Preserving the Language of the Valley Zapotec:
The Orthography Question

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In this paper, I will introduce the Zapotec people who have come to Los Angeles, specifically immigrants from the Tlacolula District of Oaxaca southeast of Oaxaca City, and their language. My focus is a seemingly prosaic but vital and potentially divisive issue they must deal with in their efforts to maintain their language in the United States. Orthography design is the single biggest concern currently hampering this binational community's language preservation goals.¹

The Zapotecs are the third largest indigenous ethnic group in Mexico (after the Nahuatls and Mayas), numbering over 400,000 in the 1990 census. Since the 1970s a great number of Zapotec people have immigrated from rural communities in Oaxaca (the Mexican state with the largest indigenous population) to the United States, where they initially work at entry-level jobs, sending money back regularly to families left behind in Mexico. Almost all of them arrive intending eventually to return to Mexico, and many do go back, but others become US citizens and establish permanent homes here. Probably the majority of these Zapotec immigrants come to Los Angeles: current estimates place the Oaxacan population of Los Angeles well above 50,000, the majority of whom are Zapotecs.

Many of the Zapotec immigrants in Los Angeles (and the rest of the United States) are undocumented. They have the usual problems of low-income workers everywhere, coupled with the special setbacks facing anyone living in the United States without a green card. Like most other immigrants, they face linguistic challenges, since they must learn English in order to participate fully in American life. But for many Zapotecos and other Oaxacans there is an additional hurdle, requiring acquisition of another language before English: the jobs most of them begin doing on arriving in the United States require primarily a knowledge of Spanish, which many Zapotecos and other rural Oaxacans know imperfectly at best.

"Zapotec" is the name not of a single language, but of a language family belonging to the Otomanguean linguistic stock containing over 50 mutually unintelligible varieties.

¹ I begin this paper with a caveat: while I'm honored by the invitation to speak about the Zapotec people and their wonderful languages, I am not a sociolinguist, and many of the observations I present here are anecdotal. I thank everyone who has taught me about the Valley Zapotec people and their language, both in Los Angeles and in Oaxaca, as well as the others who have helped me to understand Zapotecos, Oaxacans, and Mexicans. I am most grateful to my collaborator Felipe Lopez, who graciously introduced me to his language and his people, and to Ted Jones, Brook Lillegaunen, and Olivia Martínez for their linguistic insights. I also thank speakers Roberto Antonio, Fantino Aquino, Rodrigo Garcia, Fantino Gutierrez, Cecilia Lopez, and Silvia Lopez (among others): linguists Christopher Adam, Heriberto Avelino, Rosemary Beam de Azcona, Joe Benton, Cheryl Black, Aaron Broadwell, John Foreman, Michael Galant, Kristine Jensen de López, Felicia Lee, Ausencia López Cruz, Rob MacLaury, Steve Marlett, Natalie Opeinstein, Gabriela Pérez Báez, Velma Pickett, Thom Smith Stark, and Aaron Sonnenschein (among others); and, for additional help and discussion, Guillermo Hernandez, Kris Jones, Allen Klinger, Allen Munro, Lisa Sousa, and Kevin Terraciano. The work on which this paper is based has been supported by the National Science Foundation, the UC Mexus Foundation, and UCLA's Chicano Studies Research Center, Institute of American Cultures, Academic Senate, and Department of Linguistics.
(according to the *Ethnologue*, Grimes and Grimes, eds., 2003) spoken mainly in the state of Oaxaca. Speakers of most of these languages are included among the tens of thousands of Zapotec immigrants in Los Angeles. The *Ethnologue* reports a population of 28,500 speakers in Mexico and the United States (primarily Los Angeles) of the language I will discuss here, which is spoken the Valley of Oaxaca southeast of Oaxaca City, around the market town of Tlacolula (Figure 1).

![Figure 1. The Valley Zapotec area around Tlacolula de Matamoros, Tlacolula District, Oaxaca (García García et al. n.d.). San Juan Guelavía is west of Tlacolula, and San Lucas Quiavini is to the south.](image)

Because this language exists in as many distinct varieties as the number of pueblos in which it is spoken, I call it "Valley Zapotec" (or sometimes more fully "Tlacolula Valley Zapotec"). In this paper, I will use the word "language" to refer not only to Valley Zapotec, but also, more informally, to identifiably different dialectal varieties associated with different pueblos.

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2 This number is somewhat controversial (Kaufman n.d. has suggested that it is between five and 10), and rests on one's definition of "language". On the assumption that two languages are different if their speakers cannot understand each other, my guess would be the *Ethnologue*'s count is, if anything, low.

3 The *Ethnologue*'s name for this language (code ZAB) is "San Juan Guelavía Zapoteco". Based on my knowledge of the Valley Zapotec languages, however, I see no reason to consider the variety spoken in San Juan Guelavía or any other variety as more basic than another. Originally I was not even convinced that this was just a single language, since the inter-pueblo differences can be considerable. However, I have adopted that assumption as a working hypothesis.

4 In some previous work I have made comparisons between what I call here Valley Zapotec and the variety of Zapotec spoken in San Pablo Güilá (south of San Lucas on the map above; cf. López Cruz 1997), which speakers of San Lucas Quiavín Zapotec consider very similar to their language (Munro and Lopez et al. 1999: 6) and which was originally classified by SIL in the same group as the languages of San Lucas.
1. The people, in Mexico and the United States

I focus here on the people of one pueblo, San Lucas Quiaviní, 5 and the languages of that town and of San Juan Guelavía and Tlacolula de Matamoros, the three varieties of Valley Zapotec with which I have the longest personal experience. Residents of these very poor communities have traditionally supported themselves through subsistence agriculture, though Tlacolula, as the central market town, has more commercial and small industrial workers.

People from these areas have been coming to the United States to find work for more than thirty years: over half of the men of San Lucas Quiaviní, for example, have worked in the United States, and nearly everyone in the town has a relative working on the "other side", and the money these people send back to Oaxaca makes a huge difference in the community. Almost all male immigrants initially arrive illegally (after a dangerous border crossing), although a sizeable percentage of Zapotec immigrants later acquire American citizenship (achieved under the federal Amnesty program or through relationship with citizens). Their first work in the United States is usually dishwashing in a restaurant, although some begin work in carwashes or other businesses that hire undocumented Mexicans. Later, as they learn Spanish and English, these workers may become waiters or chefs or branch out into other employment. Zapotecs from the Tlacolula Valley choose Los Angeles (specifically, the West Side communities of Venice, Santa Monica, Mar Vista, and West Los Angeles) over other destinations in the United States because they have relatives already there who can assist them in finding jobs – which means, of course, that later immigrants continue to make the same decision.

Life in the Tlacolula Valley presents remarkable contrasts. Many aspects of community life and Zapotec culture, particularly in the smaller pueblos, have been the same for centuries, but other things are changing every day. Before dawn, farmers leave homes boasting television and camcorders from the United States to work their fields using oxen and medieval plows. Most communities have no regular source of running water and no home telephone service. There is reliable electricity throughout the Valley, however, and increasing numbers of roads are paved. Tlacolula has four public internet outlets as well as a Sunday market that draws merchants and shoppers from Oaxaca City and beyond. At the market, women in traditional dress sell home-raised produce a few feet away from hawkers displaying tables of CDs.

