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Antecedentless Binding Construction: Evidence from Yalálag Zapotec<sup>1</sup>  
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Abstract

Yalálag Zapotec presents a typologically rare construction which involves a transitive verb with a (semantic) agentive or experiencer subject and an object possessed by that subject. In this construction the verb appears without its subject; the only occurrence of the subject referent in the clause is as the possessor of the object. The empirical data from YZ represents a challenge for standard formal theories of binding, which require an antecedent for the anaphor. But in YZ there is no antecedent. This construction is compositionally interpreted but it remains a genuine type of binding not countenanced by any current formal theory.

1 Preliminaries

1.1 The Yalálag Language

Yalálag Zapotec (YZ henceforth) is a Northern Zapotec language. There are four major variants of Zapotec in the Sierra Norte region: Villa Alta, Ixtlán, Rincón and Choapam. YZ belongs to the Municipio of Villa Alta. There are about 2000 speakers of YZ in the original town, however there is an important number of immigrants in Oaxaca City, Mexico City and Los Angeles.

1.2 Word order

In the pragmatically unmarked word order of YZ sentences the verb comes first in the sentence and the subject must follow the verb, VSO. The word order is absolutely strict so that any change in the relative order of postverbal subject-object will produce ungrammatical constructions as illustrated in the contrasting pairs of sentences (1-2) below.

(1) a. Bèt                    bèlè-n                    Xhúan.  
      PERF.kill            snake-det            John  
      ‘The snake killed John.’

b. \*Bèt Xhúan bèlèn.  
      ‘The snake killed John.’

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(2) a. B-chew          Xhuan Bed-en.  
      PERF-kick      Juan   Pedro-DET  
      ‘Juan kicked Pedro.’

b. \*Bchew Beden Xhuan.  
      *intended:* ‘Juan kicked Pedro.’  
      *actual meaning:* ‘Pedro kicked Juan.’

## 2. The problem

Butler (1976) first described a construction called ‘reflexive of possessor’ in Yatzachi Zapotec, a close related language to Yalálag Zapotec. The construction is observed in the cases involving possessed objects such that the possessor and the subject are coreferential. The major oddity of the construction is the apparent absence of an overt syntactic subject, which otherwise is required in the grammar of the language. Thus, the subject is hidden in the surface, although in principle, it seems to be necessary to serve as antecedent to the possessor of the object. I will call this the *Antecedentless Binding Construction (ABC)*.

The paradigm below illustrates the general pattern of the ABC.

- Sentence (3) is an example of the unmarked word order with simple subject and object NP’s.
- Sentence (4) illustrates a possessed object, this contrasts with sentence (5) in that the latter subject and possessor are coreferential.
- Sentence (6) shows the ABC construction, where subject and possessor are coreferential but the subject is omitted.
- Crucially, sentence (7) with the subject marker suffixed to the verb and the possessed object are degraded compared with (6), which is judged to be ungrammatical.

(3) B-chew    bidao’ to be’kw                              VSO                      Basic Word order  
      PERF-kick   boy   one dog  
      ‘The boy kicked a dog.’

(4) B-chew    bidao’ xhi’kw                      Stel-en. VS<sub>k</sub> [O-Poss<sub>h</sub>] Subject ≠ Object’s Possessor  
      PERF-kick   boy   poss:dog                      Stela-det  
      ‘The boy kicked the Estela’s dog.’

(5) B-chew    bidao’<sub>k</sub> xhi’kw-be’<sub>k/h</sub>.                              VS<sub>k</sub> [O-Poss<sub>k</sub>] Subject = Object’s Possessor  
      PERF-kick   boy   poss:dog-3.fam  
      ‘The boy kicked his own dog.’

(6) Bchew    xhi’kw-be’<sub>k</sub>.                              V(S)[O-Poss<sub>k</sub>] Subject = Object’s Possessor  
      PERF-kick   poss:dog  
      ‘He kicked his own dog.’

- (7) \*Bchew-be' xhi'kw-be'<sub>k</sub>. V-s[O-Poss<sub>k</sub>] Subject = Object's Possessor  
 PERF-kick-3.fam poss:dog  
 'He kicked his own dog.'

