

Spanish Loanwords and the Historical Phonology of Zaniza Zapotec¹

NATALIE OPERSTEIN

University of California, Los Angeles

1. Introduction

The variety of Zapotec (Zaniza Zapotec, abbreviated ZZ) described in this paper is spoken in the town of Santa María Zaniza, Sola de Vega, Oaxaca. ZZ belongs, together with better known Texmelucan Zapotec (= TZ), to the Papabuco sub-branch of Zapotec. Unlike some Valley and Northern varieties of Zapotec, in which written documents were produced since the sixteenth and seventeenth century, respectively, none of the Papabuco languages is known to have been written before the end of the nineteenth century or the beginning of the twentieth. The earliest sources (Peñafiel n.d. and Belmar 1901) document the last of the known varieties of Papabuco, Elotepec Zapotec. Given the lack of early records in the Papabuco languages, the information about their earlier historical stages and the chronological order of their sound changes has to be derived from comparative reconstruction and Spanish borrowings.

The shape of the earliest loanwords shows that Spanish vocabulary began to be borrowed by the varieties of Papabuco since the time of the earliest contact at the beginning of the sixteenth century; the borrowing has continued to be active to this day. Vocabulary borrowed at different historical epochs belongs to different semantic spheres and shows an increasing degree of tolerance towards Spanish grammar and phonemics. Thus, while the earliest borrowings are adjusted to the phonologies of the respective languages, restricted for the most part to the sphere of religion, calendar, government and economy, and do not include categories interfering with native grammatical structure (i.e., verbs and prepositions), more recent loans include unadapted elements of Spanish phonology (such as the phoneme /f/, consonant clusters and polysyllabic words), and display greater semantic and grammatical variety.

One of the most important features of Spanish loans that allows their stratification in the recipient languages has to do with changes undergone by the phonological system of Mexican Spanish since the time of the earliest contact. Of these, the ones that left traces in the phonology of ZZ (and Zapotec in general) are the merger of apico-alveolar /s/ (orthographically *s*, *ss*) with /s/ (orthographically *c*, *ç*, *z*), the backing of /j/ (orthographically *x*, *j*, *g/_e*, *i*) to /x/, and the gliding of /k/ (orthographically *ll*) > /j/.² The

¹ Published in Rosemary Beam de Azcona and Mary Paster, eds. 2005. *Papers from the Conference on Otomanguean and other Oaxacan Languages*. Survey of California and Other Indian Languages Report 13. Berkeley, California: Survey of California and Other Indian Languages. 107-16.

² Other changes in Spanish phonology that occurred during the same period, such as the devoicing of /z/ prior to the velarization of /j/, are irrelevant as their borrowing pattern in ZZ is independent of their voicing in Spanish.

presence of these diagnostic sounds in loanwords allows their division in ZZ into up to three chronological layers. An additional basis for the chronological division of Spanish loans is provided by the specifics of their adaptation to ZZ phonology; both kinds of sound correspondences are diagnostic from the viewpoint of the relative chronology of borrowing. Some of the most important sound correspondences that may be used in stratifying Spanish loanwords in ZZ are presented in table (1).

(1) Diagnostic sound correspondences between Spanish and ZZ

Spanish phoneme	Period 1 ZZ correspondence	Period 2 ZZ correspondence	Period 3 ZZ correspondence
/ʃ/ / ' _	zh /ʒ/	-g-	j /h/
/ʃ/ elsewhere	x /ʃ/	j /h/	
/s/ / ' _	z	s	
/s̺/ / ' _	zh /ʒ/	s	
/s̺/ elsewhere	x /ʃ/	s	
/k/	ly /k/	y	

The stratification of loanwords that contain diagnostic sounds can be used to determine the relative chronology of native post-sixteenth century sound changes. This, in its turn, furnishes additional cues for the chronological stratification of the borrowed vocabulary. The treatment of the earliest loans also allows us to determine the phonemic shape of the borrowing language (in this case, ZZ) at the time of contact. However, it must be stressed that the sound correspondences in table (1) point to a relative rather than absolute chronology of borrowing, and that the time limits of any two diagnostic sound changes may not coincide, which naturally affects the temporal assignment of the borrowed items. For example, the treatment of *ñ* in Sp *compañero* ‘companion’ > ZZ *kumyer* assigns this borrowing to the earliest period from the viewpoint of the treatment of *ñ* (> y), but to a later period from the viewpoint of that of *k* before *o*, *u* in atonic syllables (cf. 2.5 and 2.8).