San Lucas Quiaviní, whose language I have been studying for ten years, is the pueblo with the highest percentage of Zapotec speakers in the Tlacolula Valley (98.1%; Smith Stark 1994). San Juan Guelavía was identified by SIL as the locus for its translation of the New Testament for this region (Liga Bíblica 1995), produced under the capable direction of Ted Jones and his colleagues. As the commercial center of the region, Tlacolula is home to many people from other areas of Mexico who do not speak Zapotec, and its language now only has a few hundred speakers (Brook Lillehaugen, personal communication), probably none younger than 50.

Quiaviní and San Juan Guelavía (Egland 1978:66). Since San Pablo Güílá Zapotec is now classified in a different group by the Ethnologue and since I have no personal experience with it, however, I will not consider it further here.

This section draws extensively on Lopez and Munro (1999) and the background research on which that article was based. I thank Felipe Lopez for helping me understand the history of Zapotec immigration to Los Angeles and the current situation of Zapotecs in Los Angeles, and for providing me with much of the information reported here.
All the varieties of Valley Zapotec are endangered, however. The speaker base of even San Lucas Quiavini Zapotec, which is still learned by almost all children born in the pueblo, is declining each year, as increasing numbers of families move to the United States with their wage earners. The majority of Valley Zapotec immigrants do not pass on full command of their language to children born in the United States. These parents have observed that while Spanish and English are necessary tools for them to get ahead in the US, Zapotec is not, so they are often reluctant to encourage their children to learn this third language. They have ample evidence that speaking Zapotec can cause difficulties. Before the demise of bilingual education in California public schools, for example, monolingual Zapotec children were often placed in bilingual classrooms (simply on the basis of their Mexican origin), where they had to learn two new languages at once, not just one.

Some Oaxacan immigrants, rather than simply choosing to raise their children as Spanish speakers, eventually decide to assimilate to the Latino mainstream, leaving their ethnic roots behind. Although Mexicans characteristically display pride in indigenous ancestry, being singled out as an indigenous person can leave one open to discrimination, primarily in Mexico, but also by Chicanos in the United States (Lopez and Munro 1999: 142-44). (Because of this prejudice against indios in Mexico, the people I work with do not like this English word Indian, even though this word does not usually have the same negative connotations in the United States.)

The most obvious mark of indigenous status is maintaining indigenous language and culture. If an indigenous person who speaks fluent Spanish cuts his ties with his home pueblo and stops using his indigenous language, he is perceived as mestizo rather than indigenous: in Mexico, ethnicity is a cultural and linguistic classification rather than a racial one. Consequently, some Oaxacans may say they come from other states or deny that they speak an indigenous language. One story about such a denial is in (1).6

(1)

Te'ihiby gwe'ellih te'ihiby bùunny..., byòo'nn, byo'chàa'gèhnn x:che'cèhnn ba'aaangw te'ihiby gwe'ellih, chigu'all bzhennny te'ihiby gaba'ch ri'cy, chu'u're'ipya' làih, "¿Qué paso?" nnòo'. Pues, "Bien," rahc-ihzyih.

"¿De dónde eres?" re'ihipiyh o'mbrih, cèhmm làih zu'gwa'ih dela'aannd, nnòo'.

"Pues, soy de Guerrero," rahc bùunny.

Chi'cy, "¿O si? ¿sabes qué? yo ayer llegué, precisamente vengo de Guerrero. ¿De qué parte eres?"

One time there was a guy..., we went, we went to cash our checks at the bank one time, and then a white guy came along there, so I said to him, "How's it going?" you know. So, he just said, "Fine."

"Where are you from?" he asked that man, because he was standing in the front, you know.

"Well, I'm from Guerrero," the guy said.

Then [the white guy said], "Oh, really? You know what? I just got back yesterday, in fact, I've come from Guerrero. What part are you from?"

6 (1) is an excerpt from the collection of immigration narratives being edited as Lopez and Munro (eds., in preparation). The first column is a transcription of the original narrative in San Lucas Quiavini Zapotec, with code-switches into Spanish (cf. Martínez 2000) given in italics. The second column is an English translation, with italics used for translations of sections originally produced in Spanish. (Assimilated loans from Spanish are not specially marked.)
Híjoles, bzalloh nií'iny dëbaza' rahcnài'ya' nií'iny zugá' ri'cy zhi', nnòo'. "Pues, de Acapulco," rahc nií'iny.

"O. ¿Pues, que haces aquí? " rahc-ih."¿Vienes de vacaciones, o qué?"
Depl'a'nñ, depl'a'nñ, nnòo'.

Bilàà'z, nnòo', nu'uh gwe'ell làa'g bùunny ruhny rregaar ra co'sih, nnòo'.

Wow, the guy started to sweat, the guy was just standing there, you know."Well, from Acapulco," said the guy.

"Oh. Well, what are you doing here?" he said."Did you come on vacation, or what?"
Really, really, you know.

Forget [it], you know, sometimes it's one's own fault with these things, you know.

At the same time, Oaxacans are becoming a more visible – and accepted – part of the diverse ethnic community that is Los Angeles. There are two annual Guelaguetza festivals featuring dancing by different Oaxacan ethnic groups. The Los Angeles Times has frequently recommended Oaxacan restaurants (especially Guelaguetza in the Palms area of West Los Angeles, which is run by Valley Zapotecs). Several West Side churches have held Zapotec-themed Masses with readings from the San Juan Guelavía New Testament. The current issue of Los Angeles magazine (September 2003) includes a sympathetic article about a Zapotec woman who was one of the victims of the out of control driver who killed 11 people in the Santa Monica farmers' market.

For most Zapotec arrivals in Los Angeles maintenance of expatriate community ties is very important. Most of the pueblos in the Tlacolula Valley have community organizations in Los Angeles. The original purpose of these networks was to help people find jobs and housing, but raising money for development and educational projects in Mexico (for example, building public restrooms in San Lucas Quiaviní) has become a new priority. These contributions supplement the private remissions most immigrants send back to their families (often carried by couriers at some personal risk). The influence of immigration is easily observed throughout the Tlacolula Valley, where, for example, brick houses (often with luxurious features like indoor toilets) built with money sent from the United States are gradually replacing older adobe structures.

Language endangerment is an important human problem. Languages reflect much of their speakers' culture and experience, and much of a society's knowledge and expressions are inevitably lost with the loss of language. Moreover, differences among languages are one aspect of biological diversity, providing insight into different ways cognitive processes are actualized. Any language's passing diminishes mankind. Despite their truth, such abstract and academic ideas are remote from the experience of people living at the poverty level and desperately trying to better their lives and the lives of their children. It is only as people gain a foothold in society that they find the leisure to worry about the potential loss of their culture and language.

Maintaining a language that does not have a written form is a difficult proposition. Thus, a serious problem for the Valley Zapotec people is that there is no standard way to write their language. Without an accepted way to write their language, it is harder for people to preserve their language and maintain a political identity.

2. The languages

The languages of the Zapotec family are VSO languages with a complex phonology,
especially in the languages spoken in the Valley of Oaxaca, as I'll discuss shortly.\footnote{Some Zapotec languages, such as those spoken in the Isthmus and Sierra Juárez regions, have a relatively simpler phonology and consequently have had fewer problems settling on acceptable orthographies.} I will refer to the separate varieties of Valley Zapotec I'll be discussing here by their initials: SLQZ for San Lucas Quiaviní Zapotec, SJGZ for San Juan Guelavía Zapotec, and TMZ for Tlacolula de Matamoros Zapotec. Although I am considering these three language varieties (along with the other languages of the Tlacolula Valley) as representing one language, the three display remarkable differences at all levels of grammar. Most of this talk will focus on phonological differences, but I will present two examples of morphosyntactic contrasts among the languages.

