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# POSITIONAL VERBS IN COLONIAL VALLEY ZAPOTEC<sup>1</sup>

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This paper describes the system of positional verbs (e.g., ‘be standing’ and ‘be lying’) in Colonial Valley Zapotec (CVZ), a historical form of Valley Zapotec preserved in archival documents written during the Mexican colonial period. We provide data showing that positional verbs in CVZ have unique morphological properties and participate in a defined set of syntactic constructions, showing that positional verbs formed a formal class of verbs in Valley Zapotec as early as the mid-1500s. This work contributes to the typological literature on positional verbs, demonstrating the type of morphosyntactic work that can be done with a corpus of CVZ texts, and contributes to our understanding of the structure and development of the modern Zapotec positional verb system with implications for the larger Zapotec locative system.

[KEYWORDS: Zapotec, indigenous colonial writing, language and space, positional verbs]

**1. Introduction.** Ameka and Levinson (2007:847) estimate that “perhaps as many as half of the world’s languages” employ a system of contrasting locative predicates, typically referred to as positional verb systems. Positional verb systems are common in Mesoamerican languages, as described for Mayan languages (e.g., Brown 1992; Haviland 1994; Levinson and Haviland 1994; Lucy 1994; Bohnemeyer and Stolz 2006); Mixe–Zoquean languages

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All errors are, of course, our own.

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(e.g., Romero Méndez 2007); Totonacan languages (e.g., Levy 1999; Beck 2004); Huave (Herrera Castro 2013); and Otomanguean languages (e.g., Brugman and Macaulay 1986; Maclaury 1989; Hollenbach 1995; McIntosh and Villard 2011; Galant 2012; Operstein 2012; Rojas Torres 2012).

In this paper, we consider positional verbs from another Otomanguean language, Colonial Valley Zapotec (henceforth CVZ). This language is a historical form of Valley Zapotec and is preserved in archival documents written during the Mexican colonial period. Examples of two positional verbs from CVZ are given in (1), with the verb *naa* ‘be lying’, and (2), with *noo* ‘be contained’.<sup>2</sup>

- (1) *nese*    *n-aa*                      *rua*                                      *rij-lane*                      *gobycha*  
road    STA-be.lying    mouth/at.edge.of    HAB-emerge    sun  
‘the road that is (lying) at the edge (where) the sun emerges (i.e., east)’  
(Co-1721-3r;5)

- (2) *nij*    *n-oo=nij*                                      *lanij*                                      *yocho-lijchij=a*  
REL    STA-be.contained=3    stomach/in    house-home=1sg  
[all my pictures of linen] ‘that are (contained) in my house’  
(Co-1721-4r;6)

These examples show the prototypical use of positional verbs: asserting the location of a Figure, the entity being located, in reference to another object or location, the Ground (terminology following Talmy 2000:184, Levinson 2003:65). Positional verbs in Zapotec also encode additional information about the Figure, such as its shape, posture, orientation, and some characteristics of the locative relationship between the Figure and the Ground. In (1), the positional verb *naa* ‘be lying’ encodes the fact that the Figure, *nese* ‘road’, is horizontal, while in (2) *noo* ‘be contained’ indicates that the spatial relationship between the Figure and Ground involves containment: the understood Figure, ‘all my pictures of linen’, is contained inside the Ground, *yocholijchiya*

<sup>2</sup> The writing conventions for CVZ are described in table 1. The following abbreviations are used: ## = text illegible in the manuscript; 1 = first person; 2 = second person; 3 = third person; BPL = body-part locative; CAUS = causative; DEF = definite future; DEM = demonstrative; EMPH = emphatic; F.PRO = free pronoun; HAB = habitual; IRR = irrealis; NEG = negative; NP = noun phrase; O = object; PERF = perfective; PL = plural; PSSD = possessed; PP = prepositional phrase; PROG = progressive; PROX = proximate; REL = relativizer; S = subject; SG = singular; STA = stative, V = verb. Affix boundaries are indicated by -, clitic boundaries by =, and multi-word glosses are separated by a period. Unless otherwise noted, all examples are CVZ data. Document sources are given with the document abbreviation (found in Appendix A) followed by the page number (for multi-page documents) and beginning line number. In cases where the same example can be found in a published source, we reference that publication but present our own analysis based on the original text. We also re-gloss modern San Lucas Quiaviní and Macuiltianguis Zapotec examples to reflect our current understanding of their grammars.

TABLE 1  
APPROXIMATE IPA VALUES OF LETTERS USED IN CVZ MANUSCRIPTS

Letter(s)	Approximate IPA Value
<a>	≈ /a/
<b>	≈ /b/ or /p/
<c>	≈ /k/ or /g/, or /s/ or /z/ (especially before front vowel symbols)
<ç>	≈ /s/ or /z/
<ch>	≈ /tʃ/
<d>	≈ /d/ or /t/
<e>	≈ /e/ or /i/ or /i/
<g>	≈ /g/ or /k/
<gu>	≈ /g/ or /k/
<h>	≈ /ʔ/ (rare)
<hu>	≈ /w/
<i>	≈ /i/ or /e/ or /i/ or /j/
<j>	≈ /i/ or /j/
<l>	≈ /l/ or /l:/
<ll>	≈ /l/ or /l:/ or /j/ or /ʎ/
<m>	≈ /m/
<n>	≈ /n/ or /n:/
<o>	≈ /o/ or /u/ or /w/
<p>	≈ /p/ or /b/
<qu>	≈ /k/ or /g/
<r>	≈ /r/
<s>	≈ /s/ or /z/
<t>	≈ /t/ or /d/, or /tʃ/ or /r/ (especially word initially)
<u>	≈ /u/ or /o/, or /w/ between a consonant and vowel, or /b/ between vowels
<x>	≈ /ʃ/ or /ʒ/ or /ʒ/ or /z/
<y>	≈ /j/ before vowels or /i/
<z>	≈ /s/ or /z/

‘my house’. (As is observable in the glossing of these examples, third-person pronouns are not marked for number in CVZ, and none of the pronouns are marked for case.)

Languages such as English and Spanish, which do not obligatorily employ positional verbs in locative clauses like (1) and (2), allow a generic copula to be used (*be* and *estar*, respectively) instead, but Zapotec languages do not; they require different verbs based on the differing positional semantics. Because of this, we translate Zapotec positional verbs in the format ‘is/are (positioned)’, indicating that these verbs are the neutral way to express location while reminding the reader of their positional meaning. We gloss body-part locatives (BPLs), such as *rua* ‘mouth/at the edge of’ in (1) and *lanij*

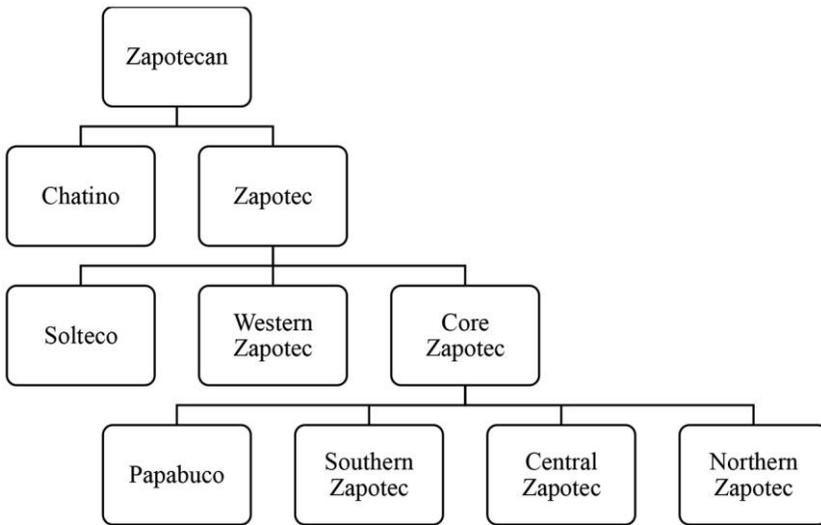


FIG. 1.—The Zapotecan language family (based on Smith Stark 2003b)

‘stomach/in’ in (2), with both their basic body-part meaning and their locative meaning. Based on comparative evidence from Zapotecan, BPLs were likely already lexicalized as prepositions during the CVZ period (see, for example, discussions in Lillehaugen 2006; Foreman 2006; Lillehaugen and Foreman 2009; Campbell 2013; Lillehaugen 2014).

Recent research has begun to reveal that positional verbs in Zapotec languages are not only distinguished by their positional semantic properties but also by distinctive formal properties (Lillehaugen 2006; Galant 2012; Lillehaugen and Sonnenschein 2012; Operstein 2012; Rojas Torres 2012; Foreman and Lillehaugen 2013). For example, Lillehaugen and Sonnenschein (2012:25) observe that Zapotec positional verbs frequently have zero-marked stative aspectual forms, and these verbs have also been shown to have specialized syntactic uses in locative, existential, and predicative possessive clauses in the Papabuco Zapotec language of Texmelucan (Speck 1994) and the Northern Zapotec languages of Yalálag (Newberg 2012) and Macuilianguis (Foreman 2012). As Papabuco Zapotec and Northern Zapotec constitute two separate branches of Core Zapotec (see figure 1), this suggests that this characteristic set of morphosyntactic attributes are reconstructible to earlier forms of Zapotec, perhaps even to Proto-Zapotec.

This paper provides further support for this hypothesis, showing that these distinguishing formal characteristics of positional verbs can be found not only in a third branch of Zapotec—Central Zapotec—but can be traced back almost 500 years in CVZ. We examine the inventory, form, and function of

a set of verbs with locative semantics in CVZ to argue that the language not only has a set of positional verbs but that members of this set have the same constellation of formal properties observed in disparate branches of the family. Thus, this paper contributes to recent work exploring positional verbs in modern Zapotec and to the growing literature on CVZ grammar and the historical development of Zapotec (Munro 2002, 2011; Smith Stark 2003*a*, 2004, 2007, 2008; Lillehaugen 2006, 2014; Broadwell 2010, 2015*a*; Tavárez 2010; Galant 2011; Plumb 2015; Anderson and Lillehaugen 2016). It also contributes to the typological literature on positional verbs and to work on their syntax, semantics, and grammaticalization, such as, for example, the proposals in Freeze (1992), Kuteva (1999), Newman (2002), Berthele (2004), Levinson and Wilkins (2006), and Ameika and Levinson (2007).

**2. Colonial Valley Zapotec.** Colonial Valley Zapotec (CVZ) refers to the historical form of Zapotec from the Central Valleys of Oaxaca that is documented in a collection of texts written during the Mexican colonial period (1521–1821). These texts seem to represent a single language, showing a surprising amount of homogeneity despite the fact that they cover a 300-year period and an area that today, according to the *Ethnologue*, hosts at least five distinct Zapotec language groups (Lewis, Simons, and Fennig 2015).

CVZ is documented in a grammar and extensive dictionary compiled by Juan de Cordova, a Dominican friar from Spain, both published in 1578 (Cordova 1578*a*, 1578*b*). Additional resources include large texts that were translated from Spanish into Zapotec such as the *Doctrina* (Feria 1567), a doctrine of Catholic faith, as well as various monolingual administrative documents, including wills and bills of sale. We draw on all of these types of sources in our analysis of CVZ positional verbs.

**2.1. Genetic affiliation.** The modern languages of the Central Valleys of Oaxaca where CVZ was written are closely related and, along with Isthmus Zapotec, comprise the Central Zapotec branch of Core Zapotec (Smith Stark 2003*b*), represented in figure 1.

