

Complex predication and parallel structures in optimality-theoretic syntax

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1 Introduction¹

In a number of languages, complex predicates show evidence for two or more distinct constituent structures. For example, McKay's (1985) treatment of German and Goodall's (1987) treatment of French and Spanish argue that the behavior of causatives in these languages is best treated by positing two phrase structure representations – one monoclausal and one biclausal. Similarly, Butt's (1995) treatment of the Urdu instructive and permissive posits two syntactic structures – one in which the permissive/instructive matrix verb and verbal noun form a c-structure V' constituent, and one in which the verbal noun heads a distinct phrase.

This paper will pursue a more general account of parallel syntactic structures and complex predicates. Using Optimality-Theoretic Lexical-Functional Grammar (Bresnan 2000), I will argue that these cases involve predicates where two constituent structures emerge as equally optimal under the relevant constraint evaluation. These structures exist in parallel to each other, recalling Goodall's (1987) more general approach to parallel structures in syntax.

The argument is based on the behavior of auxiliary verbs in San Dionicio Ocotepéc Zapotec (SDZ), an Otomanguean language spoken in Oaxaca, Mexico. I will show that auxiliary verbs behave under constituency tests as if they are associated with two constituent structures – one monoclausal and one biclausal.

2 Background

¹ SDZ is an Otomanguean language spoken in San Dionicio Ocotepéc, Oaxaca, Mexico by 2,000 - 3,000 people. Thanks to Pamela Munro and members of the audience at Lexical-Functional Grammar 2003 for comments on this paper. Special thanks to Luisa Martínez, who provided all the SDZ data. An earlier version of this paper was presented at Lexical-Functional Grammar 2003. The orthography for SDZ is adapted from the practical orthographies for other Zapotec languages spoken in the Valley of Oaxaca. In the SDZ orthography symbols have their usual phonetic values, with the following exceptions. <x> = /š/ before a vowel and /ž/ before a consonant, <xh> = /š/, <dx> = /dž/, <ch> = /tš/, <c> = /k/ before back vowels, <qu> = /k/ before front vowels, <rr> = trilled /r/, and <eh> = /ɛ/. Doubled vowels are long. SDZ is a language with four contrastive phonation types: breathy <Vj>, creaky <V'V>, checked <V'>, and plain <V>.

Glosses use the following abbreviations: a=animal, aff = affirmative, cer = certainty, com = completive aspect, con = continuative aspect, cs = causative, def = definite future aspect, dem = demonstrative, foc = focus, hab = habitual aspect, neg = negative, p = possessed, plur = plural, pot = potential aspect, q = question, r=respect, ref=reflexive, rel = relative, stat= stative aspect, top=topic.

2.1 Theoretical perspective

In previous work, I've argued for the following overall syntactic structure for SDZ:

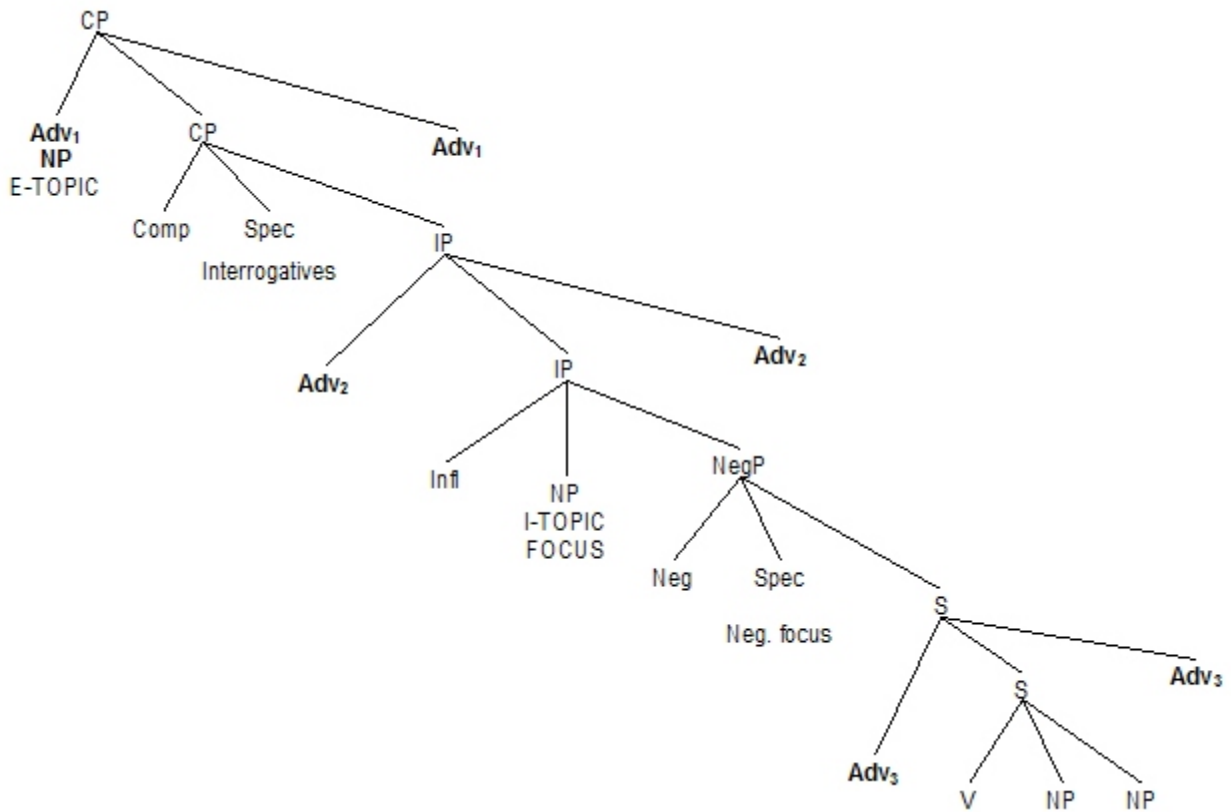


Figure 1 Syntactic structure of San Dionicio Ocotepc Zapotec

A tree of this sort is not allowed in current versions of P&P/Minimalism due to the requirement for binary branching and the widespread adoption of Kayne's (1994) Linear Correspondence Axiom which forces a particular configuration and linear order for Head, Spec, and Comp.

My work is couched in Lexical Functional Grammar (LFG), which adopts a less restrictive version of X-bar theory. LFG does not adopt either binary branching or the LCA, and so it allows a wider range of syntactic structures. Many of the details of LFG are not crucial to understanding this talk, but I should clarify a few assumptions.

a.) LFG does not adopt the widespread notion that VSO order must be derived from V or VP movement. It allows for "flat" structures, with no configurational distinction between subject and object. I believe these structures are well-suited to describing Zapotec syntax, and that there is little or no evidence for either V or VP movement (contra Lee 1999 and Black 2000 on other

varieties of Zapotec).

b.) LFG allows for “complex predicates” in syntax, where two verbs show evidence of a merged argument structure. In general, however, the merger doesn’t happen in the tree structure of the sentence, but in a different syntactic representation (called f-structure). A variety of distinct tree structures might be compatible with complex predicates.

F-structures are expressed as attribute value-matrices, rather than as trees. For members of the audience who are not familiar with LFG, in much of the following argument, it is possible to think of the LFG f-structures as rather like the argument structures found in work like Grimshaw (1990) or the θ -grids of Stowell (1981). They provide a number of slots for the elements that bear the grammatical relations of each verb, and a clause is grammatical only if all these slots are filled.

2.2 SDZ word order

The most neutral word order for San Dionicio Ocotepec Zapotec is VSO:

- 1) Û-zì’ Juáany tòyby xhùmbrehèhjl. VSO
 com-buy Juan a hat

‘Juan bought a hat.’

In addition to this word order, SDZ also has several word orders in which one or more constituents with a special discourse function precede the verb. Of these variants, one in which the subject appears in the internal topic position is particularly frequent, yielding SVO order:

- 2) Juáany ù-zì’ tòyby xhùmbrehèhjl. SVO
 Juan com-buy a hat

‘Juan bought a hat.’

2.3 SDZ aspect

SDZ verbs are preceded by one of six possible aspect markers. The most frequent allomorphs of these aspect markers are shown below, but there is a significant degree of irregularity in the aspect marking system.

- 3)
 completive (g)u-/be-
 continuative cá(y)-
 negative ni-/ny-

potential gí-/gú
habitual r-
definite future s-/z-

The completive, continuative, habitual, and potential aspect markers are shown for the following fairly regular verb /-ù'ld/ 'to sing':

- 4) **bì**-ld=bí 'S/he sang.'
 com-sing=3
- cáy**-ù'ld=bí 'S/he is singing.'
 con-sing=3
- r**-ù'ld=bí 'S/he sings.'
 hab-sing=3
- gú**-ld=bí 'S/he will sing.'
 pot-sing=3
- s**-ù'ld=bí 'S/he will sing.'
 def-sing=3

The negative aspect does not typically appear in a main clause, but only in the complement to a predicate of negation:

- 5) Íity Juáàny **ny**-ù'ld 'Juan didn't sing.'
 not Juan neg-sing

2.4 SDZ auxiliaries²

The SDZ auxiliaries under discussion are *ràjc* 'to be possible; can', *byàlòò* 'to stop', and *zéhzáà* 'to continue'. They appear in examples like the following. Note that the main verb matches the auxiliary in aspect.