An important area in which speakers routinely notice differences in the speech of other pueblos is the system of third person pronouns (cf. Munro 2002).\footnote{The SLQZ data is slightly adapted from Munro (2002) and the SJGZ data is from Jones and Church (1985). Thanks to Brook Lillehaugen for the TMZ data, and to Brook Lillehaugen and Olivia Martinez for discussion of these pronoun systems.} Table 1, for example, presents the three languages' third person singular pronominal clitics, each of which shows an a different opposition between six categories reflecting a deictic and respect hierarchy. San Lucas Quiaviní speakers remark with amazement, for example, that speakers from San Juan Guelavía use \(=b\) or \(=by\) to refer to familiar people or to children, while in San Lucas the apparently cognate pronoun \(=ahb\) is only formal.

<table>
<thead>
<tr>
<th>San Lucas Quiaviní</th>
<th>San Juan Guelavía</th>
<th>Tlacolula de Matamoros</th>
</tr>
</thead>
<tbody>
<tr>
<td>(=ihny) / (=nìi') reverential</td>
<td>(=ny) honorific</td>
<td>(=nìi') reverential</td>
</tr>
<tr>
<td>(=ëhb) formal</td>
<td></td>
<td>(=ba) respectful</td>
</tr>
<tr>
<td>(=ahzh:) respectful</td>
<td>(=ll) / (=llì) male &gt; male</td>
<td></td>
</tr>
<tr>
<td>(=ëng) proximate</td>
<td></td>
<td>(=by) child</td>
</tr>
<tr>
<td>(=ih) distal</td>
<td>(=ni) inanimate</td>
<td>(=ni) inanimate proximate</td>
</tr>
<tr>
<td>(=ëhmm) animal/child</td>
<td>(=m) / (=mì) animal</td>
<td>(=mma) animal</td>
</tr>
</tbody>
</table>

Table 1. Third person singular pronominal clitics in three Valley Zapotec languages.

No comparative syntactic study of the Valley Zapotec languages has been made. To give a feeling for the phonological, lexical, and grammatical variation among three languages (SJGZ, SLQZ, and TMZ), examples (2-4) contrast their translations of a brief passage from
Philippians 4:8. In (3-4), SLQZ and TMZ are presented in the SLQZ orthography of Munro and Lopez et al. (1999) (henceforth ML), about which I'll say more soon. There are two rows in the table for SJGZ: the first, (2a) uses the standard New Testament orthography developed by Ted Jones, Joaquín López, and their associates (for Liga Bíblica 1995 and other work; henceforth JL), and the second, (2b), is a (tentative) transcription into an orthography more similar to the orthography for SLQZ and TMZ, included here to give a rough idea of the phonetic similarity among the languages. (5) provides an English translation of the verse.

(2) SJGZ

(a) Nare rniia laat de xcumpiera: gulgaany xgab púzi pur ni ná didzdídíf…

(b) Nàa're' r-nnì=a' làa't de x:-cumpnier=a': gull-gàa'ny
I hab-say=1s you.pl.inf pl poss-friend=1s hort-pl.imp.do
x:-ja'ab puu'r=zi' pur nì nàa dìi'dzhldii…
poss-thought only=emph through rel cop truth

(3) SLQZ

Nàa' r-nnì=a' làa'd x:-amiegw=a': u'all g-unny
I hab-say=1s you.pl.inf poss-friend=1s hort irr-do
x:-ja'ab x:tèe'n ra'=ta' nìh nàa dìi'xtii…
poss-thought of all=emph rel cop truth

(4) TMZ

Nàa're' r-nnì=a' loh=tuu' x:-miegw=a': gu'all b-èe'n
I hab-say=1s to=2.p.inf poss=friend=1s hort perf-do
x:j-a'ab loh ra'=te' nìh nàa dìi'zhlii…
poss-thought to all=emph rel cop truth

(5) 'I say to you, my friends: think about all that is the truth…'

Almost every word of this brief passage reveals an aspect of morphology, syntax, or lexicon that these languages approach differently:

- 'I'. In SLQZ, the independent pronoun 'I', used emphatically before the verb, is nàa'; in TMZ it is nàa're'. In SJGZ, either form can be used.

- 'say to you [plural informal]'. 'I say' is rnnììa', which includes the first person singular clitic pronoun =a'. In SJGZ and SLQZ the verb rnnììi' 'says' may be used

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9 This verse (in SJGZ) appears on Ted Jones's wonderful annual calendar for 2003. The SLQZ and TMZ versions follow the SJGZ version (from Liga Bíblica 1995) rather than the Spanish or English (or Greek!). Thanks to Cecilia Lopez, Felipe Lopez, and Roberto Antonio for their translations and insights, and to Olivia Martínez and Brook Lillehaugen for assistance.

10 Underlined vowels in this transcription of SJGZ correspond to breathy vowels in SLQZ and TMZ.

11 Abbreviations used in the glosses include cop : copula, emph : emphatic, hab : habitual, hort : hortative, inf : informal, imp : imperative, irr : irrealis, pl : plural, poss : possessive, rel : relative. The equals sign (=) represents a clitic boundary. 1 and 2, s and p are used for pronominal clitic glosses.
both intransitively and transitively (it may take a semantic dative as a direct object). In TMZ, however, the verb is only intransitive. The dative object is expressed as the object of the preposition loh 'to'. (The TMZ second person plural clitic here, =\(b\)tuu', which (unlike the corresponding independent pronouns) is not differentiated for formality, contrasts with the SJGZ and SLQZ second person plural informal clitics =\(t\)ë and =\(ah\)d.)

• 'my friends'. (a) SJGZ uses the plural proclitic before 'my friends'. (The plural proclitics, incidentally, vary among the three languages (SJGZ de, SLQZ ra, TMZ da).) In SLQZ it is not possible to use the plural proclitic along with the plural pronoun.
(b) The word translated here 'my friends' in SJGZ (from Spanish compañero) seemed less appropriate in this context than the more neutral word (from Spanish amigo) in SLQZ and TMZ.

• 'think [plural informal imperative]'. Each of the three languages expresses 'think' with a form of 'do' plus the word \(x\)ja'ab. \(^{14}\) Considerable grammatical variation is observed in the plural imperative constructions used here. All three languages begin plural imperatives with cognate hortative particles (SJGZ gull, SLQZ u'all / gu'all, TMZ gu'all), but what follows in each case varies. TMZ follows the particle with the perfective stem of the verb (here b\(ë\)'en, the perfective stem of ruhn 'does'), which is used as the normal singular imperative in all three languages. SLQZ follows the particle with the irrealis stem of the verb (here guuny, the irrealis stem of ruhny 'does'); it is also possible to use the perfective stem in this construction in SLQZ. SJGZ, however, uses a hortative form (quite likely more conservative) that appears to be unpredictable: here, this element -g\(a\)'a'n has elements both of the irrealis and perfective stems of ryn 'does'.