As detailed in figure 2, Smith Stark (2003*b*) identifies ten subgroupings within Central Zapotec. All but three of the documents in our CVZ corpus are from towns where the modern language of the town belongs to his Western Valley Zapotec subgrouping in either the Extended Ocoteco or Western Tlacolula sub-subgrouping.<sup>3</sup>

<sup>3</sup> Three documents (Al-1642, Ti-1649, Ti-1709) are from towns where Southern Zapotec is spoken today, but it is abundantly evident that these documents are CVZ and not Southern Zapotec. Smith Stark (2007:629) suggests that the language seen in the handwritten Zapotec manuscripts did not necessarily reflect the local spoken variety but rather was a normalized writing style standardized through the creation of the *Doctrina* (Feria 1567), *Vocabulario* (Cordova

i. Zazaltepec Zapotec

ii. San Felipe Tejalapan Zapotec

iii. North-central Zimatlán Zapotec

iv. Western Ejutla Zapotec

v. Antequera Zapotec

vi. Western Valley Zapotec

1. **Extended Ocoteco: 1a. Ocotlán Zapotec (zts), (zac):** Oc-1686; Oc-1731; Oc-1750; Oc-1753; **1di. Benda del Valle Zapotec (zpn):** Zi-1565; **1e. Zaachila Zapotec (ztx):** Co-1721

2. Eastern Ocotlán Zapotec

3. **Western Tlacolula Zapotec (zab):** *Arte* (Cordova 1578a); *Vocabulario* (Cordova 1578b); Feria 1567; Te-1590; Te-1610; Te-1614; Te-1616; Te-1618; Te-1626; Te-1702; Tl-1675; Or-1599

4. Tlalixtac Zapotec

5. Jalieza Zapotec

6. Güilá Zapotec

vii. Mitla Zapotec

viii. Quiatoni Zapotec

ix. Albarradas Zapotec

x. Transyautepequeño Zapotec

FIG. 2.—Origin of CVZ documents within modern Central Valley Zapotec

Figure 2 shows the correlation of the place of creation of the CVZ Valley documents in our corpus with the modern Central Valley Zapotec language classification (following Smith Stark 2003b) and current language ISO codes (Lewis et al. 2015).

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1578b), and *Arte* (Cordova 1578a), which is why we see CVZ used in administrative documents outside of the Valley. We are grateful to Michel Oudijk for discussion regarding the use of CVZ in Southern Oaxaca.

It may well be that CVZ is the direct ancestor of the Western Valley Zapotec languages, such as modern Tilquiapan Zapotec (zts), Ocotlán Zapotec (zac), Santa Inés Yatzechi Zapotec (zpn), Zaachila Zapotec (ztx), and San Juan Guelavía Zapotec (zab) (classifications from Lewis et al. 2015). However, the exact relationship between CVZ and any particular modern Valley Zapotec language is unclear, especially in light of the surprising homogeneity of CVZ versus the complicated dialect continuum found in the modern Central Valleys of Oaxaca, where every town speaks a distinct Zapotec variety.

**2.2. CVZ documents.** The most consulted source on CVZ is Juan de Cordova's impressive *Vocabulario* (1578*b*). This Spanish-to-Zapotec dictionary, containing nearly 30,000 entries, remains the largest published Zapotec dictionary to date and has served as a basis for numerous linguistic studies of CVZ (e.g., Radin 1930; Smith Stark 2003*a*, 2008; Rojas Torres 2009; Operstein 2012).

Lexicographic data such as that provided by the *Vocabulario*, while important, are insufficient for understanding the syntax of positional verbs, as few example sentences are provided. To address this gap in the data available in Cordova, we consulted a corpus of native-speaker written texts. The corpus from which we draw textual examples of CVZ positional verbs consists of 18 documents dated between 1565 and 1753. A complete list of the documents is given in Appendix A. Almost all are legal documents, such as wills and bills of sale. All documents were composed in Zapotec by native speakers, with the exception of the *Doctrina* (Feria 1567), a doctrine of Catholic faith, which is a translation from Spanish into Zapotec. Images of most of these documents—and in some cases full transcriptions and analyses—can be consulted online through *Ticha* (<http://ticha.haverford.edu>) (Lillehaugen et al. 2015).

Most of the documents were composed in the Western Tlacolula Valley to the east of Oaxaca City, including the *Doctrina* (Feria 1567) and seven legal documents from San Sebastián Teitipac, a will from San Jerónimo Tlacoahuaya (which was also where Cordova composed his *Vocabulario* and *Arte*), and a 1599 map from Villa Díaz Ordaz (Cruz et al. 2009), the only document we were unable to consult directly. Another six of the legal documents are from the Valle Grande to the south of Oaxaca City (four from Ocotlán and one each from Zimatlán and Coyotepec). The legal documents have survived to date as part of larger court cases, for which they were submitted as evidence. Official Spanish translations of the documents were made at the time they were submitted to the courts, often significantly later than the original date of the document. For example, the document written in 1565 (Zi-1565), described in Oudijk (2008), was translated into Spanish more than 100 years later, in 1694. We utilized eight of these texts in full (marked with [F] in Appendix A), with samples taken from the other 11 documents, either from published sources or through a FLEx database (Broadwell and Lillehaugen, forthcoming). Five of the documents have been published in full along with linguistic analysis:

Oc-1731, Oc-1750, Oc-1753 (Smith Stark et al. 2008), Or-1599 (Cruz et al. 2009), and Zi-1565 (Oudijk 2008). Others are completed manuscripts: Tl-1675 (Munro and Terraciano 2012), Co-1721 (Munro and Terraciano 2012), and Te-1614 (Munro et al., forthcoming). Other publications cite excerpts from colonial texts, as indicated in Appendix A.

There are challenges to the interpretation of these colonial documents, ranging from damage to the documents by water or insects to inconsistent spelling, capitalization, and marking of word and clause boundaries. The Zapotec language is represented in the colonial texts using the Latin alphabet and, as is common for manuscripts of this time period, there is variation in spelling not only between documents but also within documents. While no one standardized system for writing existed, we do find the system that Cordova employed in the *Vocabulario* to be fairly consistent but, even so, his orthography does not contrastively represent every phoneme in Zapotec, resulting in a large number of homographs (see Smith Stark 2003a and Broadwell 2010, 2015b for discussions on the relationship between orthography and phonology in CVZ). While Spanish orthographic traditions influenced the way the Latin alphabet was employed to represent CVZ, conventions developed for Nahuatl also came to bear on how CVZ was written (Broadwell 2014, 2015b).

A modified Latin alphabet was employed in writing CVZ, but spelling was highly variable. For the CVZ examples cited in this text, we observe the relations between spelling choices and phonology as listed in table 1 for Zapotec words. Words borrowed from Spanish, both in CVZ and in modern Zapotec, generally follow Spanish orthographic conventions. This list should not be taken to be exhaustive, as we see even more variation than this in the CVZ corpus as a whole.

A detailed discussion of the spelling choices scribes made for CVZ and the relationship between those choices and CVZ phonology is beyond the scope of this paper. For our purposes, it is important to note that the same word may be written in more than one way, even within a single text or by a single scribe. Spelling choices often did not distinguish phonemic contrasts, such as fortis/lenis contrasts for obstruents or tone/phonation contrasts for vowels. The issues mentioned above lead to the following common variations: vowels may be written singly or doubly, with or without accent marks, and the vowel <o> frequently alternates with <u>, and <i> (also written as <y> or <ij>) with <e>; among consonants, there is frequent variation in stops, yielding <p>/<b>, <t>/<d>, and <c, qu>/<g(u)> alternations; <r> may alternate with <t>; and the fricatives [s] and [z] may be written as <s>, <z>, <ç>, or <c>. In addition, it is likely that CVZ had a sixth vowel like modern Valley languages, /i/ (or similar), which has been conflated with /i/ or /e/ in the corpus. Many resulting morphological or lexical ambiguities can be resolved through context, but in some cases ambiguity remains, which can complicate morphosyntactic analysis. In addition, it is worth noting that in some texts, double vowels seem to indicate stress and/or non-modal phonation. In Cordova's *Vocabulario*

TABLE 2  
POSITIONAL VERB ROOTS IN CORDOVA'S *Vocabulario* (1578b)

Cordova		Corpus	Cordova		Corpus
Root	Gloss	Tokens	Root	Gloss	Tokens
<i>àa</i>	'be lying'	23	<i>chij-ba</i>	'be located elevated'	5
<i>yóo</i>	'be contained'	22	<i>xóba</i>	'be located'	4
<i>çòo</i>	'be standing'	11	<i>tì/tèe</i>	'be sitting'	2
<i>zàapi</i>	'be floating'	11	<i>àla</i>	'be hanging'	1
<i>càa</i>	'be sticking'	9	<i>bij-ba</i>	'be sitting elevated'	1
<i>tète</i>	'be positioned across'	9	<i>pìj/pee</i>	'be sitting'	0

(1578b), various accent marks are used to indicate stress, but the choice of which one was used was not made based on linguistic grounds but rather was at the discretion of the printer (Smith Stark 2003a:188–93).

We have identified 98 textual examples of CVZ positional verbs in the corpus used for this study. An additional 14 examples appear to be contained within the map of Villa Díaz Ordaz (Cruz et al. 2009), but the nature of that document makes it more difficult to analyze those examples as fully. In the selected texts, positional verb roots constitute between 8% and 23% of the total number of verb roots, meaning that these verbs are quite common. More than half of our examples (52) come from sources appearing between 1565 and 1618 (i.e., within 40 years of Cordova's dictionary). All of these, with the exception of the five examples from Zi-1565, are from the Western Tlacolula Valley, the same area where Cordova worked, thus providing examples of how the positional verbs noted in Cordova were used in context. The remaining 46 instances of positional verbs are composed of 16 examples from 1642–1686 and 30 from 1702–1753. Although the closed nature of the corpus limits the kinds of analyses that can be done, certain types of morphological, syntactic, and semantic analyses of the textual CVZ language data are possible. Gaps in the data should not be taken as indicating non-occurrence.

**3. Positional verb inventory and semantics.** A search of the *Vocabulario* in both its print (Cordova 1578b) and digital forms (Smith Stark 1993; Broadwell and Lillehaugen, forthcoming) turned up 12 potential positional verb roots. These are listed in table 2 in order of frequency based on our corpus. We identified the verbs in table 2 as being positional based on their semantics and the fact that they are cognate to positional verb stems in modern languages. Note that even Cordova spelled words in multiple ways, and we assume that *tì* and *tèe* are in fact the same root meaning 'be sitting' and *pìj* and *pee* are another 'be sitting' root. *Bij* in *bij-ba* 'be sitting elevated' likely also represents the same root as *pìj/pee*, but we list it separately since the *bij* spelling only occurred in the *Vocabulario* in conjunction with the adverbial enclitic *ba* 'up'. This same enclitic occurs with *chij-ba* 'be located elevated',



Here, the verb, expressed as *noo*, is used to assert the location (containment) of the pictures in the house.

Modern cognates of *yóo* are used in a wide range of locative contexts that do not involve containment. This occurs in numerous varieties of Central Zapotec (Munro and Lopez 1999; Pérez Báez 2012) and in Papabuco (Speck 1994; Operstein 2012) and Southern Zapotec varieties (Black 2000, 2012). We see some evidence of this as well in CVZ in examples like that in (4):

- (4) *xoonoo xaana tobaa nij n-oo laoo layoo*  
 eight plant maguey REL STA-be.contained face/on land  
 ‘eight maguey plants that are (contained) on the land’  
 (Co-1721-4r;16)

Example (4) may represent an instance of this more generalized locative use of the ‘be contained’ verb, written *noo* in this example. Here, the eight maguey plants (*xoonoo xaana tobaa*) are apparently being located on the land (*layoo*) rather than inside it or inside something else. This interpretation is consistent with the use of the body-part locative *laoo* ‘face/on’ in place of another BPL, like *làni* ‘stomach/in’, that might express containment, although (4) might represent an instance of two-dimensional containment.