- 6) **R**-àjc **r**-ù'ld Juáàny
 hab-can **hab**-sing Juan

² These auxiliaries correspond to what are labeled 'non-modal auxiliaries' in San Lucas Quiaviní Zapotec (Munro and Lopez 1999).

‘Juan can sing.’

- 7) **B**-yàlòò **b**-yàjb nìjsgì.
com-stop **com**-fall rain

‘Rain stopped falling.’

- 8) **B**-yàlòò **ù**-dòàb Juáàny gèhjs.
com-stop **com**-smoke Juan cigarette

‘Juan stopped smoking.’

The auxiliary *zéhzàà* ‘to continue’ is irregularly inflected.³ Its aspectual forms are as follows:

- | | | |
|----|----------------|-------------------|
| 9) | <i>zéhzàà</i> | habitual aspect |
| | <i>gwìizàà</i> | completive aspect |
| | <i>chíizàà</i> | potential aspect |

Despite the unusual inflection of the auxiliary *zéhzàà* ‘to continue’, its complement continues to show regularly inflected, matching aspect:

- 10) *Zéhzàà* **rr**-gòàb Juáàny gèhjs.
hab:go **hab**-smoke Juan cigarette

‘Juan keeps smoking cigarettes.’

- 11) *Gwìizàà* **ù**-dòàb Juáàny gèhjs.
com:go **com**-smoke Juan cigarette

‘Juan kept smoking cigarettes.’

- 12) *Chíizàà* cóáb Juáàny gèhjs.
pot:go **pot**:smoke Juan cigarette

³ Compare this to the irregular inflection of the verb *zéhéh* ‘to go’: *zéhéh* habitual aspect, *gwìi* completive aspect, *chíi* potential aspect.

‘Juan will keep smoking.’

A very distinctive property of auxiliary verbs in SDZ is that they are the only verbs in the language that are not followed by overt subjects:

- 13) *R-àjc Juáany r-ù’ld
hab-can Juan hab-sing

‘Juan can sing.’

This is very important, since SDZ is not a pro-drop language, and all other verbs are obligatorily followed by overt subjects.

- 14) a. Û-zii’ Juáany tòyby xhùmbrehèhjl.
com-buy Juan a hat
‘Juan bought a hat.
- b. *Û-zii’ Ø tòyby xhùmbrehèhjl.
com-buy a hat
‘Bought a hat.’⁴

In this respect, SDZ is rather like English. It requires a pronominal subject in such instances, which will normally be cliticized to the verb. The pronominal clitic does not co-occur with an overt post-verbal subject.⁵

- 15) a. Û-zii’=**éhby** tòyby xhùmbrehèhjl.
com-buy=3 a hat
‘He bought a hat.’

⁴ I’ve included a null symbol Ø in the position of the missing subject purely as an expository device; by this I do not intend to suggest that there is a corresponding empty category in the constituent structure representation.

⁵ SDZ does have a construction like English left-dislocation (‘John, he bought a hat’), but this requires the subject to appear in the external topic position at the left periphery of the clause. See Broadwell (2001) for more discussion

- b. *Ù-zìi'=éhby Juáany tòyby xhùmbrehèhjl.
 com-buy=3 John a hat

‘John he bought a hat.’

The fact that auxiliaries are not followed by subjects seems to distinguish them sharply from raising predicates such as *cáady* ‘still not’. This predicate must be followed by a subject which is interpreted as the subject of a following clause:

- 16) a. Cáady Màríí [gí-dòbyá' Ø].
 still:not Maria pot-worry

‘Maria still isn’t worrying.’

- b. *Cáady [gí-dòbyá' Màríí].
 still:not pot-worry Maria

This is the classic behavior of a raising predicate, but auxiliaries show a different behavior. Thus although auxiliaries are frequently treated as raising verbs in syntactic analyses of English and other languages, that is not the correct analysis for Zapotec.

