Copala Triqui's syntactic causative: Reconsidering clause linkage in LFG

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1 Introduction

Copala Triqui (CT) is an Otomanguen language originally spoken in San Juan Copala, Oaxaca, Mexico.[1,2] There is also a large diasporic community of CT speakers in the Capital Region of New York, where this study takes place. CT is of interest because it has several atypical clause linkage types that fall outside the scope of canonical subordination and coordination. This paper focuses on CT's syntactic causative which does not display all of the properties of canonical subordination nor canonical coordination due to its complement initial order, seen in example (1).

(1) **Qui-xra'**　　**xruj**　　qui-'yaj　　nana.
　　 CMPL-break　　pot　　CMPL-make　　wind
　　 'The wind made the pot break.'

[2] Examples are transcribed in the Triqui orthography developed by Barbara and Bruce Hollenbach of the Summer Institute of Linguistics for translation of the New Testament. This orthography is the same as IPA except for the following consonants: <x> = [ʃ], <xr> = [ʂ] (a retroflex alveopalatal sibilant), <ch> = [tʃ], <chr> = [tʂ], <c> = [k] (before front vowels), <qu> = [k] before back vowels, [v] = [β] and <j> = [h]. <Vn> transcribes a nasalized vowel, and an <h> is unpronounced but represents a syllable break wherein two vowels are adjacent to each other. Long vowels are indicated by <VV>. CT has eight tones that are divided into an upper (tones 5, 4, 3, 32, and 31) and lower register (tones 2, 1, and 13) with most verbs in CT having an upper and lower register stem. Verbal stems in continuative and completive aspect use their upper register stem, and in potential aspect their lower register stem. When negated, stems in completive and potential aspect flip to their lower and upper register, respectively (Broadwell 2019, 2014; Hollenbach 2005, 1984). High tones (tones 4 and 5) are indicated by accents and low level tones (tones 1 and 2) with an underscore while the mid tone (tone 3) is unmarked, for example: tone 5 <V́V́> <V́>; tone 4 <VV́>, <V́>; tone 3 <VV>, <V>; tone 2 <V̲V̲>, <V̲>; tone 1 <V̲V̲>, <V̲>; contour tone 3 2 <VV>, <V>; contour tone 3 1 <VV̲>, <V̲>; contour tone 1 3 <V̲V̲>, <V̲>. Though this transcription does not fully mark all tone distinctions, it is the easiest and most popular to use amongst Triqui speakers.

　　Abbreviations used in this paper are: 1, 2, 3=first, second, and third person; CMPL=completive; COMP= complementizer; CON=continuative; CONJ=conjunction; DEC=declaration; F=feminine; FAM=familiar; IP=inflectional phrase; M= masculine; N=noun; NEG=negative; NegP=negative phrase; NP=noun phrase; PART=particle; PL=plural; POT=potential; PP=prepositional phrase; PREP=preposition; PRO=pronoun; OBJ=object; S=singular; S=sentence (in syntactic tree); SUBJ=subject; V=verb.

In contrast, most verbs with clausal complements have a complement final order in CT, which this paper shows are canonically subordinate for CT. CT's syntactic causative also differs from canonical coordinate constructions in CT.

Work in LFG on atypical clause linkage types, like CT's syntactic causative, has just begun. For example, Belyaev (2014) argues that atypical clause linkage types are the result of systematic 'mismatches' between coordination and subordination at the c(onstituent)-structure, f(unctional)-structure, and s(emantic)-structure. Accounts of atypical clause linkage types outside of LFG include work in Role and Reference Grammar (RRG) on cosubordination (Van Valin & La Polla 1997). RRG defines cosubordination as a third kind of clause linkage where a non-embedded clause is grammatically dependent on another as demonstrated by operator scope and dependency.[3] This paper demonstrates that the 'mismatch' approach does not fully account for the properties of CT's syntactic causative. The c-structure and f-structure of CT's syntactic causative are not clearly diagnosable as either subordinate or coordinate but should be in a 'mismatch' account because CT's syntactic causative can be modeled in LFG, as seen in Figure (1).[4]
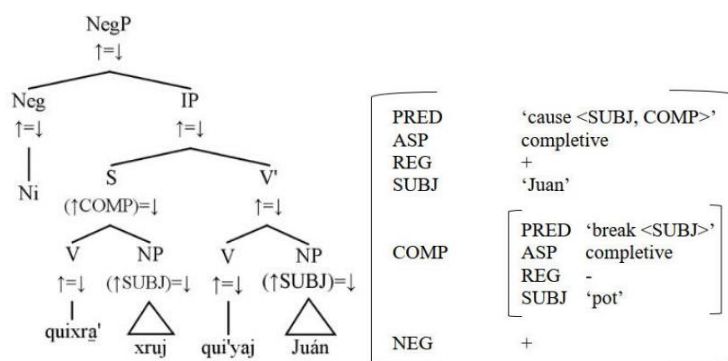
Figure 1: C-structure (left) & f-structure (right) of CT's syntactic causative

Instead, this paper demonstrates that CT's syntactic causative meets the definition of cosubordination. Figure (1) shows that CT's syntactic causative

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[3] In RRG, operators are similar to 'functional categories' in other linguistic frameworks, and includes forms expressing negation, TAM, modality, illocutionary force, and directionals (Bohnemeyer & Van Valin 2017:150).