Comparable descriptions of this construction have been found in a number of other Zapotecan languages. Pride describes for Chatino “There is no subject tagmeme; rather the logical subject of the verb is the possessor of the object.” (:79). Butler further describes for Yatzachi Zapotec “Reflexive constructions in Zapotec are similar [to those in Spanish] however, they don't take two pronouns. The Zapotec construction uses only one reflexive pronoun to indicate both, the person who performs the action and the direct complement... There are other constructions in which the person to whom the complement of the verb belongs is simultaneously the person who performs the action.” (1980:293). Similarly, Long and Butler describe for Zoogocho Zapotec “When the reflexive pronoun is the verb complement, the person pronoun in the verb is omitted” (1999:420).

### 3. Background on YZ anaphors

In Zapotec languages reflexives and reciprocals are formed by a base and markers indicating person inflection (subject/object or possessor). The base of reflexives in YZ is *kwin* and the base of reciprocals is *lollj*.

In Butler's account it is assumed that the reflexive base *kwin* is an “intrinsically possessed noun” (1976:333). From this assumption, it follows that the possessor of the reflexive base can be indicated by the same series, which mark possessive constructions or by an independent noun phrase. Table 1 summarizes the formation of reflexive pronouns in YZ.

Table 1. Reflexive pronouns				
Reflexive Base	Person Clitics			
	Singular	Plural		
			Inclusive	Exclusive
	1	-a'	-llo'	-to'
	2	-o'	-le'	
		-e'		
		-be'		
		-ba'		
		-n		

The sentences below illustrate parallels to the ‘reflexive of possessor’ construction in YZ. Sentences (8) and (9) show the reflexive taking pronominal possessor suffixes, while sentence (10) shows the reflexive base possessed by a non-pronominal noun phrase. The person marking on the reflexives is analogous to the possessor marking of typical possessive constructions as shown in (11) and (12).

- (8) B-a-chew                    kwin-a'.  
 PERF-REPT-kick            RFLX-1sg  
 'I repeatedly kicked myself.'
- (9) B-a-re'                            kwin-bè'.  
 PERF-REPT-see                    RFLX-3sg.infor  
 'He repeatedly saw himself.'
- (10) B-a-re'                            kwin                                    be'nm-en  
 PERF-REPT-see                    RFLX-3sg.formal                    man-DET  
 'The man repeatedly saw himself.'
- (11) yichj-a'                            'my head'  
 head-1sg.poss
- (12) Xhi'nm    Mùlàt-èn            b-llè'-gakbè'                    tchèz.  
 son            Mulato-DET    PERF-sit-3sg.formal            road  
 'Mr Mulatos' sons sat on the road.'

The description of YZ anaphors just described will suffice to introduce the properties of the ABC construction in the following sections.

#### 4. Subject-Object Asymmetries

A number of asymmetries emerge when the object of the construction is possessed and the possessor is coreferent with the subject of the clause in comparison with sentences where the object is unpossessed or the possessor and the subject are not coreferents.

In general, subjects and objects can be fronted preceding the verb where they are interpreted as having special emphasis (topic, focus readings). Sentence (13) illustrates subject fronting; in cases like this the verb should show a person marker attached to the verb stem. Sentence (14) shows object fronting where no clitic suffixation is required.

- (13) Xhuan    b-chew-be'                                    Beden.  
 Juan    PERF-kick-3sg.informal                    Pedro-DET  
 'Juan kicked Pedro.'

- (14) Bednan bchew Xhuan.  
 'Juan kicked Pedro.'

The otherwise stringent condition on clitic suffixation when the subject is fronted is dispensed with in ABC constructions as illustrated in (15) for reflexives or in (22) for possessed objects. Strikingly, the sentences are ungrammatical if the suffix is attached, as shown in (16). A parallel case showing a possessed objects is given in (21), which yields ungrammaticality judgements. Further, notice that sentences (17) and (22) show that

reflexive and possessed objects cannot be fronted in a similar manner as normal objects, indicating, thus, a c-command type of violation.

#### 4.1 Reflexives

(15) Xhuan b-chew kwin-be'.  
Juan PERF-kick self-3sg.informal  
'Juan kicked himself.'