I will argue that sentences containing such auxiliaries form a monoclausal complex predicate with the main verb that follows them. The monoclausality is at the level known as f-structure in LFG. But the auxiliary and main verb appear in one of two possible constituent structures (c-structures), approximately as follows:



Figure 2 Two c-structures for auxiliary verbs

The following sections present evidence that there is a single, monoclausal f-structure for auxiliaries, while there are two possible c-structures – one monoclausal and one biclausal.

3 Monoclausality at f-structure

Control and selection facts seem to argue for a monoclausal f-structure, as argued in the following sections.

3.1 Control

Evidence for monoclausality comes from the behavior of auxiliaries when they occur in combination with control verbs.

Like English, SDZ allows the subject to be omitted from a complement clause in control contexts. However, SDZ imposes an additional, somewhat unusual, condition on control. A complement clause may have a missing subject only if its antecedent is non-pronominal. Consider the following examples with the control verb *rrcà'z* 'to want'.

- 18) Rr-cà'z Juààny [gú-'ld Ø gitàrri].
hab-want Juan pot-play guitar

'Juan wants to play guitar.'

- 19) Rr-cà'z=**bí** [gú-'ld=**bí** gitàrri].
hab-want=3 pot-play=3 guitar

'He wants to play guitar.'

- 20) *Rr-cà'z=**bí** [gú-'ld Ø gitàrri].
hab-want=3 pot-play guitar

'He wants to play guitar.'

Only a subject may be omitted in a control context; all other arguments of the verb in the complement clause must be overt:

- 21) a. Rr-cà'z Juààny [í-chàgí'ld Ø Màríí].
hab-want Juan pot-tickle Maria

'Juan wants to tickle Maria.'

- b. *Rr-cà'z Juààny [í-chàgí'ld Màríí Ø].
hab-want Juan pot-tickle Maria

('Juan wants Maria to tickle him.')

In that light, consider the following examples:

- 22) Rr-cà'z Juààny [í-zálòò í-zá' Ø yù'.]

hab-want Juan pot-stop pot-build house

‘Juan wants to stop (i.e. finish) building the house.’

- 23) a. Rr-cà'z=bí [í-zálòò í-zá'=éhby yù'.]
 hab-want=3 pot-stop pot-build=3 house

‘He wants to stop building the house.’

- b. *Rr-cà'z=bí [í-zálòò gùny Ø yù'.]
 hab-want=3 pot-stop pot-build house

‘He wants to stop building the house.’

Note that in (22), we see omission of the subject in the lower clause. Furthermore, (23) shows that such omission is only available with a non-pronominal subject of the upper clause. If the syntactic subject of ‘finish’ were not ‘Juan’, this would be a puzzling anomaly, since the two subjects would not be coreferential.

However, we can understand this example if we think of ‘stop building’ as a complex predicate with ‘Juan’ as its subject, along the following lines:

[PRED	'want < SUBJ, COMP >']
[ASP	HABITUAL]
[SUBJ	[PRED 'Juan' [1]]]
[COMP	[]
		PRED	'stop - building < SUBJ, OBJ >'
		ASP	POTENTIAL
		SUBJ	[PRED 'PRO' [1]]
		OBJ	[PRED 'house']
]]

Here the main clause predicate is ‘want’, subcategorizing for a subject and a complement clause (COMP). The subject of the complement clause is a pronominal which is coreferent with the subject of the matrix clause.

The analogous English sentence involves raising. The subject of ‘build’ would raise to become the subject of ‘stop’, but as we have seen above, this is not a possible analysis of the Zapotec because overt subjects remain firmly after the main verb:

- 24) B-yàlòò ù-zà' Juààny yù'.
 com-finish com-build Juan house

‘Juan finished building the house.’

- 25) *B-yàlòò Juáàny ù-zà’ yù’.
com-finish Juan com-build house

(Juan finished building the house.)

3.2 Selection

There also seem to be selectional facts that support a monoclausal f-structure. Verbs which select for a clausal complement impose selectional restrictions on the aspect of that clause. For example, the verb *rr-cà’z* ‘to want’ requires potential aspect in its complement:⁶

- 26) a. Rr-cà’z Juáàny [gú-‘ld Ø gitàrry].
hab-want Juan pot-play guitar

‘Juan wants to play guitar.’

- b. *Rr-cà’z Juáàny [r-ú’ld Ø gitàrry].
hab-want Juan hab-play guitar

‘Juan wants to play guitar.’