[4] In Figure (1) the feature 'REG' refers to 'tonal register' discussed in section (4), while its value of '+' refers to the verb being in its upper register stem and the value of '-' refers to the verb being in its lower register stem. As noted in footnote (2), verbal stems in completive and potential aspect flip to their lower and upper stems, respectively, when negated. In Figure (1), both verb stems are in completive aspect while only the verb stem *quixra'* is in its lower tonal register (Broadwell 2019, 2014; Hollenbach 2005, 1984).

consists of two unembedded clauses that exhibit operator dependency. However, there are problems with creating a third type of clause linkage, since doing so still may not capture all clause linkage variation cross-linguistically (Belyaev 2014:6). This paper aims to simply expand the description of clause linkage types in LFG by considering alternative approaches, such as RRG's concept of cosubordination. This paper thus uses definitions and diagnostics from both 'mismatch' and cosubordinate approaches as well as developing some language-internal diagnostics for subordination and coordination in CT, as explained throughout the remainder of this paper.

This paper is organized as follows. Section (2) provides an overview of relevant grammatical features of CT and section (3) of CT's syntactic causative. Sections (4-5) demonstrate that the presented constructions meet the definitions for canonical subordination and canonical coordination at different levels of grammar, respectively, and that canonical subordinate constructions exhibit operator dependency, but canonical coordinate constructions do not. Sections (4-5) do so while also developing language internal diagnostics for these properties in CT. Section (6) thus provides evidence of subordination and coordination at different levels of grammar and of operator dependency for CT's syntactic causative. Section (7) argues for the model of CT's syntactic causative in LFG presented in Figure (1) and a reconsideration of clause linkage types in LFG. Section (8) provides a conclusion.

2 Overview of Grammatical Features of CT

CT has a VSO order and is prepositional (Hollenbach 1992:187), as seen in example (2).

(2) Qui-na'nu'   xnii   rihaan   mesá.
    CMPL-clean   boy   PREP   table.
    'The boy cleaned the table.'

However, example (3) shows an SVO order is possible when the subject is focused (Hollenbach 1992:206).

(3) **Juán**   qui-na'nu'   rihaan   mesá.
    Juan   CMPL-clean   PREP   table.
    '**Juan** cleaned the table.'

Example (4) shows negative particles occur before the verb and declarative particles can optionally be used sentence finally (Hollenbach 1992:240-241).

(4) **Ni**   güej   Miguél   xráá   yahij   (**ma'**).
    NEG   CMPL.jump   Miguel   PREP   rock   DEC
    'Miguel didn't jump over the rock.'

Most adverbs have relatively free distribution and can occur after the subject, object, or oblique, but not between the verb and the subject, as seen in examples (5 a-d).

(5) a. **Aga'** **'un'** qui-na'nu' Juán rihaan mesá.
    o'clock five CMPL-clean Juan PREP table.
    'Juan cleaned the table at five o'clock.'

   b. Qui-na'nu' Juán **aga'** **'un'** rihaan mesá.
    CMPL-clean Juan o'clock five PREP table.
    'Juan cleaned the table at five o'clock.'

   c. Qui-na'nu' Juán rihaan mesá **aga'** **'un'**.
    CMPL-clean Juan PREP table o'clock five.
    'Juan cleaned the table at five o'clock.'

   d. *Qui-na'nu' **aga'** **'un'** Juán rihaan mesá.
    CMPL-clean o'clock five Juan PREP table.
    'Juan cleaned the table at five o'clock.'

3 Overview of CT's Syntactic Causative

CT's syntactic causative has similar properties to other syntactic causatives in the world's languages. CT's syntactic causative marks a CAUSE or 'precipitating' event which includes the CAUSER and an EFFECT or 'result' event, which includes the CAUSEE. CT's syntactic causative is also formed through addition of the argument of the CAUSER to another clause (i.e. Comrie 1996; Dixon 2000). CT's syntactic causative is formed with the verb *'yaj* 'do, make, cause' which can be used transitively with a normal VSO order, in its basic sense (Hollenbach 1992:204), as seen in example (6).

(6) Qui-'yaj Juán ve'.
    CMPL-make Juan house
    'Juan made the house.'

When *'yaj* 'do, make, cause' is used in its causative sense it has a complement, or EFFECT, clause initial order, though internally each clause follows a normal VSO order (Broadwell 2012), as seen in example (7).

[[EFFECT	**EVENT]**	**[CAUSE**	**EVENT]]**
EFFECT	**CAUSEE**	**CAUSE**	**CAUSER**
(7) Qui-xra'	xruj	qui-'yaj	nan<u>a</u>.
CMPL-break	pot	CMPL-make	wind

    'The wind made the pot break.'

