec.

Another orthographic issue is inconsistent representation of the first person singular clitic pronoun /-ã/: while its nasality is often marked by a following <n>, this tends not to happen when there is an immediately preceding nasal consonant (see 12). Based on Rendón’s (1971) observation that in Elotepec Zapotec nasality is found in nasal contexts, I assume that all the forms in (12) contain the first person singular clitic pronoun /-ã/.

(12)	<u>Nasality marked</u>	<u>Nasality unmarked</u>
	<bichibalanrê> ‘my older brother’	<bichimiarê> ‘my younger brother’
	<usanrê> ‘my father’	<nârê> ‘my mother’
		<niarê> ‘my husband’
		<biniarê> ‘my wife’

A few of the responses contain what appear to be errors. For example, the form <billisí>, given in response to the Spanish prompt *pino* ‘pine tree’, is clearly cognate with the Zaniza and Texmelucan Zapotec words for ‘pineapple’ (Sp. *piña*). The form <bití>, given in response to Sp. *zorra* ‘(female) fox’, is cognate with Zaniza and Texmelucan Zapotec words for ‘skunk’ (Sp. *zorrillo*). The form <raurú> ‘you eat’ (Sp. *comer*) was apparently given in error in response to Sp. *correr* ‘to run’ (see Table 22).

SPANISH PROMPT	ELOTEPEC RESPONSE	ZANIZA COGNATE	TEXMELUCAN COGNATE
<i>pino</i> ‘pine tree’	<billisí>	/bizizi/ ‘pineapple’	/bdʒidʒ/ ‘pineapple’
<i>zorra</i> ‘fox’	<bití>	/bit/ ‘skunk’	/bit/ ‘skunk’
<i>correr</i> ‘to run’	<raurú>	/rawr/ ‘you eat’	/ror/ ‘you eat’

Table 22. Apparent errors in Elotepec responses

Some of the Elotepec responses contain added material that is not found in their cognates in the other Papabuco languages or in the Elotepec forms cited by Belmar (1901) or Rendón (1971). Some of the responses disagree with the Elotepec forms reported in the other sources. An interesting example of the latter are different allomorphs of the numerals ‘one’ and ‘two’ depending on whether they are cited in isolation or as part of the numerals ‘eleven’ and ‘twelve’: as seen in Table 23, the allomorphy <tibi> ~ <tubi> ‘one’ and <chabá> ~ <chopa> ‘two’ is not reported by Belmar (1901) and is not present in the other Papabuco languages. The form <bilñici>, given in response to the prompt *nombre* ‘name’, may have been influenced by, or perhaps actually given in response to, the immediately preceding entry *anguila* ‘eel’ (<bilñici> appears to be composed of <bil> ‘snake’ and <ñici> ‘water’).

PEÑAFIEL VOCABULARY	BELMAR (1901)	RENDÓN (1971)	ZANIZA COGNATE	TEXMELUCAN COGNATE	
<llaegrellé> ¹²	<yaga>	<yaga>	/jag/	/jag/	‘tree’
<balsedé> ¹³	<balla>	<bala>	/bal/	/bel/	‘fish’
<ticiudán>	<shina>	<Sa ¹ N>	/ʃi/	/ʃe/	‘belly’
<betbalná>	<balla>	<ba ³ la>	/bal/	/beel/	‘body’ / ‘meat’
<bilñici>	<laa>	<la ³ >	/la/	/nu la/	‘name’
<esquinloyec>		<i ¹ SSki ³ ñi>	/ʃigij/	/tʃiʃij/	‘bird’
<ynquillanré>	<iñi>		/iʃn/	/iʃn/	‘son’
<billesie>			/biʃ bisup/	/biʃ daab/	‘rattlesnake’
<loxilna>			/ʃiʃ/	/lowe/	‘wing’ ¹⁴
<yuhu dusanguaquié>			/ju' giz/	/ju' jiz/	‘thatch hut’
<tibi>, <chibitubi>	<tibi>, <chiirbititibi>		/tib/, /tʃiʃiʃitib/	/tub/, /trotub/	‘one’ ‘eleven’
<chabá>, <chibechopa>	<chopa>, <chiirbichopa>		/tʃup/, /tʃiʃiʃitʃup/	/cup/, /trocup/	‘two’ ‘twelve’