In the remainder of this paper I will examine the borrowing pattern of a selected number of Spanish consonants whose treatment in the earlier stratum of loans is indicative of the elements that were present in sixteenth-century ZZ but have since been modified. Early loans are identified on the basis of the diagnostic sound correspondences cited in table (1) as well as on language-internal evidence.³ On the basis of the observations that follow, I will try to reconstruct the consonant inventory of ZZ at the time of first contact with Spanish. For the historical reconstruction of Proto-Zapotec (= PZ) phonology I will refer to Benton (1988) (abbreviated JB) and Kaufman (1994) (abbreviated TK); the reconstructed forms are cited from the latter source. TZ data are from Speck (1978). ZZ forms are cited in a practical orthography (see (2)), and the rest in the orthography of the original publications.

³ Based on my on-going study of ZZ and Papabuco historical phonology.

2. The data

The present-day ZZ consonant system is as shown in (2). Throughout the paper, I will use a practical orthography in citing ZZ forms; the phonemic value of the practical orthography signs, when not obvious, is indicated below.

(2) ZZ consonants

	Labial	Alveolar	Postalv	Retroflex	Palatal	Velar	Glottal
Stops	p b	t d				k, kw g, gw	
Affricates					ty /tʃ/ dy /dʒ/		
Fricatives	(f) ⁴	s z	x /ʃ/ zh /ʒ/	tx /ʂ/ dx /ʐ/			j, jw /h, h ^w /
Nasals	m	n			ny /ɲ/		
Liquids		l, r			ly /ʎ/		
Glides	w				y		

In the vowel system, a distinction is made between plain, checked and (plain) nasalized vowels (see (3)). *ã* and *ĩ* occur in native words and old borrowings; *õ*, *ẽ*, *ũ* occur in recent Spanish loans.

(3) ZZ vowels

i/i' /ĩ	u/u' / (ũ)
e/e' / (ẽ)	o/o' / (õ)
a/a' /ã	

2.1. ZZ tx /ʃ/

Although in present-day ZZ this is a fricative, the combined evidence of comparative reconstruction and loanword phonology points to its affricate character (= /tʃ/) at the time of the earliest contact. The PZ correspondence of ZZ *tx* is reconstructed as a geminate affricate by both JB and TK, cf.:

(4) *ttz (TK) ~ *cch (JB) > ZZ *tx*, as in *ok+ tzepE 'to frighten' > ZZ *txib*

The affricate value is preserved in TZ, as shown in (5):

(5) ZZ *watx* = TZ *wàč* 'dry'

The post-contact age of the shift /tʃ/ > /ʃ/ is also assured by the treatment of Sp /tʃ/ in the earliest loanwords, in which it was borrowed as an affricate that later fricativized along with the reflexes of PZ *ttz (*cch):

⁴ In Spanish borrowings only.

(6) Sp *chivo* ‘goat’, *cuchi* ‘pig’ > ZZ *txib*, *kutx*

Deaffrication of /tʃ/ is no longer operative in ZZ. In recent borrowings, Sp /tʃ/ is borrowed without modification, cf.:

(7) Sp *lechuga* ‘lettuce’ > ZZ *letyug*

All this leads us to reconstruct the sixteenth-century affricate value /tʃ/ for the present-day ZZ fricative *tx* /ʃ/.