However, this does not seem to be a possibility in example (5):

- (5) *tobi beni ni n-oo xini=ni*  
 one person REL STA-be.contained child=3  
 ‘a person who has children’  
 (Feria 1567:40r;9)

Here, the verb, again in the form *noo*, occurs in the predicative possessive construction (see 5.2.3 below) to talk about a person who has children. It is clear from the translation that we are not talking about pregnant individuals, but parenthood more broadly, and it is not clear what “containing” children might mean in that context. Instead, it would seem *noo* is being used in a more expanded sense.

The next three most common verbs also have specialized or extended uses. *Zàapi* ‘be floating’ is used to mean ‘be owed’ in seven of the 11 examples, while *càa* ‘be sticking’ is employed to mean ‘be written’ in seven of nine examples since the ink and words are “sticking” to paper, and *tète* ‘be positioned across’ is used in its causativized form to mean ‘give’ in seven of its nine examples.

**3.3. Zàapi ‘be floating’.** *Zàapi* appears 11 times in the texts, and only one of those instances involves the basic positional meaning of the verb in a potentially locative clause, shown in (6).<sup>5</sup>

<sup>5</sup> The original Spanish translation differs significantly: “*Alltissimas y profundissimas cosas son estas!* [Most high and most profound things are these!]”

(6) ticha Ø-zabi-quià=tete quiebaa  
 word STA-be.floating-up=very heaven

(a) 'The words are (floating) up high in heaven' (locative)

(b) 'There are words up high in heaven'

(Feria 1567–24v;4)

(6) could be interpreted either as a locative clause (6a), in which words are being located up in heaven, or an existential clause (6b), in which the existence of words up in heaven is being asserted, though context makes the existential reading more likely.

Example (7) shows the same positional verb, here written as *zabi*, used in an unambiguous existential clause.

(7) aca Ø-zoo chij aca Ø-zabi guela  
 NEG STA-be.standing day NEG STA-be.floating night

ca-naba=ja quinaa=rij  
 IRR-ask=1SG field=DEM

'The day doesn't exist, the night doesn't exist, (that) I will ask for this field'

(Al642–1;25)

(7) is a ubiquitous formulaic expression used to mean 'never' (Anderson and Lillehaugen 2016:403), wherein days are said to not exist (lit., 'not stand'), as are nights (lit., 'not float'). That days 'stand' while nights 'float' shows that even in existential uses, positional verb roots can exert selectional restrictions on their arguments.

The positional verb root *zabi* also appears in compound verbs, such as in (8).

(8) ti-zabi=tete-lachi=a  
 HAB-be.floating=very-heart=1SG

'I really desire'

(Te-1614;10)

Here, *zabi* is compounded with the word *lachi* 'heart' to mean 'desire'.<sup>6</sup>

In the remaining examples of the verb, it is used to mean 'be owed', as in (9), where the verb is rendered as *nasau*. This sentence refers to *guelaguetza*, a Zapotec "system of collaboration and exchange used for distributing resources such as money, agricultural products and labor" (Flores-Marcial 2015:6).

<sup>6</sup> Examples (7) and (8) demonstrate some of the variable spelling discussed earlier. The first-person singular pronoun is spelled <ja> in (7) and <a> in (8). It is unlikely that this reflects a difference in pronunciation: in both instances, the pronoun was probably pronounced /ja/. The spelling variance certainly does not represent any morphological difference, such as case.

- (9) ti-nipea            na-sauí            quelaquez    xteni=a  
 HAB-order:1SG    STA-be.floating    guelaguetza    of=1SG

San Juan qulauia  
 San Juan Guelavía

‘I declare my *guelaguetza* credit is owing in San Juan Guelavía’  
 (TI-1675;43)

The semantic connection between ‘floating’ and ‘owing’ is not immediately obvious but may be widespread in Zapotec. For example, Sonnenschein (2005:176) notes that in San Bartolomé Zoogocho Zapotec, a Northern Zapotec language, this positional verb is used to express “having money”:<sup>7</sup>

San Bartolomé Zoogocho Zapotec

- (10) Zehe    x-medxu=a’.  
 hang    PSSD-money=1SG

‘I have money’

(Sonnenschein 2005:176, ex. 25)

The positional verb *zehe*, cognate with CVZ *zàapi* ‘be floating’, here serves in the predicative possessive function, as discussed in 5.2.3 below. While it looks like it literally means ‘my money hangs’ or ‘my money floats’, it is used to mean ‘I have money’.

In its causativized form, the valency of *zàapi* increases to include the ower as the subject, as in (11), where the root is spelled *sauí* and is preceded by a causative *o-* morpheme:

- (11) chela    n-o-sauí                            lorenzo garcia    xono    peso  
 and    STA-CAUS-be.floating    Lorenzo Garcia    eight    peso

‘and Lorenzo Garcia owes eight pesos’

(TI-1675;47)

The causative morpheme licenses the ower of the debt, *Lorenzo Garcia* in this example, while the debt, *xono peso* ‘eight pesos’, is the causee, as in ‘Lorenzo Garcia causes eight pesos to be owed’.

**3.4. *Càa* ‘be sticking’.** *Càa* ‘be sticking’ shows up frequently in the documents with the specialized usage ‘be written’, as words and letters are “sticking” on a page. In our corpus, we found only one instance where the verb is used in a locative construction without reference to writing.

<sup>7</sup> Modern Zapotec languages each tend to have their own practical orthography, designed for native-speaker use and reflecting these languages’ differing phonemic systems. Certain conventions are usually adopted, such as following Spanish or IPA conventions when possible (i.e., when not requiring special characters), using <x> for a voiceless post-alveolar or retroflex fricative, and using <’> or <7> for a glottal stop (both observed in example 10 along with <dx> for a voiced post-alveolar affricate). Specific details of each orthography can be found in the cited source.

- (12) loo        too        ti-cà=ni  
 face/on    rope        HAB-be.sticking=3  
 ‘It [the flame] is (sticking) on the wick’  
 (Feria 1567:3r;25)

Here, the verb appears in its habitual form, *ticà*, and is used to indicate the location of a flame on a candlewick.

The other instances of the verb involve reference to writing, as in (13) and (14):

- (13) cani    xilala-ca    na-ca                    xi-ticha    na  
 only    only-EMPH    STA-be.sticking    PSSD-word    1SG:F.PRO  
 Nicola[s] belas  
 Nicolás Belas  
 ‘Only the word of mine, Nicolás Belas, is written’  
 (Oc-1731-8v;5) (Smith Stark et al. 2008:331)

- (14) ni    na-ca                    layoo solar  
 REL    STA-be.sticking    land    house.plot  
 [*the bill of sale . . .*] ‘that the land is named in’  
 (Oc-1731-8v;2) (Smith Stark et al. 2008:331)

(13) explicitly references the words, *ticha*, sticking to the paper, while (14) infers the presence of words and letters by indicating what they refer to, which in this case is the land (i.e., a description of the land is written on the bill of sale).

Unsurprisingly, the causative form of the verb is used for ‘write’, as in (15):

- (15) r-o-caa                    laa    testigo    lao    quichi  
 HAB-CAUS-be.sticking    name    witness    face/on    paper  
 ‘the witnesses write their names on the paper’  
 (Te-1626-89v;14) (Munro 2011:46, ex. 12)

The witnesses cause their names to be “sticking on the paper” by writing them.

**3.5. *Tète* ‘be positioned across’.** The positional verb *tète* ‘be positioned across’ most commonly occurs in its causative form, which has the expanded meaning of ‘give’ or ‘pass to’ rather than simply meaning ‘cause to be positioned across (something else)’. Seven of the nine instances of this verb have this ‘give/pass to’ meaning. Again, only one instance of the verb appears with its basic positional meaning, illustrated in (16):

- (16) setobi    cuee    layoo    ni    Ø-tete  
 another    plot    land    REL    STA-be.positioned.across  
 quique                    layoo  
 head/at.top.of    land  
 ‘another plot of land which is across the top of the land’  
 (Te-1610-2;8)

In this example, the location of one field (*setobi cuee layoo* ‘another plot of land’) is described as being across the top of another piece of land.

In (17), this verb is used metaphorically to mean ‘violate’ or ‘transgress’:

- (17) go–cazilachi=ni                      go–tete=ni                      tichapea  
 PERF–do.on.purpose=3    PERF–be.positioned.across=3    order

‘He did [it] on purpose. He was against the order’

(Te-1590;11) (Lillehaugen 2014:13)

The person referred to in (17) is positioned across the order; that is, he has violated it.

The remaining seven instances of *tète* all involve the causative use of the verb with the meaning of ‘give/pass to’, as in (18) and (19), where the root is spelled *dede*:

- (18) lacaa    toba=rij                      r–oo–tete=ya                      Tio  
 same    maguey=DEM    HAB–CAUS–be.positioned.across=1SG    uncle  
 xteni=a  
 of=1SG

‘These same magueys I give to my uncle’

(Co-1721–4r;17) (Foreman and Munro 2007:146)

- (19) go–naba=ni                      g–e–dede                      tono  
 PERF–ask.for=3    IRR–1PL:CAUS–be.positioned.across    1PL:F.PRO

Justisia    ni    bi–chi=ni    tono    lau    layo  
 justice    REL    PERF–say=3    1PL:F.PRO    face/on    land

solar  
 house.plot

‘he asked [that] we, the justices, pass along that which he told us about the land’

(Oc-1750–10r;5) (Smith Stark et al. 2008:338)

In both examples, the expected causative meaning, ‘position X across Y’, has been extended to mean ‘transfer X to Y’, making use of the path metaphor inherent in the notion of ‘being positioned across’ to indicate a transfer.

**4. Positional verb TAM morphology.** Positional verbs in modern Zapotec languages are not only distinguished by their positional semantic properties but also by distinctive morphological and syntactic properties (Lillehaugen 2006; Galant 2012; Lillehaugen and Sonnenschein 2012; Operstein 2012; Rojas Torres 2012; Foreman and Lillehaugen 2013). Now that we have overviewed some of the semantic range of CVZ positional verbs that we can deduce from the textual corpus, we can turn to considering their unique formal properties. In this section we discuss the unique aspects of their tense/aspect/mood (TAM) system, and in 5 we explore their special syntactic properties.

Lillehaugen and Sonnenschein (2012:25) observe that many Zapotec positional verbs have a characteristic zero-marked stative aspectual form, not found with other verbs. In CVZ, we find something of a transitional situation: positional verbs are attested with both overtly marked and zero-marked stative aspectual forms. The zero-marked statives, however, are restricted to positional verbs, a realization of their distinct formal properties.

Cordova provides up to four aspectual inflected forms in the *Vocabulario* (1578*b*), as shown for the positional verb ‘be lying’ in (20)–(23).

- (20) t-aa  
HAB-be.lying ‘lie (hab.)’
- (21) co-taa  
PERF-PERF/be.lying ‘lay (perf.)’
- (22) c-aa  
IRR-be.lying ‘will lie (irr.)’
- (23) n-aa  
STA-be.lying ‘be lying (sta.)’

