The derivation of verb-initiality in Santiago Laxopa Zapotec

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Languages with basic verb-initial word order (VSO or VOS) are not uncommon. Santiago Laxopa Zapotec (SLZ), like other Zapotec languages, is rigidly VSO.

(1) Dzut mu'ule=n bene' xyage'=n.
hit.CONT woman=DEF person man=DEF
'The woman is hitting the man.' (FSR, SLZ57a-s, 1)
Not possible: ‘The man is hitting the woman.’

These orders pose a fundamental mystery with certain syntactic assumptions (Anderson and Chung 1977):
- The subject is structurally superior to the direct object: it is able to asymmetrically bind an R-expression in that position, producing a Condition C violation (which is active in Zapotec; Lee 2003).

(2) a. Bdi'in [beku' tse Pedro] leba'1/2-
bite.COMP dog of Pedro 3SG.INF
'Pedro’s dog bit him1/2.' (FA and RM, GZYZ019, 1:30)

b. Betwsha'1/2 [beku' tse Pedro].
hit.COMP=3SG.INF dog of Pedro
'He1/2 hit Pedro’s dog.' (FA and RM, GZYZ019, 13:20)

- The clause is the extended projection of the verb (Chomsky 1970, Grimshaw 2005).

With these assumptions, the verb and the direct object must form a constituent to the exclusion of the subject (pace Broadwell 2005).

(3) vP
\[DP_{S} \rightarrow \bar{v} \rightarrow v \rightarrow \bar{v} \rightarrow v \rightarrow DP_{O}\]

We assume a fairly articulated structure for the verb phrase: the external argument is introduced in the specifier of a functional head (Spec-vP) (Kratzer 1996).

What is the grammatical source of verb-initial word order in Santiago Laxopa Zapotec?

This question has been investigated extensively for other verb-initial languages, though to a lesser extent within Zapotec. There are two main alternatives:


(4) TP
\[T' \rightarrow vP \rightarrow DP_{S} \rightarrow \bar{v} \rightarrow v \rightarrow \bar{v} \rightarrow v \rightarrow DP_{O}\]


(5) TP
\[T' \rightarrow \bar{T} \rightarrow vP \rightarrow DP_{S} \rightarrow \bar{v} \rightarrow v \rightarrow \bar{v} \rightarrow v \rightarrow \bar{v} \rightarrow v \rightarrow DP_{O}\]

We propose that verb-initial order in SLZ is derived through predicate raising, not verb raising, since there is some material that can or must move with the verb.

The verb’s arguments must evacuate the constituent that moves, an assumption that can, in part, be justified on independent grounds.

In the rest of this talk, after providing some background on SLZ, we do the following:

- fill out the details of the two alternatives above
- provide three arguments that verb-initiality in SLZ is derived through predicate raising:
  - the position of adverbs
  - copular clauses
  - light verb constructions
- consider some questions that arise as a result of this analysis
1 Some background on Santiago Laxopa Zapotec

We present data from five speakers of Northern Zapotec varieties from Santiago Laxopa and nearby towns (San Sebastián Guiloxti and Santa María Yalina) in the Sierra Norte of Oaxaca.

While there are, of course, slight variations in their speech (mostly phonology), there was no significant variation with respect to the syntactic phenomena we discuss.

These varieties are most closely related to the San Bartolomé Zoogocho variety (Long and Cruz 2000, Sonnen- schein 2004), and more distantly to the Hidalgo Yalalag (Avelino Becerra 2004) and San Baltazar Yatzachi el Bajo (Butler 1980) varieties.

2 Comparing the two alternatives

Under both the verb raising and the predicate raising accounts, the verb ends up to the left of the subject. They share a number of other assumptions as well:

- The subject raises to a functional projection below the landing site of the verb (§2.1).
- Given the complexity of the verbal complex, there is additional verbal functional material (§2.2).

The two accounts differ, however, in how large the constituent that moves is: just a head or a phrase containing the verb. In addition, the predicate raising account must make another assumption:

- Most vP-internal material must evacuate this constituent before it moves (§2.3).