• 'about all'. (a) The three languages use three different prepositions to express 'about' here, SJGZ pur 'for' (from Spanish por), SLQZ x\(t\)ëe'n (more commonly 'of'), and TMZ loh (more commonly 'to').
(b) SJGZ expresses 'all' with puu'\(r\)zi', puu'r (from Spanish puro 'all, wholly') plus an emphatic clitic. SLQZ and TMZ use ra'ta' and ra'te', 'all' plus a different emphatic clitic.

• 'that is true'. Each language uses relative/complementizer, SJGZ ni and SLQZ-TMZ nih, plus copular n\(a\)a for 'that is'. The words for 'the truth' use SJGZ d\(i\)'i'dzh and SLQZ-TMZ d\(i\)'i'zh 'word, language' plus the attributive adjectival word for 'right, correct'. In SJGZ and TMZ these words are ldii and TMZ lii. In SLQZ the word is nd\(i\)i l (attributive) d\(i\), but 'truth' is d\(i\)'i'xtii.

3. The sounds of the languages

I will illustrate the phonology of these languages by using SLQZ as an example, presenting

\(^{12}\) Alternatively (but perhaps less correctly, according to Roberto Antonio), in TMZ, the verb 'says' can be transitivized by the addition of the applicative \(–n\)èe (usually 'with', but sometimes 'to', giving mn\(i\)'ne\(a\) l\(à\)\(a\)'\(t\)nu).
\(^{13}\) These words translate St. Paul's brothers / hermanos. Undoubtedly the SJGZ translators led by Jones considered the spiritual connotations of this word choice very carefully, and the lexical difference shown in the table may not be significant.
\(^{14}\) The conservative pronunciation of this word (cf. the SJGZ spelling in (2a) and Córdova's 1578 Colonial xigaba-) is \(x\)\(j\)a'ab, but all three speakers consulted here say \(x\)\(j\)a'ab. Many Valley Zapotec speakers replace g with j [x] after the voiceless retroflex fricative x: in words like this.
the data once again in the ML orthography of Munro and Lopez et al. (1999). 15

3.1 Consonants

The consonants of SLQZ are given in Table 2. These consonants are similar to those of other Valley Zapotec languages.16

<table>
<thead>
<tr>
<th></th>
<th>labial</th>
<th>den-alv</th>
<th>alv-pal</th>
<th>retroflex</th>
<th>velar</th>
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<tbody>
<tr>
<td>fortis stop</td>
<td>p</td>
<td>t</td>
<td></td>
<td></td>
<td>c/ qu [k]</td>
</tr>
<tr>
<td>lenis stop</td>
<td>b</td>
<td>d</td>
<td></td>
<td></td>
<td>g/ gu [g]</td>
</tr>
<tr>
<td>fortis affricate</td>
<td>ts</td>
<td>ch [ç]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>fortis fricative</td>
<td>f</td>
<td>s</td>
<td>x [ʃ]</td>
<td>x: [ɬ]</td>
<td>j [x]</td>
</tr>
<tr>
<td>lenis fricative</td>
<td>z</td>
<td>zh [ʒ]</td>
<td>zh: [ʒ]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>lenis nasal</td>
<td>m</td>
<td>n</td>
<td></td>
<td>ng [ŋ]</td>
<td></td>
</tr>
<tr>
<td>fortis nasal</td>
<td>mm</td>
<td>nn</td>
<td></td>
<td>nng (fortis [ŋ])</td>
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<tr>
<td>lenis lateral</td>
<td>l</td>
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<tr>
<td>fortis lateral</td>
<td>ll</td>
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<td>trill (fortis?)</td>
<td>rr</td>
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<tr>
<td>glide (lenis)</td>
<td>w</td>
<td>y</td>
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</tbody>
</table>

Table 2. The consonants of SLQZ.

Zapotec languages generally contrast fortis and lenis obstruents and sonorants. Fortis obstruents are voiceless. Lenis obstruents are canonically voiced but may devoice in many positions. Fortis consonants are longer in duration than the corresponding lenis consonants.

Fortis stops are usually slightly aspirated, and may be heavily aspirated in final position. Fortis sonorants are usually fully voiced, but may devoice finally, especially ll, particularly in the environment of breathy vowels and/or a following y.

Generally, f and j occur only in loanwords; for many speakers, however, they also may be conditioned variants of b and g. The phonemic status of ng and nng in non-loans is marginal. In onset position, these are clearly clusters. In coda position, these are sometimes heard as clusters, but normally they are velar nasals, occurring in one ubiquitous grammatical morpheme (the third person proximate pronominal) and in many loans, but also in a few native words. The unit phonemic status of rr outside of loanwords is dubious. Rr occurs primarily in loans; in native words, rr is generally a cluster of r plus r, but also occurs in a very few words whose analysis is not clear.

15 For more on the phonology and phonetics of the Valley Zapotec languages, see Jones and Knudson (1977) and Munro and Lopez, et al. (1999).
16 Several languages have lenis affricates corresponding to the fortis ones in Table 2; SJGZ at least also has a retroflex fortis affricate.
3.2 Vowels

The languages of the Tlacolula Valley have complicated vowel systems, with vowels differentiated not only in terms of quality but also by phonation and tone, with vowels of different phonation types often occurring together in a single syllable.

Most languages have vowels of five qualities \textit{a e i o u} and high back to central unrounded \([\ddot{u} / i]\) (written as \(\ddot{e}\) in the ML orthography);\footnote{Ted Jones has recently noted (personal communication) that Teotitlan del Valle Zapotec appears to have seven contrastive vowel qualities.} SLQZ has ten diphthongs \textit{ai au ei eu ia ie iu ua ue ū}.\footnote{A few other diphthongs occur in recent Spanish borrowings and a few additional rare words; we will not consider these here.}

Most languages have four phonation types.\footnote{SJGZ is described as not having contrastive breathy vowels (Jones and Knudson 1977; Ted Jones, personal communication), although the language does have many phonetically breathy vowels (as confirmed by Olivia Martinez). The SJGZ vowels that correspond to phonemically breathy vowels in other Valley Zapotec languages have a distinctive tone and seem likely to be different in phonation from modal vowels, though confirmation of this hypothesis awaits further work. (In addition to the phonation types described in the text, there seems to be a fourth non-modal phonation type (represented as \(\ddot{a}a\) in Table 3 below), which we currently refer to as "funny phonation".)} Vowels may be modal (plain) (written with a plain vowel in the ML orthography, e.g. \(a\)), creaky (written with a vowel with a grave accent, e.g. \(à\)), checked (postglottalized, written with a following apostrophe, e.g. \(a'\)), or breathy (written with a following \(h\), e.g. \(ah\)).\footnote{Note that the glottal stop (\(\prime\)) and \(h\) that occur as elements of these complex vowel types are not considered to be separate phonemes in our analysis or in any analysis of the Valley Zapotec languages with which we are familiar.}

The analysis my collaborator Felipe Lopez and I worked out of the tonal system of SLQZ\footnote{Thanks to Matthew Gordon and Jie Zhang (among others) for their help with this analysis.} appears to be applicable, with some modifications, to other languages of the Tlacolula Valley.\footnote{I will not review here all the differences between the description of SLQZ and the description of SJGZ phonology in Jones and Knudson (1977), prepared after only a total of 13 months’ fieldwork by Jones (180). Jones and Knudsen analyze SJGZ as having three contrastive level tones and briefly mention the possibility of mid-to-high contours before lenis consonants or finally; however, they give only two-way minimal sets. They also suggest that the variations we describe as different sequences of vowels and phonation types are conditioned.} The tone melodies on SLQZ vowel complexes in final syllables of lexical items are derived from the number and phonation type of a syllable's complex of up to three (or, in certain citation forms, four) vowels rather than representing primary contrasts (in other words, a given vowel complex always has the same tone, and there are no tone contrasts on instances of the same vowel complex). SLQZ tone can be specified as level high, level low, rising, or falling.