When there is a complex predicate in the complement of *rr-cà’z*, both verbs must be inflected for potential aspect:

- 27) Rr-cà’z Juáàny [í-zálòò gùny Ø yù’].
hab-want Juan **pot-stop** **pot:do** house

‘Juan wants to stop building the house.’

This suggests that the matrix verb ‘want’ sees the complement ‘stop building’ as a unit, and imposes a single aspect on this unit.

To make an analogy to English, particular verbs can impose selectional restrictions on the tense of their complements. ‘Want’ requires a complement in the infinitive; while ‘think’

⁶ The lexical entry in LFG would be

rr-cà’z V (↑ PRED) = ‘want <SUBJ, COMP>’
(↑ COMP SUBJ PRED) = ‘PRO’
(↑ COMP ASP) = POTENTIAL

requires a tensed complement. But due to the locality of selectional restrictions, there is no English verb that specifies both the tense of its complement and simultaneously the tense of its complement's complement. So there is no possible verb *fwant* which requires that its complement be a tensed verb taking an infinitival complement.

The fact that Zapotec verbs can impose such selectional restrictions simultaneously on both the auxiliary and the main verb argues that there is complex predication in such examples, and at the level where selectional requirements are checked, 'stop building' functions as a single predicate.

Other verbs show a similar selectional pattern. For example, consider the predicate *íity* 'not', which requires its complement to appear in the negative aspect:

- 28) Íity Juáàny ny-ù'ld 'Juan didn't sing.'
 not Juan **neg-sing**

If the complement is an auxiliary + main verb complex predicate, then both verbs appear in the negative aspect. Compare the following two examples:

- 29) Zàjc cú' bxxhùùz=ríí' mìis.
 pot:can pot:have priest=that mass

'That priest can celebrate the mass.'

- 30) Íity ny-àjc ní-gú' bxxhùùz=ríí' mìis.
 not **neg-can neg-have** priest=that mass

'That priest cannot celebrate the mass.'

The fact that auxiliary and main verb share the same aspect marking, and that selection of clause aspect by a higher predicate determines the aspect of both verbs seems to argue for a monoclausal f-structure as well.

4 Diagnostics of c-structure monoclausality

The primary diagnostic for c-structure monoclausality comes from the placement of adjuncts. The basic principle of SDZ adjunct placement is that adjuncts adjoin to the S, IP, or CP that they modify. The position of the adjuncts is determined by their scope, and adjuncts fall into three groups, which I have labeled Adv₁, Adv₂, and Adv₃ in Figure 1.⁷

The most informative group of adjuncts for our purposes is Adv₃, which is made up of

⁷ Principles of adjunct placement and their utility in identifying constituency are discussed in more detail in Broadwell (2002).

manner adverbials and instrumental adjuncts. Adjuncts of this class may appear either at the beginning or end of the S constituent, but no higher in the tree.

- 31) a. [Cùn dè] ù-dì'by Màríi làjdy.
with soap:powder com-wash Maria clothes
- b. Ù-dì'by Màríi làjdy [cùn dè]
com-wash Maria clothes with soap:powder
- ‘Maria washed the clothes with soap powder.’

Note that placement of an Adv₃ higher in the tree is ungrammatical or leads to the wrong reading.

- 32) a. Bì-èhlà'z=á' [ù-dì'by Màríi làjdy [cùn dè]]
com-forget=1 com-wash Maria clothes with soap:powder
- ‘I forgot that Maria washed the clothes with soap powder.’
- b. *[Cùn dè] bì-èhlà'z=á' [ù-dì'by Màríi làjdy
with soap:powder com-forget=1 com-wash Maria clothes

We could explain this if we make the following assumption about adjunct placement:

- 33) Principle of adjunct placement

An adjunct modifies the head of the phrase that it is adjoined to.

Then the problem with (32b) is that the adjunct *cùn dè* ‘with soap powder’ is adjoined to the matrix clause, which is headed by ‘forget’. This leads to the anomalous reading in which ‘with soap powder’ is interpreted as a modifier of ‘forget’, and so speakers reject this sentence.

In that light, consider the placement of adjuncts in sentences with auxiliaries. In such sentences, manner adverbs and instrumental adjuncts freely appear before the auxiliary:

- 34) a. B-yàlòò ù-dì'by Màríi làjdy [cùn dè].
com-finish com-wash Maria clothes with soap:powder
- b. [Cùn dè] b-yàlòò ù-dì'by Màríi làjdy .
with soap:powder com-finish com-wash Maria clothes
- ‘Maria finished washing the clothes with soap powder.’