CT's syntactic causative may have once been part of a class of complement initial verbs, distinct from typical complement final verbs in CT. One verb, *rá* 'think', may no longer be fully productive, while *taj* 'say' shows differences from CT's syntactic causative currently. Constructions with the verb *taj* 'say' can displace the second clause, giving a complement final word order that maintains a VSO order clause internally, as seen in example (8 a-b).[5]

(8) a. **S<u>e</u>**   **naca'**   **so'**   ca-taj   so'
    NEG   POT.sweep   3S.M.PRO   CMPL-say   3S.M.PRO
       rihaan=j.
       PREP=1S
    'He told me he did not sweep.'

   b. Ca-taj   so'   rihaan=j   **s<u>e</u>**   **naca'**
    CMPL-say   3S.M.PRO   PREP=1S   NEG   POT.sweep
      so'.
      3S.M.PRO
    'He told me he did not sweep.'

At an earlier stage, CT's syntactic causative allowed a complement initial order with the complementizer *se vaa* (Hollenbach 1992:220), but this is no longer acceptable for Triqui speakers with or without the complementizer, as seen in example (9 a-b).

(9)   a. ***Qui-'yaj**   **Juán**   **se**   **vaa**   qui-xra'
    CMPL-make   Juan   COMP   CON.exist   CMPL-break
      xruj.
      pot
    'Juan made the pot break.'

   b. ***Qui-'yaj**   **nan<u>a</u>**   xra'   xruj.
    CMPL-make   wind   CON.break   pot
    'The wind made the pot break.'

4   Diagnosing Subordination at Different Levels of Grammar in CT

This section examines a class of verbs with a complement final order in CT, known as 'control verbs', and shows they are subordinate at different levels of grammar. Their features help create language internal diagnostics for canonical subordination for CT that can be compared to CT's syntactic causative, since they also do not take complementizers. The verb *taj* 'say' discussed in section

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[5] The negative particle *se,* as opposed to *ni*, is used when the following verb is in potential aspect.

(3) is not a candidate for canonical subordination since its complement clause can be displaced and it does not exhibit properties of control. Features of control in CT include (1) copy control and (2) register control, given that CT does not have any true infinitival verbs (Broadwell 2019:17; Broadwell 2014:16). Copy control is when the controlled argument is expressed, as opposed to being omitted, as is true with languages with infinitival verbs (Broadwell 2019; Polinksy & Postdam 2006), as seen in example (10).[6,7]

(10) Me   rá   **Juán** ch<u>a</u>   **Juán** chraa.
      want PART Juan   POT.eat   Juan   tortilla
      'Juan wants to eat tortilla(s).'

Register control is where the control verb controls the tonal register of the verb of its complement (Broadwell 2019, 2014; Hollenbach 2005, 1984), though this topic is not discussed further due to space.

4.1 C-subordination

C-subordination is defined as when a constituent occupies the complement, adjunct, or specifier positions of a maximally projecting dominating node and is embedded (Belyaev 2014:42). Copy-control and the ungrammaticality of a complement initial order show control verbs are c-subordinate. Copy-control is ungrammatical when the controller occurs sentence initially in the focus position, as seen in example (11 a-b).

(11) a. **Juán** me   rá   qui-na'n<u>u</u>' rihaan mesá.
          Juan   want PART POT-clean   PREP   table
          'Juan wants to clean the table.

      b. **Juán* me   rá   qui-na'n<u>u</u>' **Juán** rihaan
          Juan   want PART POT-clean   Juan   PREP
            mesá.
            table
          '**Juan** wants to clean the table.'

Displacement of the second clause, giving a complement initial order, is also ungrammatical, regardless of whether an example exhibits copy-control, as seen in example (12 a-b).

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[6] The controlled copy can be a total repetition of the DP controller or a pronoun that agrees with the DP but, must be a pronoun if the controller is a pronoun. CT exhibits subject, object, and oblique control (Broadwel1 2019:31, 2014:20-21). This is not discussed further due to space.

[7] The verb *me rá* 'want' does not change to show aspect and is glossed as such.

(12)   a.   *__Qui-na'n<u>u</u>'__   __Juán__   __rihaan mesá__   me   rá
              POT-clean   Juan   PREP   table   want   PART
               Juán.
               Juan
           'Juan wants to clean the table.'

     b.   *__Qui-na'n<u>u</u>'__   __Juán__   __rihaan mesá__   me   rá.
              POT-clean   Juan   PREP   table   want   PART
           'Juan wants to clean the table.'

Examples (11-12) demonstrate that control verbs syntactically dominate their complement clause, which must be embedded. This is because when the controller occurs outside of its normal position it affects the expression of control, disallowing the expression of its controlled copy. Further, the complement clause cannot occur outside of its subordinate position.

4.2 F-subordination

In f-subordination, a constituent of a construction fulfills a grammatical function of another constituent (Belyaev 2014:46). Control verbs are f-subordinate because they require a complement clause. For example, searches of a corpus developed by Broadwell and the Albany Copala Triqui Working Group (n.d.) show that for the control verb *me rá* 'want', the control clause never occurs on its own but, always with a complement clause.