Table 3 below presents the 33 phonation/tone types we currently recognize for SLQZ (again in the ML orthography), most of which have direct analogues in other Valley Zapotec languages. The first column presents the type of vowel complex (sequence of two modal vowels, sequence of three modal vowels (only in a diphthong), etc.), shown schematically with the vowel \(a\) (or \(ia\) for complexes which are always mapped onto diphthongs). The second column gives an example. The third tells the tone associated with this pattern. Tone is not specifically marked, since the tone associated with any given vowel complex is always...
identical. There are three or more different vowel complex types for each of the four different tones.

<table>
<thead>
<tr>
<th>Pattern</th>
<th>Examples</th>
<th>Tone</th>
</tr>
</thead>
<tbody>
<tr>
<td>aa</td>
<td>syudaa &quot;city&quot;</td>
<td>high</td>
</tr>
<tr>
<td>iia</td>
<td>badiia &quot;roadrunner&quot;</td>
<td>high</td>
</tr>
<tr>
<td>a'</td>
<td>cha't &quot;kiss&quot;</td>
<td>high</td>
</tr>
<tr>
<td>ah</td>
<td>zah &quot;grease&quot;</td>
<td>low</td>
</tr>
<tr>
<td>aha</td>
<td>lohoh &quot;face&quot;</td>
<td>low</td>
</tr>
<tr>
<td>ãa</td>
<td>dàany &quot;mountain&quot;</td>
<td>low</td>
</tr>
<tr>
<td>a'a</td>
<td>da'ad &quot;father&quot;</td>
<td>rising</td>
</tr>
<tr>
<td>a'aa</td>
<td>gami'iizh &quot;blouse&quot;</td>
<td>rising</td>
</tr>
<tr>
<td>ãaa</td>
<td>nàaan &quot;mother&quot;</td>
<td>rising</td>
</tr>
<tr>
<td>ãa'</td>
<td>ãa' &quot;yes, that's right&quot;</td>
<td>rising</td>
</tr>
<tr>
<td>a'ah</td>
<td>cu'uhb &quot;tejate&quot;</td>
<td>falling</td>
</tr>
<tr>
<td>a'ahah</td>
<td>gahll gui'ihihz &quot;sickness&quot;</td>
<td>falling</td>
</tr>
<tr>
<td>a'ah</td>
<td>be'euh &quot;turtle&quot;</td>
<td>falling</td>
</tr>
<tr>
<td>a'aha</td>
<td>re'chini &quot;blood&quot;</td>
<td>falling</td>
</tr>
<tr>
<td>aa'ah</td>
<td>baa'ah &quot;earlier today&quot;</td>
<td>falling</td>
</tr>
<tr>
<td>a'aa'</td>
<td>ca'aan &quot;will stroke&quot;</td>
<td>falling</td>
</tr>
<tr>
<td>a'a</td>
<td>bax:aa&quot;t &quot;toad&quot;</td>
<td>falling</td>
</tr>
<tr>
<td>a'aa</td>
<td>zhi'illy &quot;sheep&quot;</td>
<td>falling</td>
</tr>
<tr>
<td>aàa'</td>
<td>mnnààa&quot;woman&quot;</td>
<td>falling</td>
</tr>
<tr>
<td>a'aa'</td>
<td>zhi'iizh &quot;pineapple&quot;</td>
<td>falling</td>
</tr>
<tr>
<td>ãa'ah</td>
<td>dàa'ah &quot;petate&quot;</td>
<td>falling</td>
</tr>
<tr>
<td>ãàa'ah</td>
<td>rçwààâ'ah &quot;throws&quot;</td>
<td>falling</td>
</tr>
<tr>
<td>ãa'</td>
<td>rçà'a&quot;z &quot;wants&quot;</td>
<td>falling</td>
</tr>
<tr>
<td>ãa'a</td>
<td>zhi'iiny &quot;son&quot;</td>
<td>falling</td>
</tr>
<tr>
<td>aàa'ah</td>
<td>rloòo'oh &quot;floods&quot;</td>
<td>falling</td>
</tr>
<tr>
<td>aàa'</td>
<td>yaàa&quot;up&quot;</td>
<td>falling</td>
</tr>
<tr>
<td>aahah</td>
<td>iihahz &quot;year&quot;</td>
<td>falling</td>
</tr>
<tr>
<td>iiah</td>
<td>cu'liiahd &quot;altar boy&quot;</td>
<td>falling</td>
</tr>
<tr>
<td>aah</td>
<td>baahly &quot;flame&quot;</td>
<td>falling</td>
</tr>
<tr>
<td>ãah</td>
<td>rzñahz &quot;gets drunk&quot;</td>
<td>falling</td>
</tr>
<tr>
<td>aha</td>
<td>cureheheizh &quot;cabbage&quot;</td>
<td>falling</td>
</tr>
<tr>
<td>aaha</td>
<td>barcwiaha'cw &quot;bird witch&quot;</td>
<td>falling</td>
</tr>
<tr>
<td>aha'</td>
<td>rlaah&quot;t &quot;gets unloaded&quot;</td>
<td>falling</td>
</tr>
</tbody>
</table>

Table 3. SLQZ vowel complexes and associated tones.

As the examples here suggest, a monosyllabic word in SLQZ has the canonical shape CCGVVVCCCG, where C = any consonant, V = any vowel (i.e. a, ã, ah, a'), and G = the glide y or (more rarely) w. Table 3 shows that only certain combinations of vowels occur. The range of onset CC clusters is extensive, while the only coda CC clusters that occur in
native words are **lld, ng**, and **nng**. All members of the syllable template are optional except for a single vowel, but vowel-initial words are quite rare.

We refer to the final syllable of a lexical item as its key syllable. There are three important syllabic positions in an SLQZ word: pre-key syllable, key syllable, and clitic. Changes occur in many key syllables when they are non-phrase-final. Certain key syllables containing three vowels regularly reduce to two-vowel "combination form" sequences in non-phrase-final position, and a few syllables containing two vowels regularly reduce to one. The phonological reductions these changes entail are accompanied in some cases by tone changes, corresponding to the "tone perturbation" (sandhi) phenomena described for other Zapotec languages (e.g., by Pike 1948). Crucially, there are many fewer combination form types than key syllable types, so distinctions between many key syllable types are neutralized in combination environments.

Speakers are well aware of various contrastive sets of words differing only in vowel complex, a few of which are shown (for SLQZ) in Table 4. Sometimes literate speakers describe the members of such sets as being spelled the same way, a notion that is reflected in the simplified spellings (in < >'s) at the top of each column.