If ‘finish washing’ were biclausal, then we would expect (34b) to have the reading in which ‘with

soap powder’ modifies the verb ‘finish’. This is not an obviously absurd reading. However, speakers report that the two sentences are synonymous. Both mean ‘washed with soap powder’ and (34b) doesn’t mean ‘finished with soap powder’.

This seems to argue for a monoclausal structure for the auxiliaries. If we assign a c-structure like the following, then the adjunct placement facts make sense:

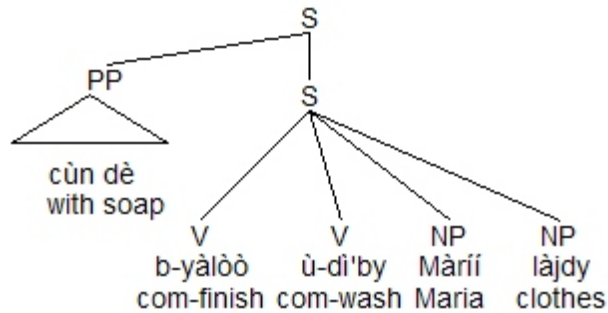


Figure 3 Initial adjunct with an auxiliary + main verb

Here the adjunct ‘with soap powder’ is adjoined to S, which is jointed headed by the verbs ‘finish’ and ‘wash’.

See the appendix for a discussion of the possibility that ‘finish’ and ‘wash’ form a constituent in the syntax.

5 Diagnostics for a biclausal c-structure

There are also phenomena that seem to show the possibility of a biclausal analysis for the auxiliaries.

5.1 Coordination

SDZ allows coordination with either no overt conjunction or the overt conjunction *chì'í*. Given this fact, consider the following example of an auxiliary with a coordinated complement.

- 35) Bál chízáà [còáb Juáàny] [gì'í Juáàny], zùùn=ní máál lèh'èhby.
 if pot:continue pot:smoke Juan pot:drink Juan pot:do=3i harm 3

‘If Juan continues smoking and drinking, it will do harm to him.’

Note that in this example, ‘continue’ is interpreted as taking scope over both verbs. That suggests that *còáb Juáàny* ‘Juan smokes’ forms a constituent, contrary to the predictions of the monoclausal analysis.

The following example shows the same thing for the auxiliary *byàlòò*:

- 36) B-yàlòò [gù' Juààny] ch'í [ù-dòàb=bí gèhjs].
 com-stop com:drink Juan and [com-smoke=3 cigarette

‘Juan stopped drinking and smoking cigarettes.’

Since SDZ does not seem to show any other instances of non-constituent coordination, the most straightforward analysis of such examples would suggest that the main verb and subject form a constituent, as follows:

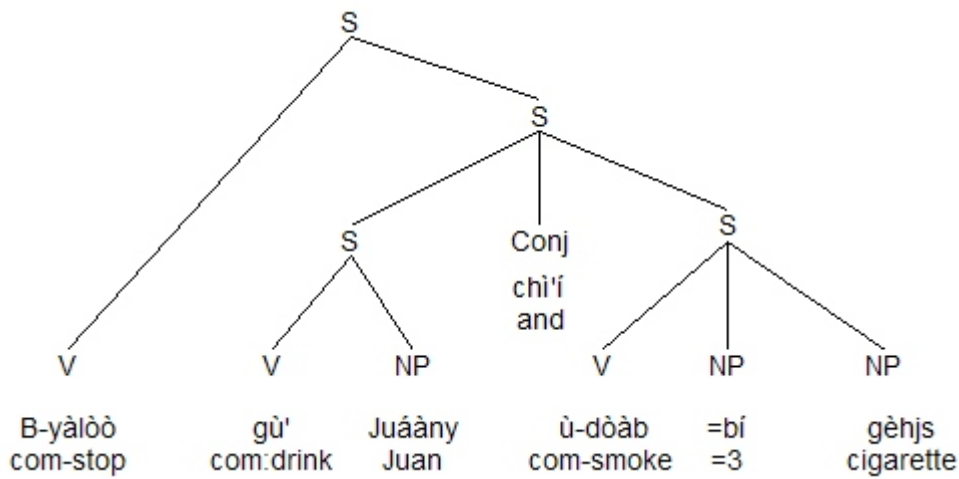


Figure 4 C-structure for example (36)

5.2 Adverb placement

While some adverb placements support the monoclausal structure, others support the biclausal structure. Consider the following examples:

- 37) Zájç ì-cuá' Màríí gèhèht xíì.
 pot:can pot-throw Maria tortilla tomorrow

‘Maria can make tortillas tomorrow.’