2.1 The position of subjects

There is some evidence that the subject itself occupies a position outside of vP: the subjects of unaccusative verbs occupy the same position relative to manner adverbs that transitive subjects do.

(6) a. Dziyag Pedro xtidao’. get.cold.CONT Pedro quickly ‘Pedro is getting cold quickly.’ (FA and RM, GZYZ019, 1:19:07)
   b. * Dziyag xtidao’ Pedro. get.cold.CONT quickly Pedro (FA and RM, GZYZ019, 1:19:20)

(7) a. Udoo Juan=a’ yet=e’n xtdo’-yes. eat.COMP Juan=DEF tortilla=DEF quickly-INT ‘Juana ate tortillas very quickly.’ (FSR, SLZ1009-s, 21)
   b. * Udoo xtdo’-yes Juan=a’ yet=e’n. eat.COMP quickly-INT Juan=DEF tortilla=DEF (FSR, SLZ1009, 31:15)

Under either account, then, subjects would have to occupy a position outside of vP, but below the position where the verb or predicate raises to (Lee 2006:49), cf. Irish (McCloskey 1996, 2001).

(8) TP
   T
   F
   DP
   F
   vP
   Adv
   vP
   v
   VP
   s

This projection (informally, FP) might be associated with nominative case and subject agreement, cf. AgrSP (Pollock 1989).

The EPP of T could then be satisfied by the verb raising into T or by the predicate raising into Spec-TP (Massam and Smallwood 1997, a.o.).
2.2 Verbal morphology

Under either hypothesis, these structures would actually have to be somewhat more articulated, given the complexity of the verb in SLZ.

(10) Verbal template in Santiago Laxopa Zapotec

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Directional</th>
<th>Number</th>
<th>Voice</th>
<th>Root</th>
<th>Incorporated adverbial(s)</th>
<th>Pronominal clitic(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMP</td>
<td>AND-</td>
<td>PL-</td>
<td>TR-</td>
<td>V</td>
<td>=dz <code>again' =dz </code>a lot' etc.</td>
<td>=e<code> </code>1 sg. =e<code> </code>2 sg.</td>
</tr>
<tr>
<td>CONT</td>
<td>VEN-</td>
<td></td>
<td>INTR-</td>
<td></td>
<td></td>
<td>=e<code> </code>3 for. etc.</td>
</tr>
<tr>
<td>POT-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STAT-</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

We remain agnostic about how all of this morphology appears on the root: whether through head movement or through a postsyntactic operation, such as morphological merger (Bobaljik 1995) (though see Lee 2006:53–62).

Presumably, too, this morphology would be introduced in additional verbal functional projections, though we do not show them for reasons of space.

2.3 Verb phrase internal material

The predicate raising account must assume that most non-verbal material moves out of vP, since it does not surface between the verb and subject:

- direct object and indirect object DPs

(11) a. Ba be Maria bidau`ni buku`. already give.COMP Maria child this dog ‘Maria already gave the dog to this child.’ (RM and FA, GZYZ015, 18:46)

b. * Ba be buku` Maria bidau`ni. already give.COMP dog Maria child this

c. * Ba be bidau`ni Maria buku`. already give.COMP child this Maria dog

- adjunct PPs

(12) a. Chia ghi=a`n bu`ni`se`n. boil.CONT chicken=DEF in water=DEF ‘The chicken is boiling in the water.’ (FSR, SLZ023-s, 8)

b. * Blo`ed lo`yo`o Maria bidao`ni buku`. show.COMP in house Maria child this dog

Intended: ‘Maria showed the dog to this child in the house.’ (FA and RM, GZYZ019, 15:18)

- complement clauses (CPs)

(13) a. Dze Pedro Maria [bdi`in buku` xna=`a`]. tell.CONT Pedro Maria bite.COMP dog mother=`1SG ‘Pedro told Maria that the dog bit my mother.’ (FA and RM, GZYZ020, 2:07)

b. ?? Dze Pedro [bdi`in buku` xna=`a`] Maria. tell.CONT Pedro bite.COMP dog mother=`1SG Maria

c. * Dze [bdi`in buku` xna=`a`] Pedro Maria. tell.CONT bite.COMP dog mother=`1SG Pedro Maria

There is independent evidence that these elements can move, regardless of how the verb gets into initial position. Except for the subject, argument DPs are freely ordered amongst one another, as are adjunct PPs.