4.3 S-subordination

Belyaev (2014:49-51) simply defines s-subordination as not exhibiting s-coordination, which is defined as any construction where two or more speech act discourse references are linked by a rhetorical relation. This is because it is not clear if s-subordination is a homogenous class and thus its formal definition (Belyaev 2014:49-51). At the least, s-subordination involves two clauses in the same speech act, in which a predicate links their propositional content (Belyaev 2014:49-51). An s-subordinate construction can be diagnosed by scoping negation or modal adverbs and the ability to be focused (Belyaev 2014:49-51). Further, one clause is also always presupposed with s-subordination, whereas this is not the case with s-coordination (Belyaev 2014:49-51).

    Given that s-subordination might not be a homogenous class, this paper also uses Bohnemeyer and Van Valin's (2017) Macro Event Property (MEP) for diagnosing s-subordination. The MEP is present when complex events are described as referencing one event despite containing possible subevents (Bohnemeyer & Van Valin's 2017:147). Explicit diagnostics for if the MEP is present in a given construction are the use of a single time-positional adverb

or with noncontradictory time-positional adverbs of a more specific meaning, since a single event cannot occur at two different times or places. Some cases of s-subordination based on Belyaev's (2014) diagnostics may also contain the MEP, but other cases may take more than one time-positional adverbial of contradictory meanings. If a construction has the MEP, it may be said that it is definitively s-subordinate, whereas the reverse may not be true.

Control verbs can take two temporal adverbs of noncontradictory meaning, as seen in example (13).[8]

(13) Me   rá   Juán   **quii**   qui-na'nu̱' Juán
      want PART   Juan   yesterday   POT-clean   Juan
            taxr̠ej   rihaan   mesá.
            early.morning   PREP   table
      'Juan wanted to clean the table yesterday in the early morning.'

However, control verbs cannot take two temporal adverbs when they have contradictory meanings, as seen in example (14).

(14) *Me   rá   Juán   **aga'**   **vi̱j**   qui-na'nu̱'
       want PART   Juan   o'clock   two   POT-clean
             Juán   **aga'**   **'un'**   rihaan   mesá.
             Juan   o'clock   five   PREP   table
      'At two o'clock, Juan wanted to clean the table at five o'clock.'

Control verbs thus reference one event that takes place at a distinct place and time, despite containing a subevent, have the MEP, and are s-subordinate.

Control verbs also exhibit operator scope and dependency, which can occur with subordinate structures in RRG and is diagnostic of s-subordination in LFG. Independent negation of each clause, and consequently two instances of negation, are disallowed, demonstrating that control verbs have scoping negation, as seen in example (15 a-c).

(15) a. **Ni**   me   rá   Juán   qui-na'nu̱'   Juán   rihaan
         NEG   want   PART   Juan   POT-clean   Juan   PREP
            mesá.
            table
         'Juan doesn't want to clean the table.'

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[8] This is true regardless of the position of the adverbs in each clause for examples (14-15).

b. *Me   rá   Juán   **s<u>e</u>**   qui-na'nu'   Juán   rihaan
   want   PART   Juan   NEG   POT-clean   Juan   PREP
      mesá.
      table
   'Juan wants to not clean the table.'

c. ***Ni**   me   rá   Juán   **s<u>e</u>**   qui-na'nu'   Juán
   NEG   want   PART   Juan   NEG   POT-clean   Juan
      rihaan   mesá.
      PREP   table
   'Juan doesn't want to not clean the table.'

Differences in the grammaticality of different declarative particles affirm that negation scopes over both clauses, as seen in example (16 a-b). That these particles are diagnostic of the scope of negation is developed in section (5).

(16)   a. **Ni**   me   rá   Juán   qui-na'n<u>u</u>'   Juán   rihaan
         NEG   want   PART   Juan   POT-clean   Juan   PREP
            mesá   **ma'**.
            table   DEC
         'Juan doesn't want to clean the table.

   b. ***Ni**   me   rá   Juán   qui-na'n<u>u</u>'   Juán   rihaan
         NEG   want   PART   Juan   POT-clean   Juan   PREP
            mesá   **a**.
            table   DEC
         'Juan doesn't want to clean the table.'

5   Diagnosing Coordination at Different Levels of Grammar in CT

This section examines canonical coordinate constructions that can take the conjunction *n<u>e</u>* 'and' in CT, and shows they are coordinate at different levels of grammar. Their features help create language internal diagnostics for canonical coordination that can be compared to CT's syntactic causative. Canonical coordinate constructions that take the conjunction *n<u>e</u>* 'and' are relevant because at an earlier stage these constructions could be covertly coordinated and omit the conjunction *n<u>e</u>* 'and' in some cases, which might have also been the case with CT's syntactic causative. An example is seen in (17).