(Cordova 1578*b*:148v, 189)

The first three forms are the habitual (20), the perfective (21), and the irrealis (22). Each TAM prefix exhibits various allomorphs, and for this verb, there is also a special root allomorph in the perfective (*-taa* instead of *-aa*). The fourth aspectual form, the stative (23), is usually marked in CVZ with a *na-* prefix (*n-* before vowel-initial stems). While not all verbs in CVZ have a stative form, all positional verbs do. The stative form occurs quite commonly for positional verbs: of the 74 non-causative instances of positional verbs in the textual corpus, 86% of them (64 tokens) were in a stative form. Most causativized verbs lack a stative form.<sup>8</sup>

Unlike non-positional verbs, almost all CVZ positional verb roots that are consonant-initial exhibit two stative forms: the typical *na-* prefixed form and the distinctive zero-marked stative form. Both forms are shown, for example, for the verb ‘be standing’, in Cordova’s entry “*derecho ser enhiesto* [be upright],” as in (24) and (25):

- (24) na-çòo  
STA-be.standing ‘is standing’
- (25) Ø-çòo  
STA-be.standing ‘is standing’

(Cordova 1578*b*:118)

<sup>8</sup> One causativized positional verb, *-o-zàapi* ‘CAUS-be.floating > owe’, has a stative form, and all six instances of this verb in the corpus appear in the stative form.

Unlike *naa* ‘be lying’ in (23) above, which has a vowel-initial root and thus lacks a zero-marked stative, *çòo* ‘be standing’ has both *na-* and zero stative forms.

The CVZ corpus of texts provides examples of these verbs in context, such as (26):

- (26) layoo    nijrij    Ø-caa=ny            guychij    n-oo=nij  
       land    said    STA-be.sticking=3    paper    STA-be.contained=3  
       arrchijbo    xtenij    Don Geronimo Crispin  
       archive    of    Don Geronimo Crispin

‘That aforementioned land is (sticking, written) on paper. It is in the archive of Don Geronimo Crispin’.

(Co-1721–3v;24)

In this example, *noo* ‘be contained’ has the overt stative prefix since this root, too, is vowel-initial, but *caa* ‘be sticking’ occurs in the zero-prefixed form. Such examples also confirm that stative forms, whether overtly marked or zero-marked, are part of the finite verb paradigm in CVZ. The two positional verbs in (26) both take subjects. *Layoo nijrij* ‘the aforementioned land’ is the subject of *caa*, which also has a post-verbal pronoun =ny ‘it’, that is coreferential with the pre-verbal subject. The subject of *noo* ‘be contained’ is the pronoun =nij ‘it’.<sup>9</sup>

We also find zero-marked statives for *chij-ba* ‘be located elevated’, *tète* ‘be positioned across’, and *zàapi* ‘be floating’. The number of textual tokens for each stative form and the other aspectual forms for the positional verbs are given in Appendix C (available online only). All of the positional verbs were attested in the textual corpus in the stative form, except for *bij-ba* ‘be sitting elevated’, *pij* ‘be sitting’, and *xóba* ‘be located’, whose stative forms are, however, attested in Cordova (1578b:376r, 42r, 189r, respectively). All positional verbs except for *tète* ‘be positioned across’ were attested either in the texts or the *Vocabulario* in a stative form marked with the *na-* prefix. Five positional verbs were attested in both *na-* and zero-marked forms, but the *na-*marked stative tokens are four times as common as the zero-marked statives in the corpus (52 *na-* tokens vs. 12 zero-prefixed ones). This, however, is due to the fact that the two most common verbs, *àa* ‘be lying’ and *yóo* ‘be contained’, are both vowel-initial roots (the *y* in *yóo* being epenthetic), which

<sup>9</sup> Looking at the broader context of (26), presented in English below, further supports that the clauses in (26), in boldface in the following, are finite:

Now say I, the sick one, that the land which is seeded, which the deceased Bartolome Martin sold, which Don Bernabel Peres bought, **that aforementioned land is on the paper. It is in the archive of Don Geronimo Crispin.** This aforementioned lot, it is disputed. Bartolome Martin did not let it be sold.

The (repeated) use of ‘aforementioned land’ provides a strong signal that the list of modifiers of the land (that it was seeded, sold, and bought) has come to an end, and that *caany* ‘it is (written)’ should be construed as the finite clausal complement of ‘say’.

never occur with zero-marking. If the vowel-initial positional verb roots are set aside, the split is much more even: 10 tokens of *na*-marked stative positional verbs versus 12 zero-marked instances.

As far as we can determine, there is no grammatical or semantic difference between *na*-marked statives and zero-prefixed ones. Neither the entries in Cordova's *Vocabulario* nor the textual corpus exhibit any obvious pattern regarding the use of one form or the other, as can be seen in (27) and (28) for the same verb 'be standing'.

- (27) poerta na-ço roa-yoho  
 door STA-be.standing mouth-house  
 '... the door [that] is (standing) in the doorway'  
 (Te-1616-2;21)

- (28) n-aca=ci quie Ø-zoo tua neza  
 STA-be=only stone STA-be.standing mouth/at.edge.of road  
 'It is only a stone [that] is (standing) at the edge of the road'  
 (Feria 1567:22v;18)

The verb 'be standing', spelled *ço* in (27) and *zoo* in (28), is overtly marked with the stative prefix in (27), whereas the one in (28) is zero-marked. The documents these two examples were taken from were written in the same town and within 50 years of each other. Both examples use the positional verb in a locative construction within a relative clause, locating the standing inanimate Figure with respect to a Ground. There is no clear phonological, syntactic, or semantic feature that might motivate the choice of *na*- in one instance and the use of the zero in the other.

Although phonological factors played a role in the retention of overt *na*- stative marking (vowel-initial positional verbs kept the overt marking), phonology is not the only factor conditioning the use of the zero-marked stative. Membership in the positional verb class is crucial. This is clearly seen, for example, in modern Valley varieties that have zero-marked statives only for consonant-initial POSITIONAL verbs, as shown in (29)–(32) for San Lucas Quiavini Zapotec:<sup>10</sup>

#### San Lucas Quiavini Zapotec

- (29) r-cah {ex29.wav}  
 HAB-be.sticking  
 'is on a tree (of fruit)'  
 (Munro and Lopez 1999:226)

<sup>10</sup> Munro and Lopez (1999) use the following orthographic conventions for San Lucas Quiavini Zapotec. There are six vowel qualities: *a*, *e*, *i*, *o*, *u* (which correspond with their IPA equivalents) and *ē*, a high back unrounded vowel. Each vowel occurs with one of four phonation types: modal (*a*, *ē*), breathy (*ah*, *ēh*), checked (*a'*, *ē'*), or creaky (*à*, *è*). Consonants show a fortis and lenis distinction, but generally consonant symbols have their IPA values, with the following exceptions: <c> = fortis /k/, <ng> = lenis /ŋ/, <nn> = fortis /n/, <r> = /r/, <x:> = lenis /ʂ/, <y> = /j/, <z> = lenis /z/, <zh> = lenis /zʃ/, and <zh:> = lenis /zʃ/.

- (30) Ø–càa {ex30.wav}  
 STA–be.sticking  
 ‘is stuck, is hanging’  
 (Munro and Lopez 1999:86)

- (31) r–zùub {ex31.wav}  
 HAB–be.sitting  
 ‘sits’  
 (Munro and Lopez 1999:319)

- (32) Ø–zùub {ex32.wav}  
 STA–be.sitting  
 ‘is sitting’  
 (Munro and Lopez 1999:376)

The change in phonation from *rcah* in (29) to *càa* in (30) likely signals the stative form, though not all zero-prefixed statives in the language exhibit such changes, as shown in (31) and (32). Phonation changes such as these are not reliably discernible in the CVZ texts. Regardless, we observe that positional verbs as a group uniquely mark the stative, whether via a zero-prefix and/or phonation.

Consonant-initial positional verb roots like *càa* and *zùub* take a zero prefix in the stative. Non-positional verbs must take an overt stative prefix, as in (33) and (34):

San Lucas Quiaviní Zapotec

- (33) r–co’ohp {ex33.wav}  
 HAB–get.damp  
 ‘gets damp’  
 (Munro and Lopez 1999:229)

- (34) n–co’ohp {ex34.wav}  
 STA–get.damp  
 ‘is damp’  
 (Munro and Lopez 1999:173)

So, although the root of *càa* ‘be sticking’ in (30) and *nco’ohp* ‘is damp’ in (34) both start with a fortis [k], only the latter, the non-positional verb, takes the *n*-prefix. For the verb to be zero-marked in the stative, the root must not only be consonant-initial, it must be a positional verb.

That zero-marked statives are uniquely associated with positional verbs in modern Valley Zapotec varieties is further supported by the behavior in San Lucas Quiaviní Zapotec of the verb cognate with CVZ *zàapi*, which meant both ‘be floating’ and ‘owing’. In San Lucas Quiaviní Zapotec, these two meanings have become associated with distinct verbs, one positional

and one non-positional. The former has a zero-marked stative, and the latter takes the *n-* prefix:

San Lucas Quiaviní Zapotec

- (35)  $\emptyset$ -zèèi'by {ex35.wav}  
 STA-float  
 'is hanging, is floating'

(Munro and Lopez 1999:372)

- (36) n-zeèè'by {ex36.wav}  
 STA-owe  
 'owes'

(Munro and Lopez 1999:190)

The positional 'be floating' root takes a zero-prefix (35), whereas the non-positional 'owe' root is overtly marked (36). The split between these verbs may already be in evidence in the CVZ documents, in which all seven 'owe' examples occur with *na*-marked statives while the three stative positional uses are zero-marked. Cordova, however, lists *na-zàapi* as the positional stative form, which suggests that the positional sense did at one time have an overtly marked stative.

The alternation between *na-* and zero-marked statives for positional verbs in CVZ suggests that we may be seeing some evidence for the historical origin of zero-marked statives for positional verbs in Valley Zapotec. Currently, however, our corpus is unable to provide any obvious pattern of how the zero-marked stative might have spread. So far, there is no evidence of it originating in one place and spreading or of it necessarily becoming more frequent in more recent documents. The earliest textual examples of zero-marked statives are from 1567 (*zàapi* 'be floating' and *çòo* 'be standing'), predating Cordova by ten years. In our latest documents with consonant-initial positional verb roots in the stative form (dating from 1721–1750), we found two zero-marked positional verb examples (one instance of *càa* 'be sticking' and one of *ti* 'be sitting') and six instances of *na*-prefixed positional verbs (one instance of *çòo* 'be standing', three of *càa* 'be sticking', and two of *chij-ba* 'be located elevated'). Despite modern Valley languages consistently having zero-marked statives with positional verbs, as illustrated above, there is no indication that the zero-marked forms became more prevalent in later documents.

Based on our current data, we must conclude then that the *na-* and zero-marked stative forms of the consonant-initial positional verbs were in free variation during the CVZ period—if not within any single scribe's usage, then certainly between scribes. Given what we know about modern Valley Zapotec languages, it must be the case that at some point, the zero-marked stative spread across the consonant-initial positional verbs and became uniquely

associated with them. Additional corpus data may yet provide some evidence, motivation, or direction for this spread.

Just as in modern Zapotec languages, zero-marked statives are a distinctive formal property of positional verbs in CVZ. Unlike in the modern languages, however, CVZ positional verbs still show variation with overtly marked stative forms. In the next section, we consider the distinctive syntactic properties of positional verbs.