(16) \*Xhuan bchewbe' kwinbe'.  
'Juan kicked himself.'

(17) \*Kwinbe' bchew Xhuan.  
'Juan kicked himself.'

#### 4.2 Possessed objects

(18) Bchew bidao'n xhi'kw Xhuan.'  
'The boy kicked John's dog.'

(19) Bidao'n bchewbe' xhi'kw Xhuan.  
'The boy kicked John's dog.'

(20) Bidao'n bchew xhikwbe'.  
'The boy kicked his dog.'

(21) (?/\*) Bidao'n bchewbe' xhikwbe'.  
'The boy kicked his own dog.'

(22) \*Xhikwbe' bchew bidao'.  
'The boy kicked his own dog.'

Let us now consider comparable ABC constructions. The interesting fact suggested by the data is that the ungrammaticality of (24) and (26) may be attributed to the same c-command effect illustrated before. Therefore, the evidence suggests that even though in these sentences there is any overt NP subject there should be a similar structural condition blocking the fronting of reflexive or possessed objects.

(23) B-chew kwina'  
PERF-kick REFL-1sg  
'I kicked myself.'

(24) \*Kwina' b-chew  
REFL-1sg PERF-kick  
'I kicked myself.'

(25) B-san chixh-be'.  
PERF-drop POSS-tortilla-3sg  
'He dropped his own tortilla.'

- (26) \*Chixhbe' b-san.  
 POSS:tortilla-3sg PERF-drop  
 'He dropped his own tortilla.'

The remarkable feature of the ABC is the absence of an overt NP subject that functions as an antecedent to the anaphor. Now consider data showing clauses containing a person marker suffixed to the verb. This type of construction is judged ungrammatical overall, however, speakers notice a degree of 'improvement' in these constructions. It is unclear at this moment to base an analysis on this fine distinction<sup>2</sup>. Nevertheless, this information may suggest two general hypotheses:

- I. The structural position of subject is in fact available, and occupied by an overt element (clitic)
- II. Omission of the subject is due to additional extrasyntactic conditions (including non-structural motivations, such as cacophony, pragmatic identity, influence of Spanish, etc.)

### 5.1 Optional Subject marking in the verb

- (27) Ll-a-chew kwin-a'.  
 HAB-REP-kick REFL-1sg  
 'I'm repeatedly kicking myself.'

- (28) Ll-a-chew-a' kwin-a'.  
 HAB-REP-kick-1sg REFL-1sg  
 'I'm repeatedly kicking myself.'

- (29) B-sam chixh-be'.  
 PERF-drop POSS:tortilla-3sg  
 'He dropped his own tortilla.'

- (30) B-sam-be' chixh-be'.  
 PERF-drop-3sg POSS:tortilla-3sg  
 'He dropped his own tortilla.'

- (31) B-zoraw Stelen ll-ib xh-la'all-be'.  
 PERF-start Estela HAB-wash POSS-clothes-3sg.familiar  
 'Estela started to wash her own clothes.'

- (32) B-zoraw Stel-en ll-ib-be' xha'allbe'.  
 PERF-start Estela-DET HAB-wash-3sg.familiar POSS-clothes-3sg.familiar  
 'Estela started to wash her own clothes.'

### 6. ABC is not Incorporation

As in many other Zapotec languages noun incorporation is attested also in YZ. A common type is body part incorporation, for example *wyo'raw* 'to get used to' is composed of the verb *wyo'* 'put.in, introduce' and *raw* 'face, eye'. Thus, an appealing

2 Grammaticality judgements do not need to be categorical. Degree in acceptability suggests deeper and finer processes. This problem is suitable to an experimental approach. More research is necessary along this line.

hypothesis is to treat ABCC as a case of incorporation, so that it is a subject—not a possessor—what surfaces as the marking in these constructions. However, there is evidence indicating that this is not the case. There is an adverbial suffix *-do* meaning an intense mode of the action expressed by the verb which is attached to the verb stem before of the markers of subject as illustrated in sentence (33). The suffix also occurs in ABCC's as in sentence (34) where the suffix is the last element of the verb stem before the possessed object. This sentence contrast with the ungrammatical sentence (36), which shows the incorporated NP. Moreover, different elements can intervene between the verb stem and the possessed object, ruling out the possibility of incorporation, as in sentence (36) where the possessor is part of a coordinate structure.