(17)   Chá   Juán   (**n<u>e</u>**)   co-'o   so'   a.
       CMPL.eat   Juan   CONJ   CMPL-drink   3S.M.PRO   DEC
       'Juan ate and he drank'.

81

5.1 C-coordination

C-coordination is defined as when a construction's sister nodes and their immediately dominating node are of the same phrasal category and thus unembedded (Belyaev 2014:41; Yuasa & Sadock 2002; Haspelmath 2004).[9] Free placement of the second clause shows canonical coordinate constructions that take the conjunction *ne̲* 'and' are c-coordinate. Either clause can occur sentence initially or sentence finally as seen in example (18 a-b).

(18)   a.   **Chá**   **so'**   n*e̲*   co-'o   so'
                CMPL.eat   3S.M.PRO   CONJ   CMPL-drink   3S.M.PRO
                    a.
                    DEC
              'He ate and he drank'.

    b.   Co-'o   so'   n*e̲*   **chá**   **so'**   a.
              CMPL-drink   3S.M.PRO   CONJ   CMPL.eat   3S.M.PRO   DEC
              'He drank and he ate'.

Example (18 a-b) thus demonstrates that one clause is not dominated, or subordinate, to another.

5.2 F-coordination

Constituents that are f-coordinate are defined as being members of a set and do not fulfill any necessary grammatical function of another constituent (Belyaev 2014:46). These constituents can stand on their own without the other, as seen in example (19 a-b), in contrast to together in example (20).

(19)   a.   Qui-ra'ánj   Miguél.
              CMPL-dance   Miguel
              'Miguel danced.'

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[9] Przepiórkowski and Patejuk (2021) propose analyzing coordinate structures without reference to syntactic categories, in response to previous analyses of unlike category coordination. Since this paper uses syntactic/phrasal categories in its analysis, it adopts this specific definition of coordination, given that coordinate structures can broadly be defined as structures that combine units of the same 'type' (Haspelmath 2004:34). This paper shows that the units of CT's syntactic causative are not truly of the same 'type' in addition to occupying different syntactic/phrasal categories, though it acknowledges that unlike category coordination of different syntactic/phrasal categories is a genuine phenomenon.

b. C-achráá   Juán   ya'ánj.
   CMPL-sing Juan   instrument
   'Juan played the instrument.'

The Coordinate Structure Constraint (CSC) may diagnose f-coordination and stipulates that elements of a conjunct cannot be extracted (Belyaev 2014: 46-47; Ross 1967). For canonical coordinate constructions that take the conjunction *ne̲* 'and' only arguments of the first conjunct can be focused, as seen in example (20 a-d).

(20) a. C-achráá   Juán   ya'ánj   ne̲   qui-ra'ánj   Miguél
         CMPL-sing Juan   instrument CONJ CMPL-dance   Miguel
         'Juan played the instrument and Miguel danced.'

      b. **Juán**   c-achráá   ya'ánj   ne̲   qui-ra'ánj   Miguél
         Juan   CMPL-sing instrument CONJ CMPL-dance   Miguel
         '**Juan** played the instrument and Miguel danced.'

      c. **Ya'ánj**   c-achráá   Juán   ne̲   qui-ra'ánj   Miguél
         instrument CMPL-sing Juan   CONJ CMPL-dance   Miguel
         'Juan played **the instrument** and Miguel danced.'

      d. ***Miguél**   c-achráá   Juán   ya'ánj   ne̲   qui-ra'ánj
         Miguel   CMPL-sing Juan   instrument CONJ CMPL-dance
         'Juan played the instrument and **Miguel** danced.'

5.3 S-coordination

A construction may not be s-subordinate if it does not exhibit the MEP and each clause can take a time-positional adverb of contradictory meaning to the other. This is the case for canonical coordinate constructions that take the conjunction *ne̲* 'and', as seen in example (21).[10]

(21) Qui-ra'a̲nj Miguél   **a'yuj**   ne̲   c-achráá   Juán
      POT-dance Miguel   tomorrow   CONJ CMPL-sing   Juan
         ya'ánj   **quii**.
         instrument yesterday
      'Miguel will dance tomorrow and Juan played the instrument yesterday.'

Canonical coordinate constructions with *ne̲* 'and' thus reference more than one event that can occur at different places and times and do not have the MEP.

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[10] This is true regardless of adverb placement in each clause for example (21).

Canonical coordinate constructions with *ne* 'and' can be affirmed to be s-coordinate because they also do not exhibit operator scope or dependency. Each conjunct can be independently negated, and consequently, two instances of negation are allowed. Different patterns of negation allow different declarative particles to be used, as seen in example (22 a-f).