Table 23. Selected Elotepec responses

Some of the responses to the noun prompts in Spanish consist of verb forms or multiword expressions. For example, the Elotepec translation for Sp. *mañana* ‘morning’ is given as <hersilná>, which appears to be the habitual aspect form of the verb <sil> with the first person plural subject marker (<her-sil-na>); this verb appears to be related to the noun ‘breakfast’ in Texmelucan Zapotec (/siiʃ/) and Zaniza Zapotec (/siʃ/). The translations for Sp. *trueno* ‘thunder’ (<herniquixi>) and *relámpago* ‘lightning’ (<heryiloquixi>) are also verbal in form and appear to contain the noun meaning ‘thunder’ (cf. /guzii/ ‘thunder’, /ʃi ni guzii/ ‘lightning’ in Texmelucan Zapotec; /uzi/ ‘thunder’, /ʃi lo uzi/ ‘lightning’ in Zaniza Zapotec). The Elotepec response to Sp. *pipa* ‘pipe’ is <niersobruyá>, ‘what he puts in his mouth’ or, possibly, ‘what is in his mouth’ (<ni er-sob ru-yá>). The translation for Sp. *caldera* ‘cauldron’, <serupinieyé>, is perhaps analyzable as a place nominalization, <se rupi nieyé> ‘where clothes are washed’ (cf. /ze/ ‘there’, /pedʒ/ ‘clothes’ in Zaniza Zapotec; /ze/ ‘there’, /nej/ ‘clothes’ in Texmelucan Zapotec).

Eight of the ten translations for the abstract nouns that round off the Peñafiel questionnaire prove to be challenging (and, perhaps, were so for the respondent). While some contain identifiable morphemes – for example, the <xede> of <becuexedé> ‘laziness’ is almost certainly the morpheme for ‘lazy’ (cf. Zaniza /zed/, Texmelucan /zeed/) and the <aan> of <hudimbraán> ‘kindness’ is the first person singular pronoun clitic – the limited amount of data at our disposal precludes their full analysis at this time. This is also true of the words for the seasons of the year: while the translations for spring (<tiomgieyé>, lit. ‘rain time’) and fall (<tieonquasá>, lit. ‘dry time’) are transparent, the one for winter (<visgraená>) is not, and the one for summer (<tieomerrubiy>) contains an unidentified second element. The translation for *guerrero* ‘warrior’, given as <ygqui, eryú>, is both phonologically and morphologically unclear.

¹² Compare with <guibiagá> ‘axe’, a compound whose second member <iaga> is the word for tree or wood.

¹³ Compare with <zedé> ‘salt’.

¹⁴ The Zaniza and Texmelucan forms may be cognate with different component parts of the Elotepec form.

8. Conclusion

This paper has presented a proposed transcription and a linguistic and orthographic analysis of the Peñafiel vocabulary from San Juan Elotepec. Where applicable, the Peñafiel were evaluated against the other published descriptions of Elotepec Zapotec, Belmar (1901) and Rendón (1971), and compared with cognates from the other Papabuco languages.

The Peñafiel vocabulary reveals that, individual innovations apart, late nineteenth-century Elotepec Zapotec shares more phonological features with present-day Zaniza than Texmelucan Zapotec. The shared similarities include the treatment of unstressed vowels, which are preserved in pretonic position and subjected to conditioned loss in posttonic position; fricativization of Proto-Zapotec *ttz and *tz, which has produced an additional set of coronal fricatives in Elotepec and Zaniza Zapotec as compared to Texmelucan Zapotec; and affrication of Proto-Zapotec *tt' and posttonic *t', which continue to retain their stop articulation in Texmelucan Zapotec (see Table 24 below as well as Tables 5, 15 and 16 above). The features that Elotepec Zapotec shares with Texmelucan Zapotec to the exclusion of Zaniza Zapotec include preservation of the stop articulation of medial *kk and of *k in the palatalizing environment of *keʔla 'lake' (shown in Table 24).