**5. Syntax.** In addition to the distinctive morphology of their TAM inflection, positional verbs in Zapotec also exhibit several specialized syntactic uses. Not only can they occur in locative clauses as expected based on their meaning, but they can also head existential clauses, predicative possessive clauses, and locative inversion clauses, which are a type of clause with a locative subject. These uses have been documented in diverse branches of the Zapotec family. The existential and predicative possessive functions of positional verbs have been documented in the Papabuco Zapotec language of Texmelucan (Speck 1994) and the Northern Zapotec language of Macuiltianguis (Foreman 2012). Additionally, Newberg (2012) analyzes their use in existential and locative inversion clauses in another Northern Zapotec language from Yalálag. No published source, however, has looked at the range of syntactic functions of positional verbs in a Central Zapotec language such as CVZ. As we show below, all of these specialized uses are attested in the CVZ textual corpus. Along with their special zero-marked statives, their syntactic distribution establishes that positional verbs form a formal class in this third branch of Zapotec and that these distinctive formal properties likely extend back to Proto-Core Zapotec.

Before we discuss the specialized uses of positional verbs, we first give a general overview of CVZ syntax (5.1), focusing on topics relevant to positional verbs. In 5.2, we focus on the syntax of four uses of positional verbs: locative clauses (5.2.1), existential clauses (5.2.2), predicative possessive clauses (5.2.3), and locative inversion clauses (5.2.4).

**5.1. General CVZ syntactic properties.** Like most modern Zapotec languages, CVZ has a basic VSO word order, and a VS(Complement) order more generally. This pattern is the same for clauses with both nominal and pronominal arguments. Various processes may result in the movement of an argument (or adjunct) to a pre-verbal position and the creation of a gapped post-verbal argument position.

Such patterns are observed with positional verbs as well. Of the 98 positional verb tokens in our textual corpus, 54 of them (55%) occurred with a post-verbal subject, either as a full NP subject (31 instances), as in (37), or as a bound pronominal subject attached to the verb (23 instances), as in (38):



The pronoun is coreferential with the topicalized expression *layoo nijrij* ‘the aforementioned land’.

Positional verbs frequently occur in relative clauses in these documents, as shown in (42) and (43), so it is important to understand the structure of these clauses.

- (42) xoonoo xaana tobaa [<sub>RelC</sub> nij n-oo laoo  
 eight plant maguey REL STA-be.contained face/on  
 layoo]  
 land  
 ‘eight maguey plants that are (contained) on the land’  
 (Co-1721-4r;16)

- (43) ni na-ca layoo solar  
 REL STA-be.sticking land house.plot  
 [*the bill of sale . . .*] ‘that the land is named in’  
 (Oc731-7v;2) (Smith Stark et al. 2008:331)

Both relative clauses in (42) and (43) are introduced by a relativizer, written in these examples as *ny* or *ni*. In (42), the subject of *noo* ‘be contained’ is relativized, and in (43) ‘the bill of sale’, the internal complement of *naca* ‘be sticking’, is relativized.

With relativized subjects, there may be a post-verbal gap, as in (42), or a post-verbal resumptive subject pronoun may be used (44). (Note that ## indicates illegible text in the original manuscript.)

- (44) jesu christo [<sub>RelC</sub> ni na-chiba=ni qui##]  
 Jesus Christ REL STA-be.located.elevated=3 heaven  
 ‘Jesus Christ, who (he) is (located elevated) in heaven’  
 (Feria 1567:45r;6)

Here, we have both the relativizer *ni* before the positional verb *nachiba* ‘be located elevated’ and the bound pronoun =*ni* after. Possibly, the overt occurrence of the pronoun is associated with nonrestrictive relative clauses like the one in (44), but more examples are needed to test this hypothesis.

The relativizer itself may be omitted, as may the resumptive pronoun, yielding a gapped construction, as in (45):

- (45) c-apa=lo yoo [<sub>RelC</sub> n-aa xana  
 IRR-have=2SG land STA-be.lying buttocks/at.base.of  
 tanj]  
 mountain  
 ‘you will have the land that is (lying) at the foot of the mountain’  
 (Zi-1565;8) (Oudijk 2008:233)

In (45), *yoo* ‘land’ clearly serves as the object of the verb *capa* ‘will have’ and *naa* ‘be lying’ is left without an overt clause-internal subject. The gapped subject, however, is understood to refer to *yoo* and provides the reference for the subject of the positional verb.



predicative possessive clauses to assert their possession, and in locative inversion constructions to indicate properties of Grounds (Speck 1994; Foreman 2012; Newberg 2012). CVZ shows these same uses, each discussed in turn below.

**5.2.1. Locative clauses.** All the positional verb roots in Cordova (table 2) are attested in locative clauses in our corpus, with the exception of *pij* ‘be sitting’, for which we have no attestations, and *àla* ‘be hanging’ and *bij-ba* ‘be sitting elevated’, for which we only have one (non-locative) token each.

Recall that in locative clauses, the Figure is located with respect to some Ground, as illustrated in (48):

- (48) *xoonoo xaana tobaa ny n-oo laoo layoo*  
 eight plant maguey REL STA-be.contained face/on land  
 ‘eight maguey plants that are (contained) on the land’  
 (Co-1721-4r;16)

The Figure, understood as *xoonoo xaana tobaa* ‘eight maguey plants’, is being located with respect to a Ground, *layoo* ‘land’. Figures are realized as subjects in locative clauses, while Grounds are often contained inside a PP complement of the verb, which in (48) is headed by the BPL, *laoo* ‘face/on’. We refer to the Ground plus any BPL or preposition that introduces it as a Ground Phrase, following Levinson (2003:99).

In addition to appearing inside PPs, Grounds may also appear as demonstratives, as in (49), or as bare NPs, as in (50):

- (49) *testigo cica ni na-yoo-yaca=ni rohua tini ana*  
 witness thus REL STA-be.contained-??=3 here this now  
 ‘thus the witnesses who are here now’  
 (Te-1614-104v;32)

- (50) *co-yona cuee n-aa lachiquiyoocho*  
 PERF-three plot STA-be.lying Lachiquiyoocho  
 ‘the third plot is (lying) in Lachiquiyoocho’  
 (Te-1614-104v;2)

In (49) and (50), the Ground Phrases are, respectively, the demonstrative expression *rohua tini* ‘here’ and the toponym *lachiquiyoocho*, both of which occur as direct internal complements of the verb without being contained in a PP. Note that bare Ground NPs (those without a BPL) are most common with Ground NPs that refer to named places or “large locations,” such as a town or heaven (Munro 2012).

In modern Zapotec languages, an overt Ground Phrase is required in locative clauses (Foreman 2012:202; Lillehaugen and Sonnenschein 2012:10; Newberg 2012:222). Consider the following data which demonstrates this:

## San Lucas Quiaviní Zapotec

- (51) Bèe'cw    Ø–zùub            \*(ni'ih            me'es). {ex51.wav}  
       dog        STA-be.sitting    \*(foot/under    table)

'The dog is (sitting) under the table'

(Lillehaugen and Sonnenschein 2012:10)

Without the Ground Phrase, (51) is ungrammatical; presumably this was true in CVZ as well. In requiring a Ground Phrase, locative clauses contrast with other uses of positional verbs, such as existential clauses, described below.

**5.2.2. Existential clauses.** Positional verbs in Zapotec are also frequently employed in existential clauses in which the existence of the Figure is asserted. This is a common cross-linguistic pattern (Lyons 1967); two-thirds of the world's languages employ the same verb(s) in both locative and existential clauses (Clark 1978). CVZ follows this pattern, with various positional verbs attested in existential clauses as well as locative ones.

The use of positional verbs in existential clauses is attested in all four branches of Core Zapotec, as demonstrated in the following four examples from Zaniza Zapotec (Papabuco) (52), Quiegolani Zapotec (Southern) (53), San Lucas Quiaviní Zapotec (Central) (54), and San Pablo Macuiltianguis Zapotec (MacZ, Northern) (55). Note that unlike locative clauses, existentials do not require an overt Ground Phrase (Foreman 2012:202; Newberg 2012:222), as evident from each of the following examples:<sup>12</sup>

## Zaniza Zapotec

- (52) Zu    tib    lyez.  
       be    one    opossum  
       'There was an opossum'

(Operstein 2012:167, ex. 3)

## Quiegolani Zapotec

- (53) N–uu    gyët.  
       STA–be    tortilla  
       'There were tortillas'

(Black 2000:48, ex. 76a)

<sup>12</sup> In these examples, the orthographies generally follow IPA conventions except as noted in the following. In Zaniza, <ly> = /ʎ/. In Quiegolani, doubled vowels are laryngealized, <ë> = /æ/, and <gy> = /gʲ/. In (55) and the following Macuiltianguis examples, doubled consonants are long, doubled vowels indicate lengthening due to stress, tones are underrepresented but when included, acute = high and grave = low, <cw> = /kʷ/, <qu> = /k/, <ɿ> = /ɿ/, <yh> = /ɣ/, and <'> = /ʔ/. For San Lucas Quiaviní Zapotec orthographic conventions, see n. 10.

## San Lucas Quiavini Zapotec

- (54) Ø–Zu'                      zh:ih    y–zh:ùw=ëng. {ex54.wav}  
 STA–be.standing    day    IRR–be.useful=3PROX

'There will come a day when it is useful; someday it will be useful'

(Munro and Lopez 1999:376)

## San Pablo Macuiltianguis Zapotec

- (55) A=ru=bii                      Ø–se'e                      dinosaurio {ex55.wav}  
 BASE=more=NEG    STA–be.scattered.on    dinosaur

'There aren't any more dinosaurs'

(Foreman 2012:203, ex. 31)

Although the Grounds are not overtly realized above, we can still observe selectional restrictions between the positional verb, the Figure, and the (understood) Ground. For example, in (52), *zu*, although glossed here as 'be', is the 'be standing' root and is thus used with a Figure that is a living creature capable of standing; in (54), we again see the connection between 'be standing' and 'day' in a Valley language (note example 7 above or 60 below); and in (55), the positional verb *se'e* 'be scattered on', which selects plural animate Figures, is used with *dinosaurio*, which refers to multiple animate beings that would have been scattered around the globe, our presumed Ground.

The effect of the understood Ground on the choice of positional verb is especially clear in the following examples:

## San Pablo Macuiltianguis Zapotec

- (56) A=ru=bii                      Ø–yù'ú                      inda    ilaa'  
 BASE=more=NEG    STA–be.contained    water    bitter

(lle'e                      refrigeador=nà'). {ex56.wav}  
 (stomach/in    refrigerator=DISTAL)

'There isn't any more beer (in the refrigerator)'

(Foreman 2012:202, ex. 26)

- (57) Ø–Duu=ru=ba                      inda    ilaa'    (cwe'e  
 STA–be.standing=still=EMPH    water    bitter    (back/behind

de'e=nà'). {ex57.wav}  
 wall=DISTAL)

'There is still more beer (behind the wall)'

(Margarita Martinez, personal communication, March 2016)

(56) has the *yù'ú* 'be contained' positional verb, cognate with CVZ *yóo*. As the verb expresses the notion of containment, it requires a container as



not present in (58). The clause states only that one God exists but does not indicate where. The lack of a Ground Phrase (and no signal of another construction type, e.g., no causativization) provides an important signal for identifying existential clauses in CVZ. Using these criteria, we were able to confirm existential uses of several CVZ positional verbs, such as ‘be standing’ (written *zoo* in 60) and ‘be floating’ (*zabi*, also in 60), and ‘be located’ (appearing twice in 61 as *zoba*).