(14) a. Ba be Maria buku` bidau`ni. already give.COMP Maria dog child this

‘Maria already gave the dog to this child.’ (RM and FA, GZYZ015, 18:13)

b. Ba be Maria bidau`ni buku`. already give.COMP Maria dog child this

‘Maria already gave the dog to this child.’ (RM and FA, GZYZ015, 18:46)

(15) a. Blo`ed Maria bidao`ni buku` lo`yo`o. show.COMP Maria child this dog in house

‘Maria showed the dog to the child in the house.’ (FA and RM, GZYZ019, 14:40)

b. Blo`ed Maria bidao`ni lo`yo`o buku`. show.COMP Maria child this dog in house

‘Maria showed the dog to the child in the house.’ (FA and RM, GZYZ019, 14:40)

b. Blo`ed Maria lo`yo`o bidao`ni buku`. show.COMP Maria lo`yo`o bidao`ni buku`

‘Maria showed the dog to the child in the house.’ (FA and RM, GZYZ020, 6:53)

c. Blo`ed Maria lo`yo`o bidao`ni buku`. show.COMP Maria lo`yo`o bidao`ni buku`

‘Maria showed the dog to the child in the house.’ (FA and RM, GZYZ020, 7:03)

This recalls the word order freedom available in the so-called middlefield of Germanic languages (see Haider 2006 for a survey).

Assuming this scrambling is derived through some kind of movement, it could fashion the right kind of phrasal constituent for the predicate raising account, one containing just the verb.
This abstractness may appear to make it impossible to distinguish the predicate raising account from the verb raising account. But there are elements that can remain inside vP, moving with the verb to initial position:

- Aspectual adverbs (§3)
- The AP predicate in a copular clause (§4)
- The nonverbal element in a light verb construction (§5)

The fact that any material can move along with the verb provides support for the predicate raising account.

### 3 Argument 1: The position of adverbs

In SLZ, there are a few classes of adverbs with different distributions:

- Aspectual adverbs (Advasp), such as chintghe ‘just (now)’, ba ‘already’, and ne’e ‘still’, can only appear immediately before the verb.

  (17) a. Chintghe bta Soniann zah. just stir.COMP Sonian=DEF bean ‘Sonia just stirred the beans.’ (RD, SLZ2012-s, 17)

  b. * Bta chintghe Soniann zah. just stir.COMP Sonian=DEF bean (RD, SLZ2012, 43:14)

  c. * Bta Soniann chintghe zah. just stir.COMP Sonian=DEF bean (RD, SLZ2012, 43:24)

  d. * Bta Soniann zah chintghe. just stir.COMP Sonian=DEF bean (RD, SLZ2012, 43:28)

- Temporal adverbs (Advtemp), such as neghe ‘yesterday’, yuge zha ‘every day’, and nezha ‘today’, can occur preverbally or anywhere postverbally except between the verb and the subject.

  (18) a. Neghe be’eye’ Maria=n yetgu’n. yesterday steam.COMP Maria=DEF tamale=DEF ‘Maria steamed the tamales yesterday.’ (FSR, SLZ062-s, 50)

  b. * Be’eye’ neghe Maria=n yetgu’n. yesterday steam.COMP Maria=DEF tamale=DEF (FSR, SLZ062, 1:02:03)

  c. Be’eye’ Maria=n nege yeitgu’n. yesterday steam.COMP Maria=DEF tamale=DEF (FSR, SLZ062, 1:02:29)

  d. Be’eye’ Maria=n yeitgu’n neghe. steam.COMP Maria=DEF tamale=DEF yesterday (FSR, SLZ062-s, 49)

This order is surprising: cross-linguistically, such aspectual adverbs typically occur lower in the structure than temporal adverbs that introduce a location time (Cinque 1999, a.o.).