The Spanish loanwords captured by the Peñafiel questionnaire consist of borrowings that are common to all Papabuco languages, such as *dios* 'God' and *amigo* 'friend', and those for which present-day Zaniza and Texmelucan Zapotec continue to use inherited words; these include the words for tobacco and turtle. The phonological shape of the borrowings points to at least two chronological layers of Spanish loanwords in Elotepec Zapotec.

In the larger context of Zapotec comparative linguistics, the Peñafiel vocabulary provides valuable evidence from the Papabuco branch of the family relevant to reconstruction of posttonic vowels, and a unique instrument for observing linguistic change in a Zapotec language over the period of more than a century. In light of the critical dearth of published information on Elotepec Zapotec, the Peñafiel vocabulary also helps fill important lacunae in our understanding of this endangered and under-documented language.

	ELOTEPEC	ZANIZA	TEXMELUCAN	
*tt' *laʔtt'iʔ	<ch> <lech(ilgré)>	/tʃ/ /latʃ/	/c/ /lac/	'valley'
*t' *kat'i	<ch> <gueché>	/dʒ/ /gadʒ/	/ʃ/ /gaʃ/	'seven'
*ttz *kittza(?)	<s> <quis(iqui)>	/ʃ/ /giʃ/	/tʃ/ /ʃitʃ/	'hair'
*tz *(k ^w e-)tzinaʔ	<ll> <llini>	/z/ /zɪn/	/dʒ/ /dʒɪn/	'deer'
*-kk- *yekkek	<c> <yc(anré)>	/h/ /ih/	/k/ /ik/	'head'
*k *keʔla	<qui> <quial(dó)>	/dʒ/ /dʒal (doo)/	/ʃ/ /ʃel/	'lake'

Table 24. Selected Papabuco cognates

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Appendix

The table below presents the proposed transcription as well as a possible phonological and morphological analysis of the responses to the Peñafiel vocabulary from San Juan Elotepec. The first column shows the item's number in the Peñafiel vocabulary, the second column contains the Spanish prompt, and the third column gives the corresponding response in Elotepec; both the

¹⁵ This is the way the Peñafiel manuscript is cited in Suárez (1972: 231).

prompt and the response are given in the original orthography, except for capitalization, which has been eliminated. When the Elotepec response contains an apparent typo, the hypothesized intended form follows the actual form in brackets. The fourth and fifth columns contain the proposed phonological analysis and morphological breakdown of the Elotepec response; the affixes and clitics are separated from each other and the other morphemes by dashes, and the compound constituents are separated from each other by a blank space. The animacy and nominalization markers are indicated only where practicable. The last column supplies the glosses in English; if the Elotepec response differs from the one intended by the Spanish prompt, the prompt and the response are glossed separately, with the two glosses separated by a slash.

NO	SPANISH PROMPT	ELOTEPEC RESPONSE	PHONOLOGICAL ANALYSIS	MORPHOLOGICAL ANALYSIS	GLOSS
1	dios	chuyé	/dʒuʒe/		God
2	sacerdote	uxé	/uze/		priest
3	templo	guexé	/weʒe/		church
4	hombre	yquieyé	/ig'eje/	/i-g'eje/	man
5	mujer	binián	/bijã/	/bij-ã/	woman / my wife
6	muchacho	ycuené	/ik ^w ene/	/i-k ^w ene/	boy
7	muchacha	encuenébiniá	/enk ^w enebija/	/en-k ^w ene bija/	girl
8	niño ó niña	embedo ó bedoré	/enbedo/, /bedore/	/en-bedo/, /bedo-re/	child
9	mi padre, dice el hijo	usanré	/uzãre/	/uz-ã-re/	my father, says the son
10	" " dice la hija	usanré	/uzãre/	/uz-ã-re/	" " says the daughter
11	mi madre, dice el hijo	naré	/nãre/	/n-ã-re/	my mother, says the son
12	" " dice la hija	naré	/nãre/	/n-ã-re/	" " says the daughter
13	mi marido	niaré	/jãre/	/j-ã-re/	my husband
14	mi esposa	biniaré	/bijãre/	/bij-ã-re/	my wife
15	mi hijo, dice el padre	ynquillanré	/ingijãre/	/in gif-ã-re/	my son, says the father
16	mi hijo, dice la madre	ynquillanré	/ingijãre/	/in gif-ã-re/	my son, says the mother
17	mi hija, dice el padre	ynquillanré	/ingijãre/	/in gif-ã-re/	my daughter, says the father
18	mi hija, dice la madre	ynquillaré (ynquillanré)	/ingijãre/	/in gif-ã-re/	my daughter, says the mother
19	mi hermano mayor	bichibalanré	/bitʃibalãre/	/bitʃi bal-ã-re/	my elder brother
20	mi hermano	bichimiaré	/bitʃimiãre/	/bitʃi mi-ã-re/	my younger