- (60) aca    Ø–zoo                      chi    aca    Ø–zabi                      guela  
 NEG    STA–be.standing    day    NEG    STA–be.floating    night

qui–naba=ni  
 IRR–ask.for=3

‘The day doesn’t exist, the night doesn’t exist that they will ask for [the land]’

(A1642–1;26)

- (61) ca–zoba                      domingo    ca–zoba                      lanî    chi  
 PROG–be.located    Sunday    PROG–be.located    fiesta    day  
 ti–topa=to                      yootoo    t–o–na–tiaga=to  
 HAB–join.together=2PL    church    HAB–CAUS–experience–ear=2PL

ticha=tij  
 word=DEM

‘[when] there is a Sunday or there is a feast day, you gather together in church and you listen to these words’

(Feria 1567:86r;18) (Broadwell 2015a: ex. 46)

Despite the fact that they refer to semantically similar temporal entities (i.e., days and parts of days), different positional verbs are used in these examples. The day names *domingo* ‘Sunday’ and *lanî chi* ‘feast day’ occur with existential *zoba* ‘be located’, while *chij* ‘day’ occurs with *zoo* ‘be standing’ and *guela* ‘night’ with *zabi* ‘be floating’.

As shown in the MacZ examples in (56) and (57), although existential uses of positional verbs do not require a Ground, they may still occur with one. We find examples of this in CVZ as well, as in (62):

- (62) ce–tobi=ga                      ticha    n–ala                      quitizaa  
 DEF–one=also    word    STA–be.hanging    candle

‘Another matter exists (regarding) candles’

(Feria 1567:3r;23)

In (62), the Figure *cetobigo ticha* ‘another word (i.e., matter)’ is asserted to exist on the *quitizaa* ‘candle’. Despite the overt Ground, we can rely on semantics to identify this as an existential clause. Clearly, we are not talking

about literal words hanging on candles. Instead, the clause is used to introduce another point to discuss about candles, asserting that such a point exists.

Since Ground Phrases are merely optional in existential clauses, when one is present there can be ambiguity between the locative and existential reading, as in (63):

- (63) ri-bi-ba                    letra    lo            pintura=nitini  
 HAB-be.sitting-up   letter   face/on   painting=DEM  
 ‘There are letters on this painting’  
 (Or-1599-I6) (Cruz et al. 2009:41, ex. 5)

The clause is ambiguous. It may be asserting the location of the letters (‘The letters are / the writing is on this painting’) or it may be asserting the existence of letters or writing (‘There are letters / there is writing on this painting’).

**5.2.3. Predicative possessive clauses.** Freeze (1992) shows that languages as diverse as Tagalog (Austronesian), K’ekchi’ (Mayan), and Hindi (Indo-European) use the same or similar structures to express locatives, existentials, and possessives. Likewise, in this section, we describe a construction that appears to be built on the existential: the predicate possessive construction, in which possession of the Figure is asserted. Positional verbs are used in predicative possessive constructions in various branches of Core Zapotec, including Papabuco (Speck 1994) and Northern Zapotec (Foreman 2012; Newberg 2012):

San Pablo Macuiltianguis Zapotec

- (64) Felipe=á                    Ø-yù’ú                    inda    ilaa’    què’=nì  
 Felipe=INVISIBLE   STA-be.contained   water   bitter   of=3GENITIVE  
 (lle’e                    refrigeador=ni). {ex64.wav}  
 (stomach/in   refrigerator=PROX)  
 ‘Felipe has beer (in the refrigerator)’  
 (Foreman 2012:203, 27)

- (65) Ø-Duua                    què’=nì                    tu    focu    (loo  
 STA-be.standing.elevated   of=3GENITIVE   a   light   (face/on  
 mesa=à’). {ex65.wav}  
 table=DISTAL)  
 ‘S/he has a flashlight (on the table)’  
 (Margarita Martinez, personal communication, March 2016)

Like existential clauses, predicative possessive clauses contain a positional verb, a Figure, and an optional Ground Phrase, indicated by the parentheticals above. So, (64) has the positional verb *yù’ú* ‘be contained’, the Figure *inda ilaa’* ‘beer’, and the optionally expressed Ground ‘refrigerator’, while (65) has

the positional verb *duua* ‘stand on (elevated surface)’, the Figure *tu focu* ‘a light’, and the optional Ground ‘table’. Unlike existentials, predicative possessive clauses also contain a Possessor (*Felipeá* ‘Felipe’ in 64 and *=nì* ‘his/her’ in 65), associated with the Figure. These clauses assert the existence of the Figure and the possessive relationship between the Figure and the Possessor.

The Possessor in the examples in (64) and (65) is not a Ground. This may be seen in the fact that in (64), *yù’ú* ‘be contained’ still encodes a notion of containment and we understand the Figure, *inda ilaa’* ‘beer’, to be located in some container, like the refrigerator, whether that container is explicitly mentioned or not. *Felipeá* cannot be understood to be the container; we are not talking about the beer Felipe has inside him.<sup>13</sup> Similarly, the positional verb *duua* ‘stand on (elevated surface)’ in (65) indicates that the Figure *tu focu* ‘a light’ is located on a raised surface, such as a table; the sentence does not (and cannot) refer to the light that someone has on top of him/her. We can thus conclude that the notions of Figure and Ground are still very relevant for positional verb selection in predicative possessive clauses, and these concepts are distinct from that of the Possessor, which does not appear to have any impact on choice of positional verb.

Additionally, we might initially assume that the Possessor is contained as part of the Figure NP. Foreman (2012), however, argues that this is not the case for Macuiltianguis Zapotec, citing as proof examples such as the following, among other evidence:

San Pablo Macuiltianguis Zapotec

- (66) Ø–Tee            belliu    què’    Felipe=à’ . {ex66.wav}  
 STA–be.lying    money    of       Felipe=DISTAL  
 ‘Felipe has money’

(Foreman 2012:209, ex. 51a)

- (67) Ø–Tee            què’    Felipe=à’        belliu. {ex67.wav}  
 STA–be.lying    of       Felipe=DISTAL    money  
 ‘Felipe has money’

(Foreman 2012:209, ex. 51b)

Examples (66) and (67) show that predicative possessive clauses allow free reordering of the Figure and Possessive Phrase after the verb in MacZ. (The two orderings were also given in 64 and 65.) The Possessive Phrase, *què’ Felipeà’* ‘of Felipe’, may either follow the Figure, *belliu* ‘money’, as in (66),

<sup>13</sup> Nor could we be. In Macuiltianguis, *yù’ú* restricts its Figures to non-liquids, so the Figure in (64) must be understood as referring to bottles or cans of beer rather than the liquid (the verb *yuuusu* ‘be contained [of a liquid]’ would be required for that interpretation). Clearly, interpreting a human as the container of bottles or cans would be especially nonsensical.

or precede it, as in (67). Only the former word order, Possessum-Possessor, however, is possible with NP-internal possessors, as seen below:

San Pablo Macuiltianguis Zapotec

- (68)  $\emptyset$ -Tappa'                      tu    carru    què'    Felipe=à'. {ex68.wav}  
 STA-be.broken.down    a    car    of    Felipe=DISTAL  
 'One of Felipe's cars has broken down'

(Foreman 2012:210, ex. 54a)

- (69) \* $\emptyset$ -Tappa'                      què'    Felipe=à'                      tu    carru.  
 STA-be.broken.down    of    Felipe=DISTAL    a    car  
 BAD WITH ANY MEANING, E.G., CANNOT MEAN 'One of Felipe's cars has  
 broken down'

(Foreman 2012:210, ex. 54b)

In NP-internal possession, the Possessive Phrase (*què' Felipeà'* 'of Felipe') must follow the Possessum (*tu carru* 'a car'), as in (68). Attempting to reverse that order results in ungrammaticality (69). This leads to the conclusion that the Possessor in predicative possessive clauses in MacZ is not part of the Figure NP constituent since it allows reordering, as shown in (66) and (67).

The predicative possessive use of positional verbs occurs in Valley Zapotec languages as well, though various factors make their exact structure harder to determine. One complicating factor is that, unlike MacZ, Valley languages have a non-positional 'have' lexical item for predicating possession, one used primarily for the predication of alienable possession. This verb is found in CVZ and can be seen (in its irrealis form *capa*) in example (45), repeated below in (70):<sup>14</sup>

- (70) c-apa=lo                      yoo    [<sub>RelC</sub> n-aa                      xana  
 IRR-have=2SG    land                      STA-be.lying    buttocks/at.base.of  
 tanj]  
 mountain

'you will have the land that is (lying) at the foot of the mountain'  
 (Zi565;8) (Oudijk 2008:233)

This verb shows the same alignment of semantic roles as verbs like *have* and *tener* in English and Spanish, and unlike positional verb predicative possessive clauses like the ones above from MacZ. In (70), it is the subject of *capa*, =*lo* 'you', that bears the Possessor role, whereas in MacZ the Possessor is not the subject but an oblique argument introduced by the preposition *què'* 'of'.

Predicative possessive uses of positional verbs still occur in the Valley languages but are more common with cases involving inherent possession, as in (71):

<sup>14</sup> Freeze and Georgopoulos (2000:167) claim that verb-initial languages will not have a 'have' lexical item. Clearly, the Valley Zapotec languages provide a counterexample. Additional counterexamples include Chalcatongo Mixtec (Macaulay 2005:347) and Upper Necaxa (Beck 2011).

## San Lucas Quiaviní Zapotec

- (71) Ø–Zùub            x:–ca'ch        gùu'ann. {ex71.wav}  
 STA–be.sitting    PSSD–horn     bull

'The bull has horns'

(Munro and Lopez 1999:20)

In (71), the positional verb *zùub* 'be sitting' occurs with the Figure, *x:ca'ch* 'horn' (overtly marked as possessed by the *x:-* prefix), and a Possessor, *gùu'ann* 'bull'. Although Foreman (2012) argues that in MacZ the possessor is not a sub-constituent of the Figure NP in predicative possessive clauses, even in cases involving inalienable possession, the Valley evidence is less certain, and it may be the case that the Possessor in (71) is contained in the Figure NP.

Whether or not the Possessor is distinct from the Ground is also harder to determine in such cases since, as in this example, the Possessor, here *gùu'ann* 'bull', is often contiguous with the Ground, understood here to be the bull's head. Examples like (72), with a locative PP distinct from the Possessor, however, suggest that the Possessor and the Ground may still be distinct and that the Ground Phrase is merely optional in predicative possessive clauses.

## San Lucas Quiaviní Zapotec

- (72) Ø–Zùub            x:–ca'ch        rinoceronte    (pu'annd  
 STA–be.sitting    PSSD–horn     rhinoceros    tip/at.tip.of

zhi'=ih). {ex72.wav}

nose=3DISTAL

'The rhinoceros has a horn (on the tip of its nose)'

(Felipe H. Lopez, personal communication, October 2015)

In (72), the horn is not located in its prototypical position on top of the head, and we can include an optional Ground Phrase, *pu'annd zhi'ih* 'on the tip of its nose', suggesting that even in cases like that in (71), the Ground (the bull's head) may be understood and be distinct from the Possessor.

Regardless of the syntactic structure of the Possessor and of the possible conflation of Possessor and Ground, the clauses in (71) and (72) clearly assert possession, not mere existence. Example (71) is interpreted as asserting that the bull has horns. While (71) may look like an existential construction, since potentially we have no Ground Phrase, this sentence cannot mean 'the bull's horns exist' or 'there are bull horns' (e.g., for sale in a market scenario) (Felipe H. Lopez, personal communication, September 2015). This demonstrates that the semantics of existential constructions and predicative possessive constructions are distinct and can be confirmed by native speakers.