(33) B-a-chew-do-a'                      xhikw                      Kwsen.  
       PERF-REPT-kick-intens-1sg        poss:dog                      Jose  
       'I repeatedly kicked intensely Jose's dog.'

(34) Bachewdo                      xhikw Kwsen.

(35) \*Bachewxhikwdo Kwsen.  
       'Jose repeatedly kicked intensely his own dog.'

(36) B-a-chew                      to                      xhid                      na'                      nente xhikw                      Kwsen.  
       PERF-REPT-kick                      one                      cat                      and                      also                      poss:dog                      Jose  
       'Jose repeatedly kicked intensely a cat and his own dog too.'

## 7. ABC in Complex Sentences

### 7.1 Complement Sentences

#### 7.1.1 Control Predicates

In constructions involving subject control predicates like *wlenle* 'want' or *wlkra'all* 'try' that require a sentential complement, the order of constituents is VS[V-s O] as exemplified in (37). Let us see briefly the paradigm below. (37)b is ruled out because the dependent verb is not inflected by person. (37)c shows that the two verbs cannot precede the subject. Sentences (38) and (39) show possessed objects.

(37)a. Ll-enle                      Stel-en                      w-ul-be'                      to                      libr.  
       HAB-want                      Estela-DET                      INF-read-3sg.fam                      one                      book  
       b. \*Llenle Stelen wul to libr.  
       c. \*Llenle wul Stelen to libr.  
       'Estela wants to read a book.'

(38) Ll-enle                      Stelen ga'u-be'                      rill                      Irma-n'.  
       HAB-want                      Estela                      INF-buy-3sg.fam                      house                      Irma-DET  
       'Estela wants to buy Irma's house.'

(39) Ll-enle                      Stelen ga'u-be'                      rill-a'.  
       HAB-want                      Estela                      INF-buy-3sg.fam                      house-1sg  
       'Estela wants to buy my house.'  
       (*ambiguous*: 'Estela wants to buy a house from me.' ~ 'Estela wants to buy a house for me.')

The sentences of interest where the possessor of the object is coreferent with the subject present two alternatives: marking or non-marking of the subject in the dependent verb. These alternatives, however, entail important differences in their interpretation. A sentence without person marker triggers only bound readings (41), whereas a sentence marked with the clitic are ambiguous so that they can refer to either the subject of the matrix clause or to a non-referential entity. In addition, a sentence with an subject NP as in (43) shows that the clitic forces a bound reading.

(40) W-kra'all Stelen gau-be' to yet.  
 PERF-try Estela eat-3sg.fam one tortilla  
 'Estela tried to eat a tortilla.'

(41) Wkra'all gau chixhbe'<sub>k/\*h</sub>.  
 'She tried to eat her own tortilla.'

(42) Wkra'all gaube'<sub>k</sub> chixhbe'<sub>k/h</sub>.  
 'She tried to eat her own tortilla.' ~ 'Estela tried to eat her tortilla.'

(43) Llenle Stelen<sub>k</sub> ga'ube' rillbe'<sub>k</sub>.  
 'Estela<sub>k</sub> wants to buy her house<sub>k/\*h</sub>.'

### 7.1.2 Aspectual Predicates

A similar pattern is found in complex constructions involving aspectual predicates like *wzoraw* 'start'. The verb of the embedded clause is inflected for person as shown in (45). However, the person marker is dispensed with if the possessor of the object and the subject of the sentence are coreferents (46). Notice, further, the ungrammatical judgment of (47), where the person marker is suffixed to the dependent verb.

(44) B-zoraw Stelen wib ra'all.  
 'Estela started to wash clothes.'

(45) Bzoraw Stelen llibbe' xhla'all Markw.  
 'Estela started to wash Marco's clothes.'

(46) Bzoraw Stelen llib xhla'allbe'.  
 'Estela started to wash her own clothes.'

(47) \*Bzoraw Stelen llibbe' xhla'allbe'.  
 'Estela started to wash her own clothes.'