- ✓ Zájç xíì ì-cuá' Màríí gèhèht.
 pot:can tomorrow pot-throw Maria tortilla

- 38) Ràjç rr-xrù'ny Juààny ngàngá'.

hab:can hab-run Juan quickly

‘Juan can run quickly.’

✓ Ràjc ngàngá’ rr-xrù’ny Juáàny.
 hab:can quickly hab-run Juan

These word orders seem to necessitate a biclausal structure. Since in the biclausal structure, there are two S nodes, it should be possible for an adverb of the right type to adjoin to either of these S’s. If auxiliaries had a strictly monoclausal representation, it would be very difficult to explain why S-adjoined adverbs should be able to appear inside the S.

The most appropriate c-structure seems to be along the following lines:

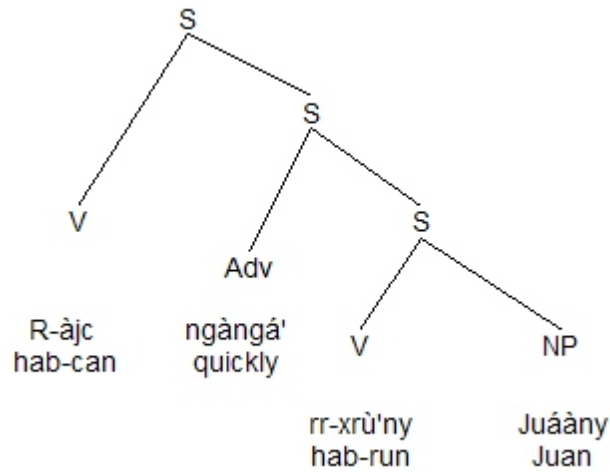


Figure 5 C-structure for (39)

But this c-structure presupposes the possibility of a biclausal representation for the auxiliary + main verb.⁸

6 Toward a general account of parallel structures

I would like to suggest that the tension between monoclausal and biclausal structures arises from the relative ranking of two broad families of constraints: F-C ISOMORPHISM constraints favors candidates in which elements of f-structures correspond directly to elements of

⁸ A complication, however, is that adjuncts which intervene between the auxiliary and main verb must be sufficiently ‘light’, so that phrasal adjuncts are generally not good in this position. The effects of heaviness on adjunct placement are not completely understood and are still under investigation.

c-structures. LCS-C ISOMORPHISM constraints favor candidates in which elements of Lexical-Conceptual Structures (Jackendoff 1990, 1991) correspond to elements of c-structures. I believe that there may be a number of such constraints, depending on which elements of these structures are considered.

The specific constraints that are relevant in this case are the following:

- 39) LCS (EVENT) = C-STR (CONSTIT)
Lexical-Conceptual Structure Events are in a one-to-one correspondence with C-structure constituents.
- 40) F-STR (NUCLEUS) = C (CONSTIT)
F-structure nuclei are in a one-to-one correspondence with C-structure constituents.

If we consider an SDZ sentence like (42) containing an auxiliary it will have a biclausal LCS (shown in simplified form as in figure 6), but a monoclausal f-structure (as in figure 7).⁹

- 41) B-yàlòò ù-dòàb Juáàny gèhjs.
com-stop com-smoke Juan cigarette

'Juan stopped smoking cigarettes.'

$[_{Event} STOP ([_{Event} smoke (John, cigarette)])]$

Figure (6) Lexical-Conceptual structure for (42)

[PRED	'stop- smoking (SUBJ, OBJ)']
	ASP	completive	
	SUBJ	[PRED 'John']	
	OBJ	[PRED 'cigarette']	
]			

Figure (7) F-structure for (42)

⁹ Jackendoff (1991:38) gives a more precise LCS for 'stop', the details of which are not crucial to this argument.

Thus the two structures show a different degree of complexity. The LCS shows two events, which is optimally in correspondence with a biclausal constituent structure. The f-structure, however, is a single clausal nucleus, which is optimally in correspondence with a monoclausal constituent structure.

In a language where F-STR (NUCLEUS) = C (CONSTIT) strictly outranks LCS (EVENT) = C-STR (CONSTIT), c-structures will be uniformly monoclausal, because fidelity to f-structure is more important than fidelity to LCS. In a language where LCS (EVENT) = C-STR (CONSTIT) strictly outranks F-STR (NUCLEUS) = C (CONSTIT), c-structures will be uniformly biclausal.