Syntactically, existential and predicative possessive clauses can be distinguished by the presence of the Possessor, and predicative possessive clauses

can be distinguished from locative clauses by the optionality of the Ground Phrase (assuming the Possessor is not the Ground).

In CVZ, we find a few uses of positional verbs which exhibit the characteristics of a predicative possessive clause, such as the example in (73):

- (73) cica t-oni tobi beni ni n-oo  
 like HAB-CAUS/do one person REL STA-be.contained  
 xini=ni laaca t-oni B Dios  
 child=3 same HAB-CAUS/do lord God

‘Like a person who has children does, so does the Lord God’  
 (Feria 1567:40r;9)

The relative clause *ni noo xinini* in (73) contains a predicative possessive construction. The positional verb is *noo* ‘be contained’, and *xini* ‘child’, an inalienably possessed noun, is the Figure. The Possessor, in the form of the third-person bound pronoun =*ni*, immediately follows, the typical pattern for inalienable possession. This clause is similar semantically to the modern San Lucas Quiaviní Zapotec example ‘the bull has horns’, in (71), in that a possessive relationship is being asserted between the Possessor and the Figure, literally yielding ‘a person who s/he has children’.

Another example, ambiguous between a locative clause and a predicative possessive clause, is presented in (74). This example deals with *guelaguetza* gifts, which are reciprocal, and thus the word can refer to the gift or the “credit” earned by making such a gift. It is clear from the context that it is the resulting credit and not the gift itself that is being referred to in (74) because the testator then instructs that these credits be collected in monetary form and be used to pay for masses for her and her husband’s souls.

- (74) ti-nipea na-sauí quelaquez xteni=a  
 HAB-order:1SG STA-be.floating guelaguetza of=1SG

San Juan qulauí  
 San Juan Guelavía

- (a) ‘I declare my *guelaguetza* credit is (floating) in San Juan Guelavía’  
 (b) ‘I declare I have *guelaguetza* credit in San Juan Guelavía’  
 (poss.)

(TI-1675;43)

The embedded clause in (74) contains the Figure *guelaguez* ‘*guelaguetza* credit’ and is headed by the positional verb *nasauí* ‘be floating’, which has the extended meaning ‘be owed’. Examples of both senses are found in locative, existential, and predicative possessive clauses. Since this clause has both a Possessor (=a ‘my’, introduced by the preposition *xteni* ‘of’), and a Ground *San Juan qulauí* ‘San Juan Guelavía’, it could, based solely on clause-internal

evidence, be interpreted either as a locative, as in (74a), or as a predicative possessive, as in (74b). Context favors the latter, as up until this point in the will, the testator had been listing how her possessions would be distributed, but here she switches to asserting that she has credits owed to her that are to be collected.

Although the Possessor and Ground are arguably distinct in the predicative possessive use of positional verbs, there is another use of positional verbs in which the Ground is realized as subject and receives an almost Possessor-like interpretation. This locative inversion use of positional verbs is discussed in the next section.

**5.2.4. Locative inversion clauses.** Finally, we consider the use of positional verbs in locative inversion clauses. This use in Zapotec was initially described by Newberg (2012), from which the following examples of Yalálag Zapotec (a modern Northern Zapotec language) are drawn. He describes this construction as “a ‘hosting’ construction in which the location phrase is realized as the grammatical subject” (2012:221).<sup>15</sup>

Yalálag Zapotec

	V	Figure S	Ground PP	Phrase
(75)	Ø–Llia	za’	lo	yel.
	STA–sit	ear.of.corn	intestine	corn.stalk

‘There is corn on the stalk’

(Newberg 2012:233, ex. 53a)

	V	Ground S	Figure O	Phrase
(76)	Ø–Llia	yel–en’	za’.	
	STA–sit	corn.stalk–the	ear.of.corn	

‘The stalk has corn (sitting on it)’

(Newberg 2012:234, ex. 53c)

(75) follows the typical locative form we have seen in Zapotec: a positional verb, *llia* ‘sit’, is followed by the Figure NP, *za* ‘ear of corn’, and the Ground Phrase, consisting of the BPL *lo* ‘intestine/in’ and the Ground, *yel* ‘corn stalk’. This clause could be interpreted locatively (‘The corn is [sitting] on the stalk’) or existentially, as indicated by the cited translation.

Example (76) provides an instance of what we call the locative inversion construction, in which the Ground—instead of the Figure—is realized as the subject of the clause, while the Figure occurs as an internal complement of the verb. The difference in grammatical relations is clearly signaled by the

<sup>15</sup> In the examples from Yalálag Zapotec, the practical orthography generally follows IPA conventions except <ll> = /ʎ/, <y> = /j/, and <’> = /r/.

differing word order, with the Ground immediately following the positional verb and appearing before the Figure. That the Ground is the subject is further confirmed by the fact that the BPL does not appear with the Ground in (76), as well as by the fact that the Ground can be moved to a pre-verbal position, as in (77). Note that, as shown earlier for some clauses with pre-verbal subjects, a coreferential post-verbal pronoun occurs on the verb.

Yalálag Zapotec

	Ground	V=s	Figure
(77)	Yel-en'	∅-llia=n	za'.
	corn.stalk-the	ST-sit=3inanimate	ear.of.corn
	'The stalk has corn sitting (on it)'		

(Newberg 2012:233, ex. 53*b*)

As noted earlier, an asymmetry between subjects and objects has been observed in both modern Zapotec and CVZ: pre-verbal subjects but not objects can occur with a post-verbal pronoun (Foreman and Munro 2007). The presence of =*n* on the verb in (77) is coreferential with *yelen'* 'the corn stalk', confirming that it is the subject. As shown by the translations in (76) and (77), a locative inversion clause is interpreted as predicating a property of the Ground ('the stalk has corn on it'). The NP *za'* 'ear of corn' in (77) is not interpreted as the Ground, because the sentence cannot mean the stalk sits on the corn.

A potential example of the locative inversion construction in CVZ is provided in the relative clause in (78):

(78)	quitobi	[ <sub>RelC</sub> ∅-ço	beni]
	everything	STA-be.standing	person
	'everything (that) a person has (standing) [on their body]'		
	(Feria 1567:47r;1)		

The syntax of this clause is complicated, but its meaning is clear. In (78), we are discussing the parts of a person (everything on a person, i.e., the parts of the body) and not everything a person is standing on; the hand and the foot are given as examples of things that a person has on their body just a few lines later (Feria 1567:47r;6). *Quitobi* 'everything' is the Figure, while *beni* 'person' is the Ground. This much is clear. The question is, what is the subject of the sentence? If there were a resumptive pronoun after *ço* 'be standing', we would be certain that *quitobi* is the subject. But resumptive pronouns for subject relatives are optional in CVZ (Foreman and Munro 2007:145–46), so the absence of the resumptive pronoun is not diagnostic. Since there is no possessive marking in (78), this is not a predicative possessive use of *ço* 'be standing'. However, (78) could be an example of a locative inversion clause since it is possible that *quitobi* is a fronted subject. Moreover, as we saw with the modern locative inversion example in (76), the clause is interpreted as predicating a property of the Ground—namely, what the Ground has on it.

Thus, both the structure and the meaning of the clause are consistent with an analysis of the example as a locative inversion clause.

We therefore believe that (78) represents an example of the locative inversion construction in CVZ. In fact, (78) looks rather like the modern Valley locative inversion clause in (79), except that the internal complement of the verb (the Figure) in (79) is in its canonical post-subject position:

San Lucas Quiaviní Zapotec

	Ground	Figure
V	S	O
(79) N-u'uh	bèe'cw	binyii'u. {ex79.wav}
STA-be.contained	dog	flea
'The dog has fleas'		

(Felipe H. Lopez, personal communication, March 2016)

Here, the fleas are located on the dog, but *bèe'cw* 'dog' occurs as the grammatical subject, and the sentence details a property of the dog, the Ground.

Example (78) is our only current candidate for an instance of a locative inversion use of positional verbs in CVZ. However, given the totality of CVZ positional verb semantics, morphology, and syntax and their similarities to that of modern languages, we feel confident that other examples will turn up as we continue to analyze CVZ texts.

**6. Conclusion.** Using data from both Cordova's *Vocabulario* (1578*b*) and a corpus of manuscripts written by native speakers, we have presented an overview of the morphosyntax of positional verbs in Colonial Valley Zapotec. The delineation of the morphosyntax of positional verbs in CVZ and their range of uses contributes to understanding the structure and development of the modern Zapotec positional verb systems, especially in the Valley, and has implications for studies on Zapotec locative systems more broadly. Furthermore, this work adds time depth to the larger study of language and space in Mesoamerica (e.g., Bohnemeyer et al. 2011; O'Meara and Pérez Báez 2011).

We observe a range of uses of positional verbs in the CVZ texts that are claimed to be characteristic of positional verbs in modern Zapotec languages, including uses in locative, existential, predicative possessive, and locative inversion clauses. These are summarized in (80).

(80)	CLAUSE TYPE	FIGURE	GROUND PHRASE
	Locative	Subject	Required complement
	Existential	Complement/subject	Optional complement
	Predicative possessive	Complement/subject (possessed)	Optional complement
	Locative inversion	Complement	Required subject

In all clause types, selectional restrictions hold between the positional verb, the Figure, and the Ground. This is true even in existential and predicative possessive clauses in which the Ground may not be overtly expressed. It is also true regardless of the grammatical relations taken on by the Figure and Ground, whether the Figure is the subject, as in locative clauses, or the Ground is, as in locative inversion clauses. (It remains an open question whether the Figure is an internal complement or a subject in existential and predicative possessive clauses.)

The CVZ positional verbs also exhibit the distinctive morphological properties of both having a stative aspectual form (which not all CVZ verbs do) and allowing a  $\emptyset$ -stative form (which only CVZ positional verbs do). Combined with their participation in the constellation of syntactic constructions shown in (80), this demonstrates that positional verbs—beyond constituting just a semantically similar group of verbs—formed a formal class of verbs in the Valley as early as the 1500s. This finding, along with the data presented showing that these same formal characteristics exist independently in both the Papabuco and Northern branches, further suggests that these formal properties are reconstructible to at least Proto-Core Zapotec, and likely to Proto-Zapotec.

#### APPENDIX A

##### CORPUS OF COLONIAL VALLEY ZAPOTEC DOCUMENTS IN THIS STUDY IN CHRONOLOGICAL ORDER (SHORT)<sup>16</sup>

Abbreviation with Year <sup>17</sup>	Place	Notes <sup>18</sup>
Zi-1565*	Zimatlán	Full document consulted, including analysis of document published in Oudijk (2008) <sup>19</sup>
Feria 1567	San Juan Teitipac / Oaxaca City	Catholic Doctrine of Faith, original published as <i>Feria</i> (1567). Document consulted in part, including analysis in Broadwell (2015a)**
Te-1590*	San Juan Teitipac	Document consulted in part**
Or-1599	Villa Díaz Ordaz	Analysis in Cruz et al. (2009) consulted in full; we relied on the transcription in Cruz et al. (2009) as we did not have access to either the original or a legible image of the original

<sup>16</sup> An expanded version of Appendix A is available online only as Appendix B, with descriptions of the texts and links to images of the texts.

<sup>17</sup> All entries marked with \* were originally analyzed as part of the UCLA Zapotexts Research Group led by Munro and Terraciano.

<sup>18</sup> Entries marked with \*\* indicate that the Broadwell and Lillehaugen FLEx database analysis was consulted.

<sup>19</sup> A full analysis of this document was also published in Restall, Sousa, and Terraciano (2005).