<table>
<thead>
<tr>
<th>tone</th>
<th>&lt; bel &gt;</th>
<th>&lt; gyia &gt;</th>
<th>&lt; na &gt;</th>
<th>&lt; nda &gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>high</td>
<td><strong>Be'Il 'Abel'</strong></td>
<td>gyia 'will go home'</td>
<td></td>
<td></td>
</tr>
<tr>
<td>low</td>
<td>behl 'fish'</td>
<td>nah 'now'</td>
<td>nnah 'says'</td>
<td></td>
</tr>
<tr>
<td>low</td>
<td>gyihah 'rock'</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>falling</td>
<td>gyìa 'agave root'</td>
<td>nàa 'is'</td>
<td>ndàa 'sensitive'</td>
<td></td>
</tr>
<tr>
<td>falling</td>
<td>bèèe'll 'snake'</td>
<td>gyìa 'flower'</td>
<td></td>
<td></td>
</tr>
<tr>
<td>falling</td>
<td>bèèe'll 'naked'</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>bèèe'll 'sister (w.s.)'</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>falling</td>
<td>nnaàa'ah 'heavy'</td>
<td></td>
<td>ndàa'ah 'had broken'</td>
<td></td>
</tr>
<tr>
<td>falling</td>
<td>bèèe'll 'meat'</td>
<td></td>
<td>nnaàa' 'hand'</td>
<td>ndàaàa' 'hot'</td>
</tr>
</tbody>
</table>

*Table 4. Some SLQZ contrastive sets for vowels.*

---

23 **Lld** represents an old variant of **ll**. As discussed earlier, **nng** and **ng** are clusters in onset and intervocalic positions, but may be pronounced as velar nasals finally; it’s not clear if these are unit phonemes.

24 Normally poststress vowels in Spanish borrowings are deleted, with the result that the original stressed syllable becomes the key syllable of the borrowed word. In the relatively rare cases where poststress vowels are not deleted, our orthography writes an acute accent on the first vowel of the key (stressed) syllable.

25 Munro and Lopez et al. (1999: 4-5) present a list of these for each of the syllable types in Table 3.
4. Writing Valley Zapotec\textsuperscript{26}

Efforts to record the languages of the Tlacolula Valley in roman orthography date back to the sixteenth century.

4.1 Existing orthographies\textsuperscript{27}

Three orthographic traditions account for most of the literature on and in these languages.

- A dictionary and grammar by Fray Juan de Córdova (1578a, b), based on the speech of Tlacochahuaya, were the first published representation of any Zapotec language. From the sixteenth to the eighteenth century, native-speaking scribes throughout the Valley of Oaxaca wrote Zapotec in legal and other documents using a similar orthography. It is not clear exactly what pronunciations are represented by the spellings of Zapotec words in these sources, or whether all the languages documented in this period would have been mutually intelligible with each other. These representations of Colonial Valley Zapotec may be characterized as "informal" – almost certainly, their spellings do not represent all the phonological features of the language, and they are demonstrably inconsistent, internally and with each other.


- Lopez and I began our linguistic analysis of SLQZ in 1993. Our work has resulted in two-volume dictionary (Munro and Lopez, et al., 1999) and a number of published papers; other UCLA researchers have produced two dissertations (Galant 1998, Lee 1999), three master's theses (Méndez [Martínez] 2000, Esposito 2002, Lillehaugen 2003), and additional papers on Valley Zapotec languages. We are currently editing for publication a group of narratives (Lopez and Munro, eds., in preparation). There has also been briefer fieldwork on SAVZ. New or extended lexical work and other research is currently in progress on SLQZ, SJGZ, TMZ, and SAVZ.

Despite all this, very few speakers of Valley Zapotec are literate in their native language. Valley Zapotec has virtually never been the subject or medium of classroom instruction either in the United States or in Mexico, in part because of prejudice and lack of government efforts to support the use of the languages. Another very serious problem, however, is

\textsuperscript{26} Much of this section draws on Munro and Lopez (2003); a shorter but slightly updated presentation of some of this material is included in Munro (2003). I am also very grateful to Brook Lillehaugen, Steve Marlett, Olivia Martinez, and members of the audience at the 2003 SSILA meeting for helpful discussion. This paper could not have been written without Ted Jones's generous help.

\textsuperscript{27} Another interesting "tradition" is reflected in the signs in Zapotec at archaeological sites around Tlacolula, such as Yagul, Dainzú, and Lambityeco. These signs, which use an orthography I have not seen elsewhere, were erected by the Instituto Nacional Indigenista (INI), but I have not been able to identify what variety of Zapotec they are in.
orthography. The struggle to find a workable orthography for the Valley Zapotec languages seems never-ending.

In this section, I will describe the strengths and weaknesses of the two modern orthographies for Valley Zapotec. I will not say much about the Córdova orthography, because it is used inconsistently and its precise phonetic values cannot be determined (since there is no way to know exactly what the vowels of Colonial Zapotec sounded like). To my knowledge, no one is currently attempting to use this orthography.

4.11 Consonant orthography comparison

As is clear from section 3.2, the major problem for writing Zapotec is vowels, but I will briefly discuss representation of consonants in both the Jones and López orthography for SJGZ (JL, as described in Jones and Church (1985) and other work) and the Munro and Lopez orthography for SLQZ (ML). Twelve consonant sounds are written identically in both orthographies: `p t c/qu b d f g/gu j ts z r rr y`.

Table 5 below presents a comparison of the orthography for the other consonants. ("—" means a segment is (apparently) not present; where relevant, I have indicated the way this sound might be written in a similar tradition.)

As Table 5 shows, there are a number of differences in the representation of consonants in the two orthographies:

- The JL orthography does not recognize the alveopalatal/retroflex distinction, which is written in the ML orthography with a colon following the alveopalatal grapheme. In fact, this distinction carries a very low functional load.

- The lenis alveopalatal fricative is written `zh` in ML, `ll` in JL. `Zh` is a "modern" choice comparable to `sh`. `Ll` was chosen because many speakers of Oaxacan Spanish pronounce Spanish `/y/` (written either "y" or "ll") as `[y] ~ [z#]`. (ML did not use "ll" in this way because of the need to represent the fortis `ll`.)

- The JL orthography does not represent the fortis/lenis sonorant distinction, which is shown in the ML orthography with the fortis sonorants written doubled. This distinction also has a relatively low functional load.

- The JL orthography does not write `w`.

- The JL orthography is said not to represent the velar nasal.

\[28\] Some cases where ML would write prevocalic `y` would be written with `i` in the JL orthography. `F` and `j` are written in the JL orthography only in Spanish loanwords. (There are some additional issues involving writing loanwords that I ignore here.)
phonetic identification  |  JL (SJGZ)  |  ML (SLQZ)
---|---|---
fortis alveopalatal fricative  |  x 29  |  x  
fortis retroflex fricative  |  x:  |  
lenis alveopalatal fricative  |  ll  |  zh  
lenis retroflex fricative  |  zh:  |  
fortis alveopalatal affricate  |  ch  |  ch  
fortis retroflex affricate  |  — (ch:)  |  
lenis danti-alveolar affricate  |  dz  |  — (dz)  
lenis alveopalatal affricate  |  dx  |  — (dzh)  
fortis bilabial nasal  |  m 30  |  mm  
lenis bilabial nasal  |  m  |  
fortis danti-alveolar nasal  |  n 31  |  nn  
lenis danti-alveolar nasal  |  n  |  
fortis lateral  |  l  |  ll  
lenis lateral  |  l  |  
fortis velar nasal  |  — (?): 32  |  nng  
lenis velar nasal  |  n (?):  |  ng  
(lenis) bilabial glide  |  u / ü (after g)  |  w  

Table 5. Comparison of the JL and ML orthographies for consonants.