However, in languages where these two constraints have overlapping strength, we would predict that both monoclausal and biclausal structures would be optimal, and in any particular case would be dependent on the relative strength of the two constraints at instantiation.

We can think of the tableau in the following way, where the input is taken to be the LCS and the candidates are f-str/c-str pairs:

$[[_{\text{event}} \text{STOP} ([_{\text{event}} \text{smoke} (\text{John}, \text{cigarette})])]$ LCS input	F-STR (NUCLEUS) = C (CONSTIT)	LCS (EVENT) = C-STR (CONSTIT)
$\begin{bmatrix} \text{PRED} & \text{'stop-smoking (SUBJ, OBJ)} \\ \text{ASP} & \text{completive} \\ \text{SUBJ} & [\text{PRED 'John'}] \\ \text{OBJ} & [\text{PRED 'cigarette'}] \end{bmatrix}$ $\models [_{\text{s}} \text{stop smoke John cigarette}]$ (monoclausal c-structure)		*
$\begin{bmatrix} \text{PRED} & \text{'stop-smoking (SUBJ, OBJ)} \\ \text{ASP} & \text{completive} \\ \text{SUBJ} & [\text{PRED 'John'}] \\ \text{OBJ} & [\text{PRED 'cigarette'}] \end{bmatrix}$ $\models [_{\text{s}} \text{stop} [_{\text{s}} \text{smoke John cigarette}]]$ (biclausal c-structure)	*	

More generally, in such an analysis the appearance of parallel structures in French, Spanish, Urdu, and Zapotec is a result of overlapping strength between the constraint that favors

LCS -- c-structure isomorphism and the constraint that favors f-structure – c-structure isomorphism. Viewed in this light the emergence of two constituent structures in complex predication is a consequence of the interactions of the constraints that regulate the parallel representations of clause structure.

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7.1 An alternative structure

A natural question on looking at the constituent structure trees is whether the main and auxiliary verbs form a constituent in the monoclausal structure. If this were the case, then the tree might be as follows:

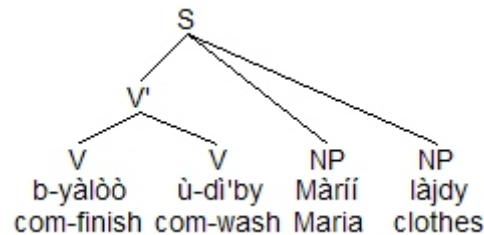


Figure 8 Alternative structure for auxiliary + main verb

While I do not want to rule out such a structure in principle, the results of constituency tests that might give evidence for a unit like this have so far been negative.

7.2 Coordination

The main and auxiliary verb combination cannot be coordinated with another verb:

- 42) *B-yàlòò ù-di'by chì'í ù-tò' Màríi làjdy.
 com-finish com-wash and com-sell Maria clothes

(Maria finished washing and sold the clothes.)

Since coordination is otherwise a good test for constituency in SDZ, the failure of such coordination argues against the constituency of these two verbs.

7.3 Clitic placement

San Dionicio Ocotepc Zapotec has a set of second position clitics whose placement is rather like that of Serbo-Croatian (Browne 1974, Halpern 1995). They may appear after either the first word or the first constituent of the sentence. The following example contains the clitic =chà' ~

=dxà'¹⁰ ‘maybe’:

43) Ní'=dxà' mèhéhs nù'ú bèh'cw.
 under=maybe table exist dog

Ní' mèhéhs=chà' nù'ú bèh'cw.
 under house=maybe exist dog

‘Maybe the dog is under the house.’

By this principle, if the auxiliary + main verb formed a constituent, we might expect that second position clitics could appear after this constituent.

However, such clitics only appear after the auxiliary; placement after the main verb is ungrammatical:

44) a. B-yàlòò=dxà' ù-di'by Màrí lājdy.
 com-finish=maybe com-wash Maria clothes

‘Maybe Maria finished washing the clothes.’

b. *B-yàlòò ù-di'by=dxà' Màrí lājdy.
 com-finish com-wash=maybe Maria clothes

Clitic placement is also a generally valid test for constituency, so the failure of clitics to appear after the main verb would be puzzling if these were truly a constituent.

7.4 Conclusion

It may be that the auxiliary + main verb do form a constituent and some independent factor rules out the coordination of auxiliary and main verb or the placement of clitics after this constituent. However, in the absence of clear evidence for such a constituent, I've omitted it from the trees in this paper.

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¹⁰ The clitic is =dxà' after a vowel or nasal, =chà' after a non-nasal consonant.