While the aspectual adverbs are sensitive to the internal structure of the event described by the verb—and hence must be located closer to it—the temporal adverbs simply locate the event in time (Tenny 2000).

We propose that the inverted order of adverbs in SLZ follows directly from the predicate raising account, assuming the following distribution for adverbs:

(21) The distribution of adverbs in Santiago Laxopa Zapotec

i. Aspectual adverbs can only adjoin inside vP.
ii. Temporal adverbs can adjoin to vP or to CP.

If aspectual adverbs only adjoin inside vP, then they raise invariably with the verb to Spec-TP, thereby appearing only to its left.

(22) TP

By contrast, if temporal adverbs can adjoin to vP, they should be able to appear freely between the subject and any other postverbal elements.
The verb raising account, by contrast, cannot derive the position of adverbs in SLZ without positing a hierarchical ordering of adverbs that is cross-linguistically unexpected.

Under either account, the ban on adverbs intervening between the verb and subject would have to remain a stipulation. We should note, though, that Irish exhibits an identical restriction (McCloskey 1991).

The position of aspectual adverbs, immediately preceding the verb in initial position, supports the predicate raising account over the verb raising account.

4 Argument 2: Copular clauses

There are a couple of copulas in SLZ: one is *zua* (or *zoo*) ‘be, live’. In a copular clause, an adjective predicate can either follow or precede the subject.

(26) a. 
\[\text{zua Pedro wen}.
\begin{align*}
&\text{be Pedro good} \\
&\text{‘Pedro is well.’}
\end{align*}
\]
(FSR, SLZ1014-s, 30)

b. 
\[\text{zua wen Pedro.}
\begin{align*}
&\text{be good Pedro} \\
&\text{‘Pedro is well.’}
\end{align*}
\]
(FSR, SLZ1014-s, 28)

This follows directly from the predicate raising account, if the AP predicate can optionally undergo the same movement operation that DP arguments and PP adjuncts must undergo obligatorily.

For simplicity, we assume that the copula is a verb that takes a small clause complement, comprising the subject and the AP predicate.
It can be shown independently that both elements in the small clause are capable of moving: for instance, to the preverbal focus position.

(28)  a. Pedro zua wen.  
     Pedro be good  
     ‘Pedro is well.’

b. Wen zua Pedro.  
     good be Pedro  
     ‘Pedro is well.’

By contrast, the verb raising account can only derive the position of the AP predicate when it follows the subject.

     yesterday be Pedro good  
     ‘Yesterday, Pedro was well.’

b. * [Zua neghe wen] Pedro.  
     be yesterday good Pedro  
     ‘Pedro was neghe yesterday good.’

c. * [Zua wen neghe] Pedro.  
     be good yesterday Pedro

d. [Zua wen] Pedro neghe.  
     be good Pedro yesterday

The position of the AP predicate in copular clauses, which can immediately follow the verb — intervening between it and the subject — again supports the predicate raising account over the verb raising account.
5 Argument 3: Light verb constructions

There are light verb constructions in SLZ built from a light verb, -un (or -on) ‘do, make’ plus a nonverbal element, e.g. -un yeze ‘boast’, -un lazhe ‘lie’, and -un sgwa ‘show off’ (lit. ‘make much’).

(33) a. Dzun yeze Pedro kar tse=ba’=n.
do.CONT boastful Pedro car of=3.INF=DEF
‘Pedro is boasting about his car.’ (FSR, SLZ1013-s, 11)
b. Dzon lazhe Pedro nada’.
do.CONT lying Pedro 1SG
‘Pedro is lying to me.’ (FA and RM, GZYZ018, 1:25:03)
c. Dzon sgwa Pablo kar tse=ba’.
do.CONT much Pablo car of=3.INF
‘Pablo is showing off his car.’ (lit. ‘Pablo is making much of his car.’) (FA, GZYZ018, 45:50)

Crucially, the nonverbal element in these light verb constructions must occur immediately following the light verb, preceding the subject.