2.2. ZZ *ty* /tʃ/

PZ correspondence of this phoneme is reconstructed as a geminate stop *tty:

(8) *tty > ZZ *ty*, as in *k-tyoppa ‘two’ > ZZ *tyup*

TZ reflex of *tty is a stop (cf. *kʷup* ‘two’), and the evidence of early loanwords indicates that at the time of early contact with Spanish ZZ *ty* was likewise a stop. This is shown by the fact that in the early borrowings ZZ *ty* is never used to render Sp /tʃ/. Instead, it is used to render Sp /tj/ and /t/ before front vowels, which means that these were close enough to the state of this phoneme in sixteenth-century ZZ. Sometime later, *ty* developed into an affricate both in native and in borrowed vocabulary, as shown in (9):

(9a) Sp *t_e*, *i*: *tinta* ‘ink’, *machete* > ZZ *tyin*, *marity*, where *ty* is /tʃ/

(9b) Sp *tj*: *tienda* ‘shop’ > ZZ *tyen* /tʃ/, where *ty* is /tʃ/

In more recent borrowings, Sp /tj/ and /t/ before front vowels are borrowed without modifications:

(10a) Sp *Eutiquio*, *Mateo* > ZZ *tik*, *tew*

(10b) Sp *tiempo* ‘time’ > ZZ *tyem*, where *ty* is /tj/

The evidence in 2.2 suggests a stop value, possibly /tʰ/, for sixteenth-century ZZ *ty*.

2.3. ZZ *dy* /dʒ/

ZZ *dy*, the non-initial lenis counterpart of *ty*, likewise had a stop value in the sixteenth century. PZ correspondence of this phoneme is reconstructed as an alveolar stop *ty:

(11) *ty > ZZ *dy*, as in *ni:tyi7 ‘mother’s milk’ > ZZ *nidy*

TZ preserves the stop character of *ty (cf. *nigʷ* ‘milk’). The stop value of *dy* in 16th-c. ZZ follows from its being used to render Spanish /dj/ and /d/ before /i/, cf.:

(12a) Sp *dj*: *dios* ‘god’ > ZZ *dyuzh*

(12b) Sp *d/_i*: *sandía* ‘watermelon’ > ZZ *xindyi*

Sometime after the sixteenth century, *dy* became an affricate in native and borrowed vocabulary. It is interesting to note that PZ *k before etymological front vowels gave the same result as *ty when, after its palatalization, *k found itself before a back vowel (see (13)).⁵ The fronting of palatalized velars in the context of back vowels seems to be a general characteristic of Papabuco. For example, palatalized velars in TZ (which are distinct phonemes in that language) are fronted before round vowels (Speck 1978: 21-22).

(13a) *ty > ZZ *dy*, as in *ni:tyi7 ‘mother’s milk’ > ZZ *nidy* (cf. TZ *nìgʷ*)

(13b) *k/_e, i > ZZ *dy*, as in *kesa ‘corn plant’ > ZZ *dyaz* (cf. TZ *gʷèz*)

2.4. ZZ *j* /h/ and *jw* /hʷ/

ZZ *j* and *jw* are confined to medial position. *j* is the result of PZ intervocalic geminate *kk except before *u(7) (14a), and *jw*, which is found in three native words, is the monophonemic reduction of the rare final syllable *-kku(7) (14b).

(14a) *akka ‘to be possible’ > ZZ *aj*

(14b) *p+ e7kku7 ‘dog’ > ZZ *bejw*⁶

The earliest treatment of Sp intervocalic /k/ and the final syllable /ko/ shows that the Spanish velar was at first identified with native lenis stop:

(15a) Sp *vaca* ‘cow’ > ZZ *bag*

(15b) Sp *banco* ‘bench’ > ZZ *bāw*⁷

In a chronologically later layer of loans, Sp intervocalic /k/, sometimes preceded by a /s/, began to be rendered by the fortis velar stop and hence treated parallel to the reflexes of medial *kk (16a-b). Spanish final syllable *-sco* at this later stage was, in its turn, treated parallel to *-kku(7), i.e. reduced to monophonemic *jw* (16c).