	menor				brother
21	mi hermana mayor	zan balanré	/zan balãre/	/zan bal-ã-re/	my elder sister
22	mi hermana menor	zan maré (zan miaré)	/zan miãre/	/zan mi-ã-re/	my younger sister
23	indio	ynchí	/indzi/		Indian
24	gente	beché	/(m)betʃe/		people
25	cabeza	ycanré	/ikãre/	/ik-ã-re/	head / my head
26	pelo	quisiquí	/giʃiki/	/giʃ iki/	hair / head hair
27	cara	loná	/lona/	/lo-na/	face / our face
28	frente	tegaán	/tegaã/	/te-ga-ã/	forehead / my forehead
29	oreja	ydagaán	/idagaã/	/i-daga-ã/	ear / my ear
30	ojo	urloná	/urlona/	/ur lo-na/	eye / our eye
31	nariz	tiñia	/tija/		nose
32	boca	runá	/runa/	/ru-na/	mouth / our mouth
33	lengua	luxná	/luzna/	/luz-na/	tongue / our tongue
34	dientes	leyná	/lejna/	/lej-na/	teeth / our teeth
35	barba	quisiruná	/giʃiruna/	/giʃi ru-na/	beard / our beard
36	cuello	nierrieñá	/nerjeña/	/ner jeña/	neck
37	brazo	hianá	/jana/	/ja-na/	arm / our arm
38	mano	hianá	/jana/	/ja-na/	hand / our hand
39	dedos	bizná	/(m)bizna/	/(m)biz-na/	fingers / our fingers
40	dedo pulgar	bisilná	/(m)bizilna/	/(m)biz il-na/	thumb / our thumb
41	uñas	choquianá	/tfogjana/	/tfog ja-na/	nails / our nails
42	cuerpo	betbalná	/betbalna/	/bet bal-na/	body / our body
43	pecho	lerán	/lerã/	/ler-ã/	breast / my breast
44	barriga	ticiudán	/(?)ã/	/(?)-ã/	belly / my belly
45	pechos de	lecbinian	/le(g')bijã/	/le(g') bij-ã/	woman's