### 7.2 ABC and Relative Clauses

Relative clauses are post-nominal. In one type of relative clauses there are no relative markers introducing them. Representative examples of relative clauses of subject NP's (50) and object NP's (51) are shown below. An interesting property of these constructions is that the person markers do not appear in the verb of the relative clause even though the subject precedes the verb.



(48) B-re' to be'nn Pin-na'.  
 PERF-see one man Rufina-DET  
 'A man saw Rufina.'

(49) Ll-o't be'nn bieo' be're'.  
 HAB-sell man masculine meat  
 'The man sells meat.'

(50) Be'nn bieo' llo't be're bre're' Pinna'.  
 'The man who sells meat saw Rufina.'

(51) Pinna' bre'be' to be'nn bieo' llo't be're'.  
 'Rufina saw the man who sells meat.'

Let us now consider ABC in the context of relative clauses. The alternation of the person marker shown in (54) and (55) further suggests the availability of a subject position, which could function as antecedent for the reference of the possessor. However, looking at parallel sentences with a non-referential subject, it is not clear what produces a degraded judgment of sentence (57), which otherwise is equivalent to (55).

(52) Bi ll-enle no'olen chib-e' ra'all.  
 NEG HAB-want woman FUT:wash-3sg.formal clothes  
 'The woman does not want to wash clothes.'

(53) Bi ll-enle no'olen chib-e'  
 NEG HAB-want woman FUT:wash-3sg.formal  
 xh-la'all be'nn-gake'.  
 poss-clothes man-pl  
 'The woman does not want to wash the men's clothes.'

(54) Bi llenle no'olen chib xhla'all-e'.  
 'The woman does not want to wash her own clothes.'

(55) Bi llenle no'olen chib-e' xhla'all-e'.  
 'The woman does not want to wash her own clothes.'

(56) Bi llenle chib xhla'all-e'.  
 'She does not want to wash her own clothes.'

(57)? Bi llenle chib-e' xhla'all-e'.  
 'She does not want to wash her own clothes.'

Some questions arise from the pattern described so far: Is it possible to relativize subjects that are not spelled out? or in other terms, What is the head of the relative clause in ABC's? In the following section I present data concerning relativization of the concealed subject. Sentences (58) and (59) introduce the general pattern of relative clauses of an overt NP subject. It is not clear at this point why sentence (59) is

ungrammatical, in view of the fact that the person clitic was even expected. Notice further, that in relative clauses of this type the canonical VSO order is not quite felicitous.

(58) No'olen bi ll-enle chib xh-la'all-e'  
 woman NEG HAB-want FUT:wahs POSS-clothes-3sg.formal  
 zu-e' La'.  
 HAB:live-3sg.formal Oaxaca  
 'The woman who does not want to wash her own clothes lives in Oaxaca.'

(59) \*No'olen bi llenle chibe' xhla'all-e' zue' La'.  
 'The woman who does not want to wash her own clothes lives in Oaxaca.'

The data presented below demonstrate that concealed subjects in ABC can be, indeed, relativized. Furthermore, they are parallel to those sentences with overt NP subjects and susceptible to the same conditions of grammaticality.

(60) Bi llenle chib xhla'all-e' zue' La'.  
 'She who does not want to wash her own clothes.'

(61) \*Bi llenle chibe' xhla'all-e' zue' La'.  
 'She who does not want to wash her own clothes.'

## 8. Final remarks

The Yalalag Zapotec ABC construction presents a clear challenge to one of the most robust generalizations of formal theories, sub-theories and the like that assume some version of the principles of binding. The data presented here showing c-command effects and binding effects from complex predicates suggest, on one hand, that there is a structural subject position, or if it is preferred, that there is a null subject. On the other, the cases ruling out an incorporation approach showed that the visible marker (the anaphoric element) is indeed a possessor and not a subject. Current formal approaches are unable to explain satisfactorily the construction<sup>3</sup>; these theories have been falsified by the YZ empirical data. The theoretical consequences are evident, major revisions to the core assumptions of standard models are needed.

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3 Although see Keenan and Stabler's 'Bare Grammar' approach.