(16a) Sp *Lucas* > ZZ *lyuj*

(16b) Sp *Francisca* > ZZ *sij*

(16c) Sp *Francisco* > ZZ *sijw*

(16d) Sp *loco* ‘crazy’ > ZZ *loj*

The loanword *loco* has been supplied above (in (16d)) for the evidence it provides for the relatively late date of the weakening of *kk and *-kku(7) to *j* and *jw*, respectively. This

⁵ *k was fronted before *e* if, after causing its palatalization, *e* was backed under the influence of a back vowel in the following syllable (as in *kesa > *gʷeza > *gʷaza > *dyaz*); however, the backing of *e* was blocked by intervening plosives. *k of the Potential marker *ki (> *gi*) was palatalized when it was added to vowel- or *y*-initial verb stems with back vowels, such as *dyub* ‘mount’, *dyo* ‘sting’, and *dyaj* ‘become’ (semi-anachronistically, *ki-ub, *ki-yo, and *ki-yaj, respectively). Notice the lack of palatalization in words such as *ke:7tyu ‘hole’ > *gedy* (where the backing of *e* is blocked by *dy*) and *gi-yed ‘to come (Potential)’ > *ged* (the stem vowel is non-back).

⁶ *jw* is considered a phoneme rather than a cluster because medial clusters are disallowed by ZZ phonology. A similar reasoning applies in the case of *kw* and *gw* (see section 2.6).

⁷ The treatment of Spanish *-co* in early loans is completely parallel to that of PZ *-ku(7), cf. *ke:7ku ‘river’ > ZZ *dyaw* and the discussion in 2.5.

loan lacks the expected features of early borrowings ($o > u$; $l > ly/_o, u$; $-co > jw$), which places it at a later period in comparison with *Lucas* (where $l > ly/_u$) and *Francisco* (where $-sco > -jw$). The fact that the final syllable of *loco* does not develop into *jw* means that the $-o > -w$ rule has already been replaced by the later rule that requires final vowels to be dropped. However, the fact that /k/ has developed to *j* means that the fricativization of fortis medial *k* was still operative in ZZ at the time it was borrowed, i.e. fairly recently. In contrast to the earlier pattern, present-day Sp $-/k/-$ is borrowed without modifications:

(17) Sp *banco* ‘bank’ > ZZ *banka*

The loanword evidence discussed in this section indicates that at the time of the earliest borrowings PZ intervocalic *kk was still a fortis velar stop, and *-kku(7) a bi-phonemic sequence. This means that the plain and labialized glottal fricatives were not yet present in the phonemic system. Moreover, as a consequence of their multiple reflexation (as *g, j, k* and *w, jw, j, k*, respectively), it is possible to divide Spanish loanwords that contain intervocalic /k/ and the final syllable /ko/ into several chronological strata.

2.5. *k/_o, u in unstressed syllables

Early adaptation of Spanish words in *-co* discussed in the preceding section is part of a more general process whereby *k is deleted in unstressed syllables when followed by round vowels:

(18a) Pretonic: PZ *ko- (marker of the Completive aspect, a proclitic) > ZZ *u* or *w*
 (18b) Posttonic: PZ *ke:7ku ‘river’ (stressed on the initial syllable) > Z *dyaw*

The post-conquest date of this change is assured by the treatment of post-tonic /ko/, /go/ in early borrowings:

(19a) Sp *banco* ‘bench’ > ZZ *bāw*
 (19b) Sp *trigo* ‘wheat’ > ZZ *triw*

Unfortunately, examples of pretonic /ko/, /go/ are lacking since in the earliest stratum of loans pretonic syllables (or at least vowels) were often dropped (cf. *Tomás, camisa* ‘shirt’, *escaño* ‘bench with a back’ > *mazh, mizh, xkay*). The reduction of the lenis velar before *o, u* ceased to be operative early enough, as is apparent from the adaptation of *compañero* (20): although this loanword shows the early change Sp $\tilde{n} > ZZ y$, the velar is preserved.