4.12 Vowel orthography comparison

The qualities of the first five vowels are written identically in both orthographies: a e i o u. The sixth (high back unrounded) vowel is written ë in ML and i in JL.33 The systems differ mainly in the representation of phonation and tone.

Phonation contrasts are much more salient than tone contrasts in Valley Zapotec. As noted earlier, the SLQZ vowel complexes represented in the ML system serve as an indirect indication of tone (Table 3).

The JL system similarly indicates phonation rather than tonal contrasts. Jones and Church (1985: 14) describe their representation of vowels as follows: "Both laryngealized

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29 Jones and Church (1985) do not mention the retroflex fricatives and affricate.
30 Jones and Church report that lenis m and fortis mm are distinguished in the orthography. However, words Jones and Knudson record with fortis mm, such as jimy 'basket' (166; Jones and Knudsen use understriking to indicate fortis sonorants), are written with a single m in the New Testament (e.g. as dxumy in Matthew 13:48). (It may be, however, that some mm's are written in the New Testament.)
31 Jones and Church describe an orthographic distinction between lenis and fortis n and nn. Again, though, words recorded by Jones and Knudsen with fortis nn, such as c#on 'three' (164), are written with a single n in the New Testament (e.g. as chon in Luke 11:5). (It may be, however, that some nn's are written in the New Testament.)
32 Jones and Knudson (1977) report only a lenis velar nasal (outside of clusters of n plus a velar), occurring as a conditioned variant of n following ë. Their examples suggest this may occur only in the inanimate clitic pronoun, which is written –ni by Jones and Church (1985), but which we have recorded as =ng, including following vowels other than ë (possibly Jones and Knudsen's analysis requires rule ordering).
33 ML originally wrote this vowel as i, choosing this grapheme rather than the strikethrough version for ease in computer keyboarding. We decided to change this to ë (following a suggestion by Steve Marlett) because some SLQZ words exhibit interspeaker variation between e and ë (furthermore, more Zapotec languages seem to write their sixth vowel with some form of "e").
[creaky] and checked vowels are written as double vowels. Where a minimal contrast exists between two words, an acute accent (´) is written on the first vowel to indicate that the vowel is checked," continuing, "Stress normally falls on the penult, but occasionally occurs on the ultima. In this case it is marked by an acute accent on the vowel." The basic system can thus be exemplified (for the vowel a) in Table 6.

<table>
<thead>
<tr>
<th>JL vowel</th>
<th>phonetic identification</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>plain (i.e., non-creaky, non-checked) vowel</td>
</tr>
<tr>
<td>áa</td>
<td>checked vowel (when there is known to be a minimal contrast with a corresponding word with a creaky vowel)</td>
</tr>
<tr>
<td>aa</td>
<td>creaky vowel OR checked vowel (where there is not known to be a minimal contrast with a corresponding word with a creaky vowel)</td>
</tr>
</tbody>
</table>

Table 6. SJGZ vowel orthography as described by Jones and Church (1985).

In theory, each of the types of vowels in Table 6 should be able to occur with any of the three tones reported by Jones and Knudson (1977), high, mid, or low. Assuming they do, this would mean that SJGZ has only nine contrastive vowel types, compared with the 33 we have found (Table 3) for SLQZ.\(^34\) Actually, Jones and Knudson suggest the presence of contour tones, and a study of the New Testament reveals that more vowel types are differentiated orthographically as well. For instance, an acute accent is used on single vowels to distinguish words that for the most part would otherwise be written identically, as illustrated in Table 7.

<table>
<thead>
<tr>
<th>JL word</th>
<th>SJGZ New Testament example</th>
<th>SLQZ comparison(^35)</th>
</tr>
</thead>
<tbody>
<tr>
<td>beld</td>
<td>'fish' (e.g. Matthew 4:18)</td>
<td>behll</td>
</tr>
<tr>
<td>béld</td>
<td>'how many?' (e.g. Matthew 15:34)</td>
<td>bàall</td>
</tr>
<tr>
<td>dad</td>
<td>'lord' (e.g. Matthew 7:22)</td>
<td>dad(^36) / da'ad 'father'</td>
</tr>
<tr>
<td>dád</td>
<td>'dice' (e.g. Luke 23:34)</td>
<td>daad</td>
</tr>
<tr>
<td>dany</td>
<td>'mountain' (e.g. Matthew 4:8)</td>
<td>dàany</td>
</tr>
<tr>
<td>dány</td>
<td>'damage' (e.g. Hebrews 12:15)</td>
<td>daany</td>
</tr>
<tr>
<td>lat</td>
<td>'place' (e.g. Matthew 26:36)</td>
<td>laht</td>
</tr>
<tr>
<td>lát</td>
<td>'your [pl. inf.] names' (e.g. Luke 10:20)</td>
<td>lahad</td>
</tr>
<tr>
<td>na</td>
<td>'says' (e.g. Matthew 23:24)</td>
<td>nnah</td>
</tr>
<tr>
<td>ná</td>
<td>'is' (e.g. Matthew 2:4)</td>
<td>nàa</td>
</tr>
<tr>
<td>ze</td>
<td>'will go' (e.g. Matthew 24:40)</td>
<td>zeheh</td>
</tr>
<tr>
<td>zé</td>
<td>'was going' (e.g. Matthew 7:13)</td>
<td>zée</td>
</tr>
</tbody>
</table>


Exactly how the accent is placed is in these cases is not clear, though it cannot function in either of the ways Jones and Church (1985) describe (illustrated in Table 6), since the words in Table 7 are monosyllables written with only one vowel letter. The fact that the New

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\(^{34}\) Hopefully future phonetic work by Martínez and others will resolve the uncertainties in this comparison.

\(^{35}\) We do not attempt to provide SJGZ transcriptions here, but we believe that most of these SLQZ words are quite parallel to the SJGZ words cited. An exception is ze ‘will go’, which does not have the tone or phonation expected corresponding to the SLQZ cognate below.

\(^{36}\) This word is only a (proclitic) title (used immediately before a name or other noun) in SLQZ.
Testament orthography distinguishes these vowels, however, lends support to the idea that the number of SJGZ vowel types is greater than previous descriptions would suggest. Although the use of the accent helps to distinguish words that would otherwise be written the same, however, it does not help the non-native reader — or the native speaker reader who cannot understand the context in which a given word is used — to tell how that word should be pronounced.

It is important to note that the two orthographies described here ("ML" and "JL") have very different — and yet equally valid and important — goals.

- ML seeks to represent all the phonemic contrasts of the language. Work in this framework is clearly of more use to comparative linguists and to language learners who want to learn pronunciation than any work that merges unpredictable contrasts.

- JL, on the other hand, is an orthography developed in order to enable speakers to read the Bible. Any phonological simplification is reasonable if it makes achieving this goal easier.

4.2 Finding a community orthography

Although we have sometimes wondered if grammatical and lexical differences among the Valley Zapotec languages (such as those illustrated in Table 1 and (2-4) above) would hinder acceptance of any proposed writing system, it is clear that such differences are far less important than the problem of finding a workable orthography that everyone feels comfortable with. It would be wonderful if a compromise orthography could be developed that would allow the goals both of linguistic accuracy and of ease of use to be achieved, or that perhaps would allow simple diacritics that could be omitted from the "linguistic" orthography for more convenient use by native speakers. However, it is hard to envision how to do this.