(34) a. *Dzun yeze Pedro kar tse=ba’=n.
   do.CONT Pedro boastful car of=3.INF=DEF
   Intended: ‘Pedro is boasting about his car.’ (FSR, SLZ1013, 20:11)
b. *Dzon lazhe Pedro.
do.CONT lying Pedro
   ‘Pedro is lying to me.’ (RM and FA, GZYZ018, 1:18:01)
c. *Dzon sgwa Pablo kar tse=ba’.
do.CONT much Pablo car of=3.INF
   Intended: ‘Pablo is showing off his car.’ (FA and RM, GZYZ018, 51:35)

We can contrast this class of light verb constructions with another, superficially similar class that exhibits a different behavior (see Broadwell 2004 for a similar contrast in another Zapotec language).

(35) a. Dzun shhab Pedro tse=ba’=n.
do.CONT thought Pedro of tse=ba’
‘Pedro is thinking about his wife.’ (FA and RM, GZYZ018, 57:34)
b. Dzun shchagh Pedro.=n.
do.CONT noise Pedro=DEF
‘Pedro is making noise.’ (FSR, SLZ1014, 1:30:56)

(36) a. Dzun Pedro shhab tse=ba’=n.
do.CONT thought Pedro of tse=ba’
‘Pedro is thinking about his wife.’ (FA and RM, GZYZ018, 57:14)
b. Dzun Pedro= n shchagh.
do.CONT noise Pedro=DEF
‘Pedro is making noise.’ (FSR, SLZ1014, 1:31:09)

Broadwell (2004) proposes that light verb constructions like the first class are compounds in San Dionicio Ocotpec Zapotec. But in SLZ, some incorporated adverbials intervene between the light verb and nonverbal element.
The nonverbal element always occurs immediately following the light verb because it can never move on its own.

(41) a. * Yeze' dzun Pablo kar tse=ba'.
    boastful do.CONT Pablo car of=3.INF
    Intended: 'Pablo is boasting about his car.' (FSR, SLZ1016, 0:30)

b. * Lazhe dzon Pedro nada'.
    lying do.CONT Pedro 1SG
    Intended: 'Pedro is lying to me.' (FA and RM, GZYZ019, 1:21:39)
c. * Sgwa a.lot dzon Pedro kar tse=ba'.
    of=3.SG.INF
    Intended: 'Pedro is showing off his car.' (FA and RM, GZYZ019, 1:21:19)

By contrast, under the verb-raising account, there is no way of understanding how the nonverbal element ends up between the light verb and subject.

(42) TP
    cf. 33a
    T
    FP
    DP
    F
    vP
    v
    AP
    A
    DP

Unlike with copular clauses, there is no mechanism even for the nonverbal element to move on its own.

In some light verb constructions, the nonverbal element must appear immediately following the light verb, providing additional support for the predicate raising account.

### 6 Conclusion and future prospects

As unlikely as the predicate raising account might seem at first, there is some evidence that other elements move along with the verb to initial position:

- aspectual adverbs
- the AP predicate in a copular clause
- the nonverbal element in a light verb construction

The verb raising account, which may be appropriate for other Zapotec languages, does not offer an immediate explanation for these facts in SLZ.

Beyond the question of verb-initiality, this investigation raises several interesting questions, which we intend to pursue in the future.

- What is the source of the constraint in (31), which bans material from intervening between the verb (really, the vP) and the subject?
- How does the predicate raising account interact with subject cliticization? Subject pronominal clitics can in some contexts attach directly to the verb, and in other contexts attach to the entire vP.