(20) Sp *compañero* ‘companion’ > Z *kumyer*

2.6. ZZ kw /k^w/ and gw /g^w/

ZZ *kw*, which occurs only initially, corresponds to PZ cluster *kp:

(21) *kpela ‘cornhusk’ > Z *kwal*

As mentioned in 2.5, in the earliest loans pretonic vowels (in some cases, the entire syllables) were dropped, cf.:

(22) *escaño* ‘bench with a back’ > *xkay*

The treatment of Sp *caballo* in (23) shows that the initial sequence /kb/, which resulted from the loss of the pretonic vowel, developed into *kw* just as PZ *kp:

(23) Sp *caballo* ‘horse’ > Z *kwey*

It is possible, based on the evidence of this loanword, that at the time of contact ZZ still had a consonant cluster rather than a unitary phoneme in place of *kw*. Unfortunately, *caballo* is the only loan that contains the sequence /kb/, and the possibility that the labial glide in ZZ reflects the fricative pronunciation of Spanish intervocalic /b/ cannot be ruled out.

ZZ *gw* /g^w/, which likewise occurs only initially, is also a derived phoneme; in contrast to *kw*, however, it cannot be identified with a single source in PZ.⁸ Although the support of Spanish loanwords is lacking in the case of *gw*, structural considerations make it likely that it, like its current fortis counterpart *kw* and the fricative *jw* may not yet have been phonemic at that stage.

2.7. ZZ *ly* /ɬ/

The straightforward PZ source of ZZ *ly* is word-initial geminate *ll (24a). (24b) shows that the normal treatment of word-medial reflexes of *ll is different and coincides with that of *l (24c):

(24a) *llaka7 ‘leaf’ > ZZ *lyag*

(24b) *p+ ella ‘fish’ > ZZ *bal*

(24c) *ty-e:7la ‘night’ > ZZ *ral*

As shown in (25a-b), *ly* also results from palatalization of *l in a variety of environments:

(25a) ZZ *ly* < *l/_e, i, u, as in *lu:7tze7 ‘tongue’ > ZZ *lyudx*

*lityi ‘house, home’ > ZZ *lyidy*

(25b) ZZ *ly* < *l/i, o, u_, as in *xxila7 ‘wing’ > ZZ *xily*

*ko-lana ‘hare’⁹ > ZZ *ulyan*

The treatment of Sp *l* in similar environments shows that the conditioned palatalization of *l is a post-contact phenomenon:

(26a) ZZ *ly* < Sp *l/_o, u*, as in Sp *lomo* ‘back of animal’ > ZZ *lyum-titx*

Sp *Lucas* > ZZ *lyuj*

⁸ *kw* and *gw* are analyzed as phonemes because the only initial clusters allowed in ZZ (*mb, ng, ngw, ndy*) have a nasal as the first element, and also because three-member clusters, which *ngw* would be if *gw* is considered bi-phonemic, are disallowed. A similar reasoning applies in the case of *jw* (see section 2.4).

⁹ The animacy marker of the ZZ proto-form for ‘hare’ (*ko-) differs from that posited by TK (*pi-).

(35) TZ consonants

	Labial	Alveolar	Postalveolar	Palatal	Velar
Stops	p b	t d		k ^y g ^y	k, k ^w g, g ^w
Affricates				tʃ dʒ	
Fricatives		s z	ʃ ʒ		
Nasals	m	n		ɲ	
Liquids		l, r		ʎ	
Glides	w			y	

Acknowledgment

I wish to thank Derek C. Carr for his valuable comments.

Abbreviations

JB	Benton (1988)
PZ	Proto-Zapotec
Sp	Spanish
TK	Kaufman (1994)
TZ	Texmelucan Zapotec
ZZ	Zaniza Zapotec

References

- Belmar, Francisco. 1901. *Breve noticia del idioma papabuco del pueblo de Elotepec*. Oaxaca: Imprenta del Comercio.
- Benton, Joseph. 1988. *Proto-Zapotec phonology*. Ms.
- Kaufman, Terrence. 1994. *Proto-Zapotec reconstructions*. Ms.
- Peñafiel, Antonio. n.d. *Vocabulario comparativo en zapoteco de Elotepec*. Ms.
- Speck, Charles H. 1978. *The phonology of Texmelucan Zapotec verb irregularity*. M.A. thesis, University of North Dakota.

Department of Indo-European Studies, UCLA
 Dodd 100
 P. O. Box 951417
 Los Angeles, CA 90095-1417

natacha@ucla.edu