	mujer				breasts / my wife's breasts
46	pierna	cuirán	/k ^w irã/	/k ^w ir-ã/	leg / my leg
47	pié	quianá	/g'ana/	/g'a-na/	foot / our feet
48	dedos del pié	bizquianré	/(m)bizg'ãre/	/(m)biz g'-ã-re/	toes / my toes
49	hueso	riti	/riti/		bone
50	corazon	lerná	/ler-na/	/ler-na/	heart / our heart
51	sangre	reñié	/repe/		blood
52	pueblo, villa, aldea	tiguyé (tigueyé), villi, renyé	/tigeze/, /bili/, /repe/	/ti-geze/	town, village, hamlet
53	jefe	jefeson	/hefesõ/ (?)	/hefe-sõ/	boss
54	guerrero	ygqui, eryú	(?)	(?)	warrior
55	amigo	ymigaré	/imigare/	/imiga-re/	friend
56	cuna	yagilo	/jagilo/	/jag ilo/	cradle
57	casa	yuhú	/ju'/		house
58	choza, casa de paja	yuhu dusanguaquié	/ju'duzãwagi3e/	/ju' du-zãwa (?) gi3e/	thatch hut
59	sepulcro	rubá	/ru ba/	/ru ba/	tomb
60	caldera	serupinieyé	/zerupined3e/	/ze rupi ned3e/	cauldron / where clothes are washed
61	arco	xilquité	/filk ^w ite/	/fil k ^w ite/	bow / rainbow
62	flecha	fleche essón	/fletjesõ/ (?)	/fletje-sõ/ (?)	arrow
63	hacha	quibiagá	/gibjaga/	/gib jaga/	axe
64	cuchillo	quis quibé	/gis gibe/	/gis gibe/	knife
65	canoa	canoré	/kanore/	/kano-re/	trough
66	guarache ó zapato	quitlabá, labiquidé	/gidlaba/, /labigide/	/gid laba/, /labi gide/	sandal or shoe
67	pipa	niersobruyá / barril ó cachimba	/nierzobruja/	/ni er-zob ru-j/	pipe / what he puts in his mouth <i>or</i> what is in his mouth
68	tabaco	tabaueré	/tabawere/	/tabawe-re/	tobacco
69	cielo	baré	/bare/	/ba-re/	sky
70	sol	doré	/dore/	/do-re/	sun
71	luna	beyé	/beje/		moon
72	estrella	cuiilré	/g ^w iilre/	/g ^w i il-re/	star / big star
73	dia	lliná	/zina/	/zi na/	day / this day

74	noche	ralná	/rálna/	/ral na/	night / this night
75	mañana	hersilná	/ersilna/	/er-sil-na/	morning / we eat breakfast
76	tarde	huillé	/wize/		afternoon
77	primavera	tiomgieyé	/tjomg'eje/	/tjom g'eje/	spring / rainy season
78	verano	tiomerrubiy	/tjomerubi/	/tjom erubi/ (?)	summer / (?) season
79	otoño	tieonquasá	/tjomwaşa/	/tjom waşa/	fall / dry season
80	invierno	vizgraená	(?)	(?)	winter
81	viento	viy	/bi/		wind
82	trueno	herniquiuxi	/ernigiuzi/	/er-ni gi uzi/	thunder
83	relámpago	heryiloquixi (heryiloquiuxi)	/erʃillogiuzi/	/er-ʃi lo gi uzi/	lightning
84	lluvia	quieiyé	/g'eje/		rain
85	nieve	yta quieyé	/ita g'eje/	/i-ta g'eje/	snow
86	fuego	guiyé	/gije/		fire
87	agua	nisi	/nisi/		water
88	hielo	quiegué	/g'ege/		ice
89	tierra	yú	/ju/		earth
90	mar	dó	/do/		sea
91	rio	guiagua	/g'awa/		river
92	lago	quialdó	/g'aldo/	/g'al do/	lake
93	valle	lechilgré (lechilré)	/letʃilre/	/letʃ il-re/	valley / big valley
94	llano	lechimiré	/letʃimire/	/letʃi mi-re/	plain / small valley
95	cerro, montaña	las ibré (las ilré)	/laş ilre/	/laş il-re/	hill, mountain / large hill
96	isla	layú ullré	/laju uʒre/ (?)	/laju uʒ-re/	island / small (?)
97	piedra, roca	heita illi	/ita ili/	/i-ta ili/	stone, rock / large stone
98	sal	zedé	/zede/		salt
99	cobre	guibequesé	/gibekeşe/	/gibe keşe/	copper
100	plata	guibitimienña	/gibitimija/	/gibi timija/	silver
101	oro	heitaquibiora	/itagibiora/	/i-ta gibi ora/	gold
102	bosque, selva	laquí ilí	/lagi ili/	/lagi ili/	woods, forest / large (?)
103	arbol	llaegrellé	/jagre(?)e/	/jag re(?)e/	tree / (?) tree
104	madera	lliagá	/jaga/		wood
105	hoja	leagá	/ʎaga/		leaf
106	corteza	ledé	/lede/		bark