(43) a. Zua=ba' wen.
    be=3.INF good
    Intended: 'S/he is well.' (FSR, SLZ1014, 1:13:43)
b. * Zua wen=ba'.
    be good=3.INF
    Intended: 'S/he is well.' (FSR, SLZ1014, 1:13:51)

(44) a. * Dzon=ba' lazhe.
    do.CONT=3.INF lying
    Intended: 'S/he is lying.' (RM and FA, GZYZ018, 1:20:01)
b. Dzon laz=ba' nada'.
    do.CONT=3.INF 1SG
    'He is lying to me.' (RM and FA, GZYZ018, 1:25:25)

- Similarly, how are incorporated adverbials assimilated into the verbal complex? Some attach to the verb and others to the entire vP that is fronted.

(45) a. Dzon-tek yeze' Pablo kar tse=ba'=n.
    do.CONT-a.lot boastful Pablo car of=3.INF=DEF
    'Pablo is boasting a lot about his car right now.' (FSR, SLZ1016, 14:54)
b. Dzon yeze' kse Pedro kar tse=ba'=n.
    do.CONT=regularly Pedro car of=3.INF=DEF
    'Pedro regularly boasts about his car.' (FSR, SLZ1016, 9:55)

### Abbreviations

The abbreviations we use are: CONT = continuous aspect, COMP = completive aspect, DEF = definite, INF = informal, INT = intensive, INAN = inanimate, SG = singular, STAT = stative aspect, POT = potential aspect.

### Appendix: Manner adverbs

There is also a class of manner adverbs (Advmann), such as xtido' (or xtidao') 'quickly', cholazhe'e 'slowly', and zishghe' 'loudly', which have a superficially similar distribution to temporal adverbs.

(46) a. Xtido'-yes uudo Juanova' yet=men.
    quickly-INT eat.COMP Juan=DEF tortilla=DEF
    'Juan ate tortillas very quickly.' (FSR, SLZ1009-s, 20)
They also occur freely interleaved between any nonsubject arguments and adjunct PPs, cf. (18).

But the distribution of manner and temporal adverbs comes apart when other material appears preverbally, e.g. (i) a wh-phrase or focus, or (ii) a topic linked to a pronominal clitic, or “external topic” in Aissen’s (1992) terms.

We take these preverbal elements to accommodate two distinct positions (Black 2000, Foreman 2006), though (47)

(47) a. Bloe’d Maria cholazhe’e bidao’ ni bekus lo’ yo’o.
show.COMP Maria child this dog in house

‘Maria showed the dog to this child in the house slowly.’

(b and RM, GZY2010, 49:53)

b. Bloe’d Maria bidao’ ni cholazhe’e bekus lo’ yo’o.
show.COMP Maria child this dog in house

‘Which dog did Maria see?’

(b and RM, GZY2010, 49:33)

c. Bloe’d Maria bidao’ ni bekus cholazhe’e lo’ yo’o.
show.COMP Maria child this dog slowly in house

‘Which meat is Juan eating quickly?’

(b and RM, GZY2010, 49:11)

d. Bloe’d Maria bidao’ ni bekus lo’ yo’o cholazhe’e.
show.COMP Maria child this dog in house slowly

‘What did Juan eat yesterday?’

(b and RM, GZY2010, 48:52)

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We take these preverbal elements to accommodate two distinct positions (Black 2000, Foreman 2006), though sometimes a third position is proposed to account for the behavior of negation (Lee 2006, Broadwell 2003).

(48) a. Maria; nole bekus’ bley=ba’1 t2?
Maria which dog see.COMP=3SG.INF

‘Which dog did Maria see?’

(FA, GZY2010-s, 7)

b. Maria; bekus’ tis=sa’1; bley=ba’1 t2.
Maria; dog of=1SG see.COMP=3SG.INF

‘Maria saw my dog.’

(RM, GZY2010-s, 8)

We take these preverbal elements to accommodate two distinct positions (Black 2000, Foreman 2006), though sometimes a third position is proposed to account for the behavior of negation (Lee 2006, Broadwell 2003).

(49) CP
   XP
   wh
     CP
     C’
       C
         TP
         V=pro1…t2…

Neither manner nor temporal adverbs allow for a wh-phrase to precede them. This follows if they do not move along with the verb, but rather are inserted higher in the clause.

References