(22) a. **Ni**   c-achr<u>aa</u>   Miguél   n<u>e</u>   qui-ra'ánj
          NEG   CMPL-sing   Miguel   CONJ   CMPL-dance
              Juán   **a**.
              Juan   DEC
          'Miguel didn't sing and Juan danced.'

      b. ***Ni**   c-achr<u>aa</u>   Miguél   n<u>e</u>   qui-ra'ánj
          NEG   CMPL-sing   Miguel   CONJ   CMPL-dance
              Juán   **ma'**.
              Juan   DEC
          'Miguel didn't sing and Juan danced.'

      c. ?C-achrá<u>á</u>   Miguél   n<u>e</u>   **ni**   qui-ra'<u>a</u>nj
          CMPL-sing   Miguel   CONJ   NEG   CMPL-dance
              Juán   **a**.
              Juan   DEC
          'Miguel sang and Juan didn't dance.'

      d. C-achrá<u>á</u>   Miguél   n<u>e</u>   **ni**   qui-ra'<u>a</u>nj
          CMPL-sing   Miguel   CONJ   NEG   CMPL-dance
              Juán   **ma'**.
              Juan   DEC
          'Miguel sang and Juan didn't dance.'

      e. ?**Ni**   c-achr<u>aa</u>   Miguél   n<u>e</u>   **ni**   qui-ra'<u>a</u>nj
          NEG   CMPL-sing   Miguel   CONJ   NEG   CMPL-dance
              Juán   **a**.
              Juan   DEC
          'Miguel didn't sing and Juan didn't dance.'

      f. **Ni**   c-achr<u>aa</u>   Miguél   n<u>e</u>   **ni**   qui-ra'<u>a</u>nj
          NEG   CMPL-sing   Miguel   CONJ   NEG   CMPL-dance
              Juán   **ma'**.
              Juan   DEC
          'Miguel didn't sing and Juan didn't dance.'

The declarative particle *ma'* cannot be used when only the first conjunct is negated, as seen in example (22 b) but can be used in all other examples where

the second conjunct is negated, as seen in examples (22 d & f). Thus, the declarative particle *ma'* is diagnostic of scoping negation.

6 Coordination and Subordination at Different Levels of Grammar for CT's Syntactic Causative

This section examines whether CT's syntactic causative is subordinate or coordinate at different levels of grammar by comparing its properties to control verbs and canonical coordinate constructions with *ne* 'and'. This section demonstrates that while CT's syntactic causative is clearly diagnosable as subordinate at its s-structure, it does not display all of the properties of either subordination or coordination at both its c-structure and f-structure. This is contrary to the 'mismatch' account where different levels of grammar must be diagnosable as either subordinate or coordinate for a given construction.

6.1 C-structure

CT's syntactic causative does not exhibit the properties of control seen with control verbs, even when the arguments of the CAUSE clause are coreferential with the arguments of the EFFECT clause. Copy control is disallowed and a reflexive particle must be used, as seen in example (23 a-b).[11]

(23)   a.   *Qui-na'nu'   **Juán**   rihaan   mesá   qui-'yaj
          CMPL-clean   Juan   PREP   table   CMPL-make
          Juán.
          Juan
          'Juan made (himself) clean the table.'

     b.   Qui-na'nu'   **ma'an**   **Juán**   rihaan   mesá   qui-'yaj
          CMPL-clean   self.of   Juan   PREP   table   CMPL-make
          Juán.
          Juan
          'Juan made himself clean the table.'

Like control verbs and unlike canonical coordinate constructions with *ne* 'and', CT's syntactic causative has restrictions on the displacement of its second clause. The CAUSE clause can only occur sentence initially when the CAUSER is focused, as seen in example (24 a-b).

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[11] Note that Hollenbach (1984) demonstrates that reflexives in Copala Triqui violate a number of Chomsky's (1981) binding principles and nothing else is implied about the c-structure of CT's syntactic causative from examples (23 a-b).

(24)　a.　***Qui-'yaj***　**Juán**　qui-na'nu'　xnii　rihaan　mesá.
　　　　CMPL-make　Juan　CMPL-clean　child　PREP　table
　　　　'Juan made the boy clean the table.'

　　　b.　**Juán**　**qui-'yaj**　qui-na'nu'　xnii　rihaan　mesá.
　　　　Juan　CMPL-make　CMPL-clean　child　PREP　table
　　　　'**Juan** made the boy clean the table.'

Restrictions on displacement seen in example (24 a-b) also demonstrate that CT's syntactic causative does not have an OVS structure where the EFFECT clause and the CAUSE verb *'yaj* 'do, make, cause' form a constituent. CT's syntactic causative is not subordinate in this sense. Instead, the CAUSE clause and EFFECT clause are unembedded sisters to each other.

　　　Unlike both control verbs and canonical coordinate constructions with *ne* 'and' adverbs cannot occur in both clauses of CT's syntactic causative. Adverbs are disallowed in the CAUSE clause, as seen in example (25 a-c).

(25)　a.　**A'yuj**　qui-na'nu̱'　xnii　rihaan　mesá　qui-'ya̱j
　　　　tomorrow　POT-clean　boy　PREP　table　POT-make
　　　　Juán.
　　　　Juan
　　　　'Juan will make the boy clean the table tomorrow.'

　　　b.　Qui-na'nu̱'　xnii　**a'yuj**　rihaan　mesá　qui-'ya̱j
　　　　POT-clean　boy　tomorrow　PREP　table　POT-make
　　　　Juán.
　　　　Juan
　　　　'Juan will make the boy clean the table tomorrow.'

　　　c.　*Qui-na'nu̱'　xnii　rihaan　mesá　qui-'ya̱j　Juán
　　　　POT-clean　boy　PREP　table　POT-make　Juan
　　　　a'yuj.
　　　　tomorrow
　　　　'Juan will make the boy clean the table tomorrow.'