107	yerba	liagré	/ʎagre/	/ʎag-re/	grass
108	pino	billisí	/bizʔizi/	/bi-zʔizi/	pine tree / pineapple
109	maíz	obá	/oba/		corn
110	frijol	ursá	/urza/	/ur za/	beans
111	calabaza	guieté	/g'ete/		squash
112	chile, pimiento	guiñí	/gijni/		chili, pepper
113	carne	balá	/bala/		meat
114	murciélago	beigidebesinnís	/begidebezijnis/	/be-gide be-zijni-s/	bat
115	perro	beco	/beko/		dog
116	coyote	yieñé	/jeje/ (?)		coyote
117	tigre	tigreson	/tigresõ/ (?)	/tigre-sõ/	tiger
118	oso	banasé	/banaze/ (?)		bear
119	leon, puma	bizquixé	/bizgife/	/biz gife/	lion, puma
120	lobo	bizquiasá	/bizg'aza/ (?)	/biz g'aza/	wolf
121	zorra	bití	/biti/		fox / skunk
122	tejon	chixhé	/zize/		coati
123	ciervo	lliní	/zini/		deer
124	jabalí	cusquillé	/kuʂgife/	/kuʂ gife/	wild boar
125	armadillo	bixi	/bizi/		armadillo
126	raton	bixinñí	/bizijni/	/bi-zijni/	mouse
127	conejo	biltí (billí)	/biʂi/		rabbit
128	ardilla	brisi	/brizi/	/b-rizi/	squirrel
129	tortuga	tortuga	/tortuga/		turtle
130	lagartija	bizquidí	/bizgidi/	/biz gidi/	lizard
131	caballo	baña	/bana/		horse
132	mosca	ezquiegué	/eʂg'ege/	/eʂ-g'ege/	fly
133	mosquito	esquienú	/eʂg'enu/	/eʂ-g'enu/	mosquito
134	sapo	berlabá	/berlaba/	/ber laba/	toad
135	culebra, serpiente	biti quillé (bili quillé)	/bili gife/	/bili gife/	snake
136	culebra de cascabel	billesié	/billeze/ (?)	/bil leze/ (?)	rattlesnake
137	alacran	guinec	/winek/ or /wineʔ/	/wine-k/ (?)	scorpion
138	ave	esquinloyec	/eʂginlojek/ or /eʂginlojeʔ/	/eʂ-gin lojek/ or /eʂ-gin lojeʔ/ (?)	bird
139	huevo	go	/(ŋ)go/		egg
140	plumas	debé	/debe/		feather
141	alas	loxilná	/loʃilna/	/lo ʃil-na/	wings ¹⁹
142	ganso	gansex	/ganseʃ/ (?)	/ganse-ʃ/ (?)	goose
143	pato	badá	/bada/		duck
144	zopilote	lieyé	/ʎeʃe/		buzzard ¹⁶

¹⁶ The initial letter of Nos. 141 and 144 appears to be the same. It is assumed to be <ʎ> based on comparison with the likely cognates of these words: No. 141 <loxilná> 'wings' is assumed to be related to /lowe/ 'wing' in