Te-1610*	San Sebastián Teitipac	Document consulted in part**
Te-1614*	San Sebastián Teitipac	Full document consulted, including analysis in Munro et al. (forthcoming)**
Te-1616*	Tectipac	Document consulted in part for the study**
Te-1618*	San Juan Teitipac	Document consulted in part, including analysis in Rojas Torres (2009)
Te-1626*	San Sebastián Teitipac	Document consulted in part, including analysis in Munro (2011)
Al-1642	San Pedro el Alto	Document consulted in part**
Ti-1649*	Tiltepec	Document consulted in part, including analysis in Munro (2011)
Tl-1675*	San Jerónimo Tlacoachahuaya	Full document consulted, including analysis in Munro and Terraciano (2012)**
Oc-1686*	Ocotlán	Document consulted in part, including analysis in Foreman and Munro (2007)
Te-1702*	San Sebastián Teitipac	Document consulted in part, including analysis in Lillehaugen (2012)**
Ti-1709*	Tiltepec	Document consulted in part**
Co-1721*	San Bartolomé Coyotopec	Document consulted in full, including analysis in Foreman and Munro (2007) and Munro and Terraciano (2012)**
Oc-1731	San Antonino Ocotlán	Full document consulted, including analysis in Smith Stark et al. (2008)
Oc-1750	San Antonino Ocotlán	Full document consulted, including analysis in Smith Stark et al. (2008)
Oc-1753	San Antonino Ocotlán	Full document consulted, including analysis in Smith Stark et al. (2008)

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## APPENDIXES

### POSITIONAL VERBS IN COLONIAL VALLEY ZAPOTEC

JOHN FOREMAN AND BROOK DANIELLE LILLEHAUGEN

[*IJAL*, VOL. 83, NO. 2, APRIL 2017, PP. 61–103]

## APPENDIX B

### CORPUS OF COLONIAL VALLEY ZAPOTEC DOCUMENTS IN THIS

### STUDY IN CHRONOLOGICAL ORDER (EXPANDED)

ABBREVIATION WITH YEAR <sup>1</sup>	PLACE	REGION	NOTES <sup>2</sup>
Zi-1565*	Zimatlán	Valle Grande	<ul style="list-style-type: none"><li>• Affidavit of land ownership</li><li>• Full document consulted, including analysis of document published in Oudijk (2008).</li><li>• A full analysis of this document was also published in Restall, Sousa, and Terraciano (2005).</li></ul>
Feria 1567	San Juan Teitipac / Oaxaca City	Western Tlacolula Valley	<ul style="list-style-type: none"><li>• Catholic Doctrine of Faith, original published as Feria (1567)</li><li>• Images available at: <a href="https://archive.org/details/doctrinachristia00feri">https://archive.org/details/doctrinachristia00feri</a></li><li>• Document consulted in part, including analysis in Broadwell (2015a)**</li></ul>
Te-1590*	San Juan Teitipac	Western Tlacolula Valley	<ul style="list-style-type: none"><li>• Document regarding ruling on land dispute</li><li>• Document consulted in part**</li></ul>
Or-1599	Villa Díaz Ordaz	Western Tlacolula Valley	<ul style="list-style-type: none"><li>• Map</li><li>• Analysis in Cruz et al. (2009) consulted in full. We relied on the transcription in Cruz et al. (2009) as we did not have access to either the original or a legible image of the original.</li></ul>

Te-1610*	San Sebastián Teitipac	Western Tlacolula Valley	<ul style="list-style-type: none"> <li>• Testament of Gabriel Luis</li> <li>• Document consulted in part**</li> </ul>
Te-1614*	San Sebastián Teitipac	Western Tlacolula Valley	<ul style="list-style-type: none"> <li>• Testament of Sebastian Lopez</li> <li>• Archivo General de la Nación, Tierras, vol. 256, exp. 2, ff. 104r–104v</li> <li>• &lt;<a href="https://ticha.haverford.edu/documents/items/show/4436">https://ticha.haverford.edu/documents/items/show/4436</a>&gt;</li> <li>• Full document consulted, including analysis in Munro et al. (forthcoming)**</li> </ul>
Te-1616*	Tectipac	Western Tlacolula Valley	<ul style="list-style-type: none"> <li>• Testament of Domingo Hernandez</li> <li>• Document consulted in part for the study**</li> </ul>
Te-1618*	San Juan Teitipac	Western Tlacolula Valley	<ul style="list-style-type: none"> <li>• Testament of Juan Lopez</li> <li>• Archivo General de la Nación, Tierras, leg. 256, exp. 2, ff. 112r–112v</li> <li>• &lt;<a href="https://ticha.haverford.edu/documents/items/show/4438">https://ticha.haverford.edu/documents/items/show/4438</a>&gt;</li> <li>• Document consulted in part, including analysis in Rojas Torres (2009)</li> </ul>
Te-1626*	San Sebastián Teitipac	Western Tlacolula Valley	<ul style="list-style-type: none"> <li>• Testament of Juan Lopez</li> <li>• Archivo General de la Nación, Tierras, vol. 256, exp. 2, ff. 88r–90r</li> <li>• &lt;<a href="https://ticha.haverford.edu/documents/items/show/4440">https://ticha.haverford.edu/documents/items/show/4440</a>&gt;</li> <li>• Document consulted in part, including analysis in Munro (2011)</li> </ul>
Al-1642	San Pedro el Alto	Sierra Sur	<ul style="list-style-type: none"> <li>• Bill of sale</li> <li>• Archivo General de la Nación, Tierras, vol. 310, exp. 2, ff. 40r–40v</li> <li>• &lt;<a href="https://ticha.haverford.edu/documents/items/show/4375">https://ticha.haverford.edu/documents/items/show/4375</a>&gt;</li> <li>• Document consulted in part**</li> </ul>
Ti-1649*	Tiltepec	Sierra Sur	<ul style="list-style-type: none"> <li>• Testament of Gabriel Luis</li> <li>• Archivo General de la Nación, Tierras, vol. 310, exp. 2, ff. 36r–37v</li> <li>• &lt;<a href="https://ticha.haverford.edu/documents/items/show/4377">https://ticha.haverford.edu/documents/items/show/4377</a>&gt;</li> <li>• Document consulted in part, including analysis in Munro (2011)</li> </ul>
Tl-1675*	San Jerónimo Tlacoahuaya	Western Tlacolula Valley	<ul style="list-style-type: none"> <li>• Testament of Sebastiana de Mendoza</li> <li>• Archivo General del Poder Ejecutivo del Estado de Oaxaca, Alcaldías Mayores, leg. 42, exp. 10, f. 7r</li> <li>• &lt;<a href="https://ticha.haverford.edu/en/handwritten_texts.html#4358">https://ticha.haverford.edu/en/handwritten_texts.html#4358</a>&gt;</li> <li>• Full document consulted, including analysis in Munro et al. (2012)**</li> </ul>

Oc-1686*	Ocotlán	Valle Grande	<ul style="list-style-type: none"> <li>• Testament of Pedro Gomez</li> <li>• Document consulted in part, including analysis in Foreman and Munro (2007)</li> </ul>
Te-1702*	San Sebastián Teitipac	Western Tlacolula Valley	<ul style="list-style-type: none"> <li>• Testament of Lorenza Valencia Lopez</li> <li>• Document consulted in part, including analysis in Lillehaugen (2014)**</li> </ul>
Ti-1709*	Tiltepec	Sierra Sur	<ul style="list-style-type: none"> <li>• Ruling on land dispute</li> <li>• Document consulted in part**</li> </ul>
Co-1721*	San Bartolomé Coyotopec	Valle Grande	<ul style="list-style-type: none"> <li>• Testament of Maria de la Cruz</li> <li>• Original manuscript at the Archivo General del Poder Ejecutivo del Estado de Oaxaca, Alcaldias Mayores, leg. 42, exp. 13, ff. 2r–4v</li> <li>• &lt;<a href="https://ticha.haverford.edu/en/handwritten_texts.html#4332">https://ticha.haverford.edu/en/handwritten_texts.html#4332</a>&gt;</li> <li>• Document consulted in full, including analysis in Foreman and Munro (2007) and Munro and Terraciano (2012)**</li> </ul>
Oc-1731	San Antonino Ocotlán	Valle Grande	<ul style="list-style-type: none"> <li>• Bill of sale</li> <li>• Archivo General del Poder Ejecutivo del Estado de Oaxaca, Real Intendencia, leg. 42, exp. 35, ff. 8r–8v</li> <li>• &lt;<a href="https://ticha.haverford.edu/en/handwritten_texts.html#4339">https://ticha.haverford.edu/en/handwritten_texts.html#4339</a>&gt;</li> <li>• Full document consulted, including analysis in Smith Stark et al. (2008)</li> </ul>
Oc-1750	San Antonino Ocotlán	Valle Grande	<ul style="list-style-type: none"> <li>• Affidavit of land ownership</li> <li>• Archivo General del Poder Ejecutivo del Estado de Oaxaca, Real Intendencia, leg. 42, exp. 35, ff. 10r–10v</li> <li>• &lt;<a href="https://ticha.haverford.edu/en/handwritten_texts.html#4340">https://ticha.haverford.edu/en/handwritten_texts.html#4340</a>&gt;</li> <li>• Full document consulted, including analysis in Smith Stark et al. (2008)</li> </ul>
Oc-1753	San Antonino Ocotlán	Valle Grande	<ul style="list-style-type: none"> <li>• Testament of Nicolas Blas</li> <li>• Archivo General del Poder Ejecutivo del Estado de Oaxaca, Real Intendencia, leg. 42, exp. 35, ff. 5r–5v</li> <li>• &lt;<a href="https://ticha.haverford.edu/en/handwritten_texts.html#4341">https://ticha.haverford.edu/en/handwritten_texts.html#4341</a>&gt;</li> <li>• Full document consulted, including analysis in Smith Stark et al. (2008)</li> </ul>

## APPENDIX C

### TOKENS OF ASPECTUAL FORMS FOR NON-CAUSATIVIZED POSITIONAL VERBS

Root	Gloss	HAB	PERF	IRR	PROG	<i>n</i> - STA <sup>3</sup>	ZERO STA
<i>àa</i>	'be lying'					23	–
<i>àla</i>	'be hanging'					1	–
<i>bij-ba</i>	'be sitting elevated'	1				C	–
<i>càa</i>	'be sticking'	1	1			3	1
<i>chij-ba</i>	'be located elevated'	1				3	1
<i>çòo</i>	'be standing'	1				2	5
<i>pìj</i>	'be sitting'					C	–
<i>tì</i>	'be sitting'					1	1
<i>tète</i>	'be positioned across'		1			–	1
<i>xóba</i>	'be located'				2	C	–
<i>yóo</i>	'be contained'			1		18	–
<i>zàapi</i>	'be floating'	1				1	3

<sup>1</sup> All entries marked with \* were originally analyzed as part of the UCLA Zapotexts Research Group led by Pamela Munro and Kevin Terraciano, which included Christina Esposito, Xochitl Flores-Marcial, John Foreman, Michael Galant, Brook Danielle Lillehaugen, Olivia Martínez, Julie Morgenlender, Maria Ornelas, Diana Schwartz, Aaron H. Sonnenschein, and Lisa Sousa.

<sup>2</sup> Entries marked with \*\* indicate that the Broadwell and Lillehaugen FLEx database (Broadwell and Lillehaugen, forthcoming) analysis was consulted.

<sup>3</sup> "C" indicates only attested in Cordova (1578*b*), not in corpus of manuscripts.