Consonants are not the problem. The consonant contrasts that are not represented in the JL system (Table 5) bear a relatively low functional load, and could be dispensed with. Other orthographic differences (such as JL ll vs. ML zh) could be resolved by compromise.

The crucial problem, then, is vowels.

- The ML system of representing vowel contrasts is clearly very complex, but the native speakers who have learned to use it read and write it fluently, and non-speakers familiar with the system can use it to accurately transcribe new words and read them back later. However, people unfamiliar with the system find its appearance annoying and confusing, and even trained linguists familiar with the system sometimes have trouble remembering certain aspects of it.

- The JL orthography for vowels seems simple when contrasted with the ML orthography, but it clearly is not perfect either. My work with a native speaker of SJGZ very familiar with the JL system confirms that even such a person may have trouble remembering exactly how the system works, and may re-invent aspects of it idiosyncratically. Further, of course, using this system inevitably is likely to result in
the loss of information regarding pronunciation and for comparative purposes.

Designing an orthography for a language with complex phonological contrasts is difficult. People often expect that if they speak the language they will be able to learn to write it easily, often simply by transferring the rules they have learned for writing other languages to the new task.

This approach is much easier when the learner’s other language is Spanish (whose spelling is extremely regular and similar to phonetic transcription) than if it is English (whose spelling is, superficially at least, chaotic and very different from phonetic transcription). However, even Spanish spelling has its tricky aspects, varying slightly by dialect (s or z? ll or y? h or no h? how to pronounce x?). And no speaker of a European language is prepared for the difficulties of distinguishing Zapotec words like the members of the sets in Table 4.

Community reaction to our orthography (which my collaborator Felipe Lopez has mainly borne the brunt of) has been generally unsupportive. Although the people of San Lucas Quiavini (and the Valley generally) are pleased that a dictionary of their languages has been published, people find the orthography cumbersome and unattractive, and do not believe that they will be able to learn to use it.

Hinton (2003: 16) in a paper aptly called "Orthography Wars" has discussed some of the reasons why people may reject linguistic orthographies:

Linguists and non-linguists alike have a "bias toward familiarity." To a linguist, it is the LPO [Linguistic Practical Orthography] that provides the warmth of familiarity, and a writing system using English spelling rules looks clumsy, unscientific and unaesthetic. But to a layman, it is the linguistic spelling system that looks ugly and undesirable, and it is the English spelling rules that inspire a sense of familiarity.

Even non-English speaking communities may have similar reactions.

In 1999 Lopez and I taught a workshop for young native speakers of SLQZ at UCLA, in which we introduced the outlines of our system and led the participants in practicing reading and writing. This was reasonably successful, and participants who attended regularly learned the rudiments of the system well – but the experience certainly showed that our orthography is hard to learn.

Consequently, three years ago we worked to cut down the number of vowel contrasts represented in our system from 33 to 19. This was very difficult, and we still do not feel comfortable with the choices we made. The revised orthography suffers all the drawbacks of merging important distinctions, and yet 19 contrasts for each vowel is probably still too high a number for people to manage comfortably. Although we experimented with preparing short texts in the "new" orthography, we did not make any serious attempt to switch over to it. We were very discouraged, and in fact Lopez and I presented a paper earlier this year with the gloomy title "Can There Be a Valley Zapotec Orthography?".

This year we developed a new approach to the problem, which is currently being tested.
The experiment was suggested by Olivia Martínez's work on a dictionary of SJGZ.\textsuperscript{37} Her plan is to use the JL orthography (which is familiar to many people from San Juan Guelavía) for entry words in her dictionary, and then to present a more transcription-like spelling using an adaptation of the ML orthography within square brackets as a "pronunciation guide".

Martínez's idea suggested the notion of using simplified spelling indices (like those in the headings of the columns in Table 3) in the revision and extension of the SLQZ dictionary which we are currently preparing. These indices or guide words are simplified spellings using fewer consonant contrasts (as outlined above) and only a single plain vowel or diphthong, regardless of the structure of the vowel complex, arranged in alphabetical order, with the full entries (in the ML orthography) listed under the indices. Table 8 presents an example.\textsuperscript{38} In our current dictionary, the order of the words listed would be (following SLQZ alphabetical order) beèe'1, Be'll, bèen, bèe'cw, bèe'izy, bèe'1, bèe'll, bèèe'll, and behll. The spelling indices allow someone who knows that a word contains b plus some kind of e vowel plus l to find the word without having to look through many unrelated entries. This kind of guide word will be useful to everyone, even those like Lopez and myself who know the complex spelling system well.

\textsuperscript{37} Ted Jones has provided invaluable help with this project.

\textsuperscript{38} The entries in Table 8 are shortened from those in Munro and Lopez et al. (1999), and other entries that would be interleaved with these are not included here.
Table 8. Spelling indices in a potential revision of the SLQZ dictionary (Munro and Lopez et al. 1999). (In the current dictionary, the order of the words presented would be bèe'cw, bèe'izy, bèe'l, bèe'll, bèèe'll, behll. We are considering other format options.)

This new approach to the dictionary has suggested the idea of using the simplified spelling even more widely. Table 9, for example, contains the beginning of a story written in SLQZ by one of the participants in the 1999 workshop. The first column presents the story in the standard ML orthography, the second column gives the same text in the revised 19-complex orthography we considered adopting several years ago, and the third column shows the text in the minimalist system of the guide words in Table 8, with no distinction among different vowel types shown at all. (As this example shows, one advantage of both of the simplified systems is that each takes up far less space than the ML system.)
"The Story of Mezcal"
Silvia Lopez

Once upon a time there was a man who had eight daughters. They were all very pretty.

The man was very poor, and he didn't have money to feed all of his daughters.

Many men came to ask for their hands in marriage, but they were even poorer, so their father didn't give them away.

Then one day the devil came to him, and he said to him, "What's wrong with you, why are you always so sad?"

5. The Future
Valley Zapotecs interested in language preservation are now discussing ways to develop a unified writing system so that their languages can be taught and writings can be preserved. A number of the community organizations have recently banded together as the Consejo Indígena Binacional de los Valles Centrales de Oaxaca (Oaxacan Central Valley Bilingual Indigenous Council). One of the aims of this group is to encourage language preservation and maintenance both in Oaxaca and in Los Angeles, and clearly orthography is a central issue for the group. The recently passed Mexican Ley General de Derechos Lingüísticos de los Pueblos Indígenas (General Law Concerning Linguistic Rights of Indigenous Communities) may help to encourage or fund such efforts.

I am currently working with the Latin American Center of the University of California, San Diego, to develop a college-level course in Valley Zapotec. Solving the problem of orthography choice is our top priority. I am encouraged by reports from people experienced in teaching other languages with tone or accent contrasts who argued that languages can be taught without the goal of having all students master a written form of the tonal (or, by extension, phonation) system.

We will have to see what the future holds for the Valley Zapotec languages, and whether these languages can be written in a way that the communities of this region will accept.

References


Munro, Pamela. 2003. "Orthography and Language Preservation". Presented at the SLA / SSILA session on endangered languages at the AAA meeting, Chicago.