145	cuervo	ezquincazá	/eʃginkasa/	/eʃ-gin kasa/	crow
146	guajolote	cola	/kola/		turkey
147	paloma	uraga	/uraga/		dove
148	pez	balsedé	/balzede/	/bal zede/	fish / salted fish (?)
149	bobo, pescado	balá	/bala/		fish sp.
150	bagre	bal nullelmá	/bal nufelma/ (?)	bal nufelma (?)	catfish
151	anguila	bili nullelmá	/bili nufelma/ (?)	bili nufelma (?)	eel
152	nombre	bilñici	/bilñisi/	/bil nisi/	name / water snake ¹⁷
153	blanco	quicheguesé	/kitʃekeʃe/	/kitʃe keʃe/	white
154	negro	encasá	/enkasa/	/en-kasa/	black
155	colorado	eññan	/enɲa/	/en-ɲa/	red
156	azul celeste	encaá	/enka/	/en-ka/	sky-blue
157	amarillo	enquesé	/enkeʃe/	/en-keʃe/	yellow
158	verde	enquiné	/enkine/	/en-kine/	green
159	grande	enhili	/enili/	/en-ili/	big
160	pequeño	enmihi	/enmi/	/en-mi/	small
161	fuerte	robrú	/robbru/	/rob-ru/	strong / you are strong
162	viejo	ygalá	/igala/	/i-gala/	old (man)
163	jóven	solteré	/soltere/		young (man)
164	bueno	napia	/napja/	/nap-ja/	good / he is good
165	malo	tenyia	/teɲja/	/teɲ-ja/	bad / he is bad
166	muerto	ytó	/ito/	/i-to/	dead (person)
167	vivo	zanayaá	/zanaja/ (?)	/zana-ja/ (?)	alive / he is alive (?)
168	frio	rayá	/raja/		cold
169	caliente	bexiguí	/bezigi/	/be-zigi/	hot
170	yo	aan	/ã/		I
171	tú	ruú	/ru/		you (sg.)
172	él	yrsé	/irze/	/i-r-ze/	he
173	nosotros	biegniá	(?)	bieg-nia (?)	we
174	vosotros	bigaaná	(?)	big-aana (?)	you (pl.)
175	ellos	bicailié	(?)	bic-ailie (?)	they
176	este	yiesán	/jezã/ (?)		this
177	aquel	yrecáá	/ireka/	/i-re-ka/ (?)	that
178	todo, todos	ydelní	/idelni/	/i-del-ni/	all
179	mucho, muchos	bierobbigía	/birobigia/ (?)	/bi-rob igia/	much, many ¹⁸

Texmelucan Zapotec and /jĩl/ ‘wing’ in Zaniza Zapotec, and No. 144 <lieyé> ‘buzzard’ is assumed to be cognate with the word for ‘buzzard’ in Texmelucan Zapotec (/kaf/) and Zaniza Zapotec (/kef/).

¹⁷ See Table 23 above and the accompanying discussion.

¹⁸ Cf. <bi-goroba> ‘many’ in Rendón (1971: 223).

180	quien	chumdec	/tʃumdek/ <i>or</i> /tʃumdeʔ/	/tʃum-dek/ <i>or</i> /tʃum-deʔ/	who
181	léjos	zecto	/zeʔto/ (?)		far
182	cerca de	gabá	/gaba/		near
183	aquí	ylá	/ila/		here
184	allá	yuní	/juni/		there
185	hoy	naá	/na/		today
186	ayer	nagée	/nage/		yesterday
187	mañana (el dia de)	galibé	/galibe/		tomorrow
188	sí	han	ã (?)		yes
189	no	haan	ã' (?)		no
190	uno	tibi	/tibi/		one
191	dos	chabá	/tʃaba/		two
192	tres	zosná (zoná)	/ʃona/		three
193	cuatro	tapa	/tapa/		four
194	cinco	guiyé	/gije/		five
195	seis	llopa	/ʃopa/		six
196	siete	gueché	/gedʒe/		seven
197	ocho	lumní (llunní)	/ʃuni/		eight
198	nueve	gá	/ga/		nine
199	diez	chís	/tʃis/	/tʃi-s/ (?)	ten
200	once	chibitubi	/tʃibitubi/	/tʃi-bi-tubi/	eleven
201	doce	chibechopa	/tʃibitʃopa/	/tʃi-bi-tʃopa/	twelve
202	veinte	galá	/gala/		twenty
203	treinta	galrebechí	/galrebitʃi/	/gal-rebi-tʃi/	thirty
204	cuarenta	chó	/tʃo/		forty
205	cincuenta	chalnalá	/tʃalnala/	/tʃal nala/	fifty
206	sesenta	quioná	/gijona/	/gi-jona/	sixty
207	setenta	quionrebichí	/gijonrebitʃi/	/gi-jon-rebi-tʃi/	seventy
208	ochenta	taa	/ta'/		eighty
209	noventa	taabichí	/ta'bitʃi/	/ta'-bi-tʃi/	ninety
210	ciento	taabinala	/ta'binala/	/ta'-bi-nala/	hundred
211	mil	mil	/mil/		thousand
212	comer	dauna	/dawna/	/d-aw-na/	to eat / we eat
213	beber	diena	/diena/	/d-ie-na/	to drink / we drink
214	correr	raurú	/rawru/	/r-aw-ru/	to run / you eat
215	bailar	dalná	/dalna/	/d-al-na/	to dance / we dance
216	cantar	dalruná	/dalruna/	/d-al ru-na/	to sing / we sing
217	dormir	dezná	/desna/	/d-es-na/	to sleep / we sleep