　　　Further, unlike canonical coordinate constructions with *ne* 'and', CT's syntactic causative cannot take an overt coordinator, and thus cannot be interpreted as being covertly coordinate, as seen in example (26).

(26)　*Qui-xra'　xruj　**ne**　qui-'yaj　ra'a　chruun
　　　CMPL-break　pot　CONJ　CMPL-break　branch　tree
　　　'The tree branch did it, and the pot broke.'

86

Example (9a) above also shows CT's syntactic causative cannot take an overt complementizer that occurs with some complement taking verbs in CT.

6.2 F-structure

Like control verbs, CT's syntactic causative requires a complement clause, the EFFECT clause. For example, searches of a corpus developed by Broadwell and the Albany Copala Triqui Working Group (n.d.) show that the CAUSE clause never occurs on its own. Thus, the EFFECT clause fulfills the grammatical function of being an argument of the CAUSE clause. However, like canonical coordinate clauses with *ne* 'and', the CSC applies to CT's syntactic causative. The CAUSER cannot be focused without the CAUSE verb also occurring sentence initially, as seen in example (27).

(27) *__Juán__ qui-na'nu'   xnii   rihaan mesá __qui-'yaj__.
       Juan CMPL-clean   child PREP   table CMPL-make
      '__Juan__ made the boy clean the table.'

6.3 S-structure

CT's syntactic causative is clearly s-subordinate. CT's syntactic causative can take two temporal adverbs of noncontradictory meaning when the adverbs occur in the EFFECT clause, as seen in example (28).[12]

(28) __A'yuj__   __taxrej__   qui-na'nu̱' xnii   rihaan mesá
      tomorrow early.morning POT-clean boy   PREP   table
          qui-'ya̱j   Juán.
          POT-make Juan
      'Juan will make the boy clean the table tomorrow in the early morning.'

However, CT's syntactic causative cannot take two temporal adverbs of contradictory meaning when in the EFFECT clause, as seen in example (29).

(29) *__Aga' vi̱j__   qui-na'nu'   xnii   rihaan mesá __aga'__
      o'clock two   CMPL-clean   boy   PREP   table o'clock
          __'un'__   qui-'yaj   Juán.
          five   CMPL-make   Juan
      'At two, Juan made the boy clean the table at five.'

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[12] This is true regardless of the placement of the adverbs in each clause for examples (28-29).

CT's syntactic causative thus references one event that takes place at a distinct place and time, has the MEP, and is s-subordinate.

CT's syntactic causative also exhibits operator scope and dependency, like control verbs and cosubordinate structures in RRG, and s-subordinate structures in LFG. When negated, it is implied that the EFFECT event still occurred, even if the specified CAUSER was not the agent of the action, making the EFFECT clause presupposed. Independent negation of each clause, and thus two instances of negation, are disallowed, as seen in example (30 a-c).

(30) a. **Ni** c-ac<u>aa</u> ve' qui-'yaj Juán.
NEG CMPL-burn house CMPL-make Juan
'Juan didn't make the house burn.'

b. *C-acaa ve' **ni** qui-'y<u>aj</u> Juán.
CMPL-burn house NEG CMPL-make Juan
'Juan didn't make the house burn.'

c. ***Ni** c-ot<u>oj</u> nij xnii **ni** qui-'y<u>aj</u> Juán
NEG CMPL-sleep PL boy NEG CMPL-make Juan.
'Juan didn't make the boys not sleep.'

The negative particle in example (30 a) is scoping given that only the use of the declarative particle *ma'* is grammatical for CT's syntactic causative when it is negated, as seen in example (31 a-b).

(31) a. ***Ni** qui-na'n<u>u</u> xnii rihaan mesá qui-'yaj
NEG CMPL-clean child PREP table CMPL-make
Juán **a**.
Juan DEC
'Juan didn't make the boy clean the table'

b. **Ni** qui-na'n<u>u</u>' xnii rihaan mesá qui-'yaj
NEG CMPL-clean child PREP table CMPL-make
Juán **ma'**.
Juan DEC
'Juan didn't make the boy clean the table'

7 Modeling CT's Syntactic Causative: Reconsidering Clause Linkage in LFG

This section provides a summary of the previous sections and an argument for the model of CT's syntactic causative in LFG presented in Figure (1). Table (1) summarizes definitions from both 'mismatch' and cosubordinate

approaches that the previous sections use to diagnose subordination and coordination at different levels of grammar.