218	hablar	hiñina	/iɲina/	/i-ɲi-na/	to speak / we speak
219	ver	higuiná	/ig ^w ina/	/i-g ^w i-na/	to see / we see
220	amar	guitiragueleranl oru	/kitirakelerãloru/	/kiti rake ler-ã lo- ru/	to love / I love you
221	matar	dutaní	/dutãni/	/d-ut-ã(n)-i/ (?)	to kill / I kill him
222	sentarse	ysoban	/izobã/	/i-zob-ã/	to sit down / I sit down
223	estar en pié, pararse	guasonón	/wasõ/ (?)	/was-õ/ (?)	to stand (up) / I stand (up)
224	ir	zabanán	/zabã/ (?)	/zab-ã/ (?)	to go / I go
225	venir	yapaán	/japã/	/jap-ã/	to come / I come
226	andar	zanán	/zaã/	/za-ã/	to walk / I walk
227	trabajar	riniricháán	/riniritfã/	/rini ritf-ã/	to work / I work
228	robar	ybana	/ibana/	/i-bana/	to rob / thief
229	mentir	liemé	/leme/ (?)		to lie
230	dar	risarú	/rizaru/	/ri-za-ru/ (?)	to give / you give (?)
231	reir	riená	/riena/	/r-ie-na/	to laugh / we laugh
232	gritar	rezná	/rezna/	/r-ez-na/	to shout / we shout
233	bramar	ruconá	/rukona/	/ruko-na/ (?)	to bellow / we bellow (?)
234	ladrar	heryímmá	/erfínma/	/er-fín-ma/	to bark / it barks
235	cacarear	yzervezrucaom	/izerbezrukoma/ (?)	/iz er-bezrukoma/ (?)	to crow / it crows (?)
236	tronar	herzechí	/erzedzi/	/er-zedzi/	to thunder
237	gótear	rabá	/raba/		to drip
238	charlar	huniyá	/unija/	/u-ni-ja/	to chat / he chatted
239	lloviznar	yatiguieyé	/jatig'eje/	/jati g'eje/	to drizzle / it rains
240	gorjear	hervezná	/erbezna/	/er-bez-na/	to chirp / we chirp
241	voluntad	hurulerán (?)	/urulerã/	/u-ru ler-ã/ (?) ¹⁹	will / my heart came out (?)

¹⁹ In several of the responses, it is unclear whether the intended sequence is <ler> or
. No. 241 is one of them, and the provisional analysis in the table depends on the assumption that it contains the sequence <ler>.

242	memoria	zinyguá	(?)	(?)	memory
243	pensamiento	herhabruá	(?)	(?)	thought
244	bondad	hudimbraán	(?)	(?)	kindness
245	amor	engueganré	/engegãre/ (?)	/en-geg-ã-re/ (?)	love
246	olvido	bietíbrandí	(?)	(?)	oblivion
247	verdad	solsí	(?)	(?)	truth
248	tiempo	tiemné	/tjemne/	/tjem-ne/ (?)	time
249	razon	loliy	/loli/	/lo li/	reason
250	pereza	becuexedé	/bek ^w eze/	/bek ^w e zede/ (?)	laziness