	Subordination	Coordination
C-structure	Where a constituent occupies the complement, adjunct, or specifier positions of a maximally projecting dominating node (unembedded)	Where constituents are sister nodes of the same category and of the same category of immediately dominating node (unembedded)
F-structure	Where a constituent fulfills a grammatical function of another	Where constituents are members of a set
S-structure	Where a construction contains one speech act that links propositional contents via a predicate, and may also only reference one event	Where a construction contains two speech acts linked by a rhetorical relation and references more than one event

Table 1: Definitions of subordination & coordination at different levels of grammar

Table (2) summarizes the properties of canonical subordinate and canonical coordinate constructions in CT that the previous sections compare to CT's syntactic causative. The previous sections also use these properties to diagnose subordination and coordination at different levels of grammar.

	Canonical Subordinate Clauses (Control Verbs)	Canonical Coordinate Clauses	CT's Syntactic Causative
Copy Control	yes	no	no
Register Control	yes	no	no
Scoping Negation	yes	no	yes
Overt Coordinator	no	yes	no
Displacement of the second clause	no	yes	no
Temporal adverbs of contradictory meaning	no	yes	no

Table 2: Properties of subordination, coordination, & CT's syntactic causative

Sections (4-5) show that canonical subordinate and canonical coordinate structures in CT are subordinate and coordinate at different levels of grammar, respectively. In contrast, section (6) demonstrates that CT's syntactic causative displays mixed properties of subordination and coordination at both its c-structure and f-structure, despite being diagnosable as subordinate at its s-structure. This is contrary to the 'mismatch' account where different levels of grammar must be clearly diagnosable as either subordinate or coordinate.

A summary of these mixed properties is as follows: CT's syntactic causative is like true f-subordinate constructions in CT with one of its clauses being an argument of another. However, CT's syntactic causative is also like true f-coordinate structures in CT by exhibiting the CSC. CT's syntactic causative is like true c-subordinate constructions in CT because it disallows displacement of its second clause, the CAUSE clause, without focusing the CAUSER. Unlike true c-subordinate structures in CT, CT's syntactic causative disallows copy control, a property that can show one clause dominates another in CT. CT's syntactic causative also does not have a subordinate OVS structure where the CAUSE verb *'yaj* 'do, make, cause' dominates the EFFECT clause. Instead, the CAUSE clause and the EFFECT clause are distinct constituents, or sisters, and not embedded. CT's syntactic causative is also unlike both canonical subordinate and coordinate constructions in CT because adverbs cannot occur in both of its clauses, but only in the EFFECT clause. Finally, CT's syntactic causative is also unlike canonical coordinate constructions in CT by not being able to take an overt coordinator.

Given these properties of CT's syntactic causative, the EFFECT clause should be a non-projecting exocentric phrasal category S that can stand on its own, and not an IP that dominates the CAUSE clause. This is in contrast to control verbs, which this paper argues have an IP that dominates a complement clause of the category of S, similar to Broadwell's (2014) analysis of control verbs. The ungrammatically of adverbs in the CAUSE clause suggests it is of a different phrasal category than IP or S. This paper labels the CAUSE clause as a V' after Broadwell's (2014) analysis who argues there are no true VP's in CT. Thus, the EFFECT clause and CAUSE clause are not of the same phrasal category. CT's syntactic causative also does not exhibit other properties of true c-coordinate constructions in CT, so it cannot be diagnosed as being truly c-coordinate. CT's syntactic causative cannot be said to be meet the definition of c-subordination either, since V' is not a maximally projecting node.

Is CT's syntactic causative cosubordinate? Its c-structure and f-structure cannot be clearly diagnosed as either subordinate or coordinate but should be in the 'mismatch' account of atypical clause linkage types. CT's syntactic causative does meet the definition of cosubordination where a clause is non-embedded, yet grammatically dependent, and exhibits operator scope and dependency. However, asserting that CT's syntactic causative is cosubordinate may expand clause linkage typology when there is no agreed upon cross-linguistic syntactic criteria to justify this (Belyaev 2014:6; Bickel 2010). More

phenomena of clause linkage types from different languages need to be modeled in LFG to see if cosubordination should be considered a genuine third type of clause linkage. This paper contributed to this aim by examining a construction with an atypical clause linkage type that does not take an overt coordinator or subordinator, as has been done in LFG previously (Belyaev 2014). At the least, this paper shows that clause linkage types that meet the definition of cosubordination can be successfully modeled in LFG.

8   Conclusion

CT's syntactic causative displays mixed properties of canonical subordinate and canonical coordinate constructions in CT. A 'mismatch' approach cannot account for all of the features of CT's syntactic causative because there is not a clearly diagnosable mismatch between subordination and coordination at different levels of grammar. CT's syntactic causative was clearly diagnosable as s-subordinate, but not clearly diagnosable as subordinate or coordinate at its c-structure and f-structure. However, CT's syntactic causative does meet the definition of cosubordination where an unembedded clause is grammatically dependent on another, as diagnosed through operator scope and dependency. More research on other languages is needed to determine if this is a genuine third kind of clause linkage. At the least, this paper expands the range of atypical clause linkage types that can be modeled in LFG.

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