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Parsing Relative Clauses in Copala Trique

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When a speaker creates a discourse, some parts carry the eventline forward, and other parts present various kinds of background information. One kind of background information is that contained in relative clauses, which help the hearer identify the referent of a particular noun phrase (Longacre 1989:419–20, 439). It therefore seems important that natural languages provide some syntactic device to distinguish relative clauses from main clauses. In English, for example, the presence of a relative pronoun tells the hearer that the material that follows it is to be parsed as a relative clause.

In Copala Trique two devices mark relative clauses. One is a set of introductory pronouns that combines the functions of head noun and relative pronoun into a single morpheme. The other is a special set of continuative-aspect forms for about a dozen frequent verbs. Neither of these devices occurs in all relative clauses, however, because many relative clauses have noun, as opposed to pronoun, heads, and because many contain verbs other than the ones that have special forms.

Relative clauses that do not contain at least one of these devices are not marked as such in any way, not even by pause. They are therefore potentially ambiguous (at least locally) with a variety of other syntactic structures. This situation presents the hearer with a formidable parsing task, but in practice the problem arises in less than a third of the relative clauses because introductory pronouns and special verbforms occur so frequently. In a sample of text containing ninety-five relative clauses,

sixty-four contained one or both of these devices, leaving only thirty-one to be parsed by means of other cues.[1]

In this study, I describe the two syntactic devices that signal the presence of a relative clause and then survey briefly the nature of the parsing task for the remaining cases. The main strategy I propose is that, when the hearer encounters a string that could be a relative clause but contains neither device, he attempts to match it to other syntactic structures in the language. Only if he fails to find a match does he parse the string as a relative clause.

1. Introductory pronouns

Copala Trique has a set of five third-person pronouns that occur when some other element follows them within the same noun phrase. These pronouns are listed in (1).[2]

(1) *zii*^{5} 'he (who)'
nii^{5} 'she (who)'
ze^{32} 'thing (that)'
reh^{32} 'place (where)'
yan^{32} 'place (where)'

Introductory pronouns may be followed by any element that normally follows the head of a noun phrase: an adjective, a deictic, or a relative clause.

(2) *zii*^{5} *za?*^{1} *a*^{32}
he good DECL(ARATIVE)
the good man *or* the good person *or* the good one

[1]The text sample used in this study included the three myths found in Hollenbach 1988 and also a tar baby story in Hollenbach n.d.

[2]Copala Trique has the following consonants: fortis stops *p t k,* lenis stops *b d g,* affricates *ts ch chr,* fortis sibilants *s sh shr,* lenis sibilants *z zh r,* and resonants *m n l y w.* There are five oral vowels, *i u e o a,* and their nasalized counterparts, which occur only in word-final syllables and are written with *n* following the vowel. There are three laryngeals: glottal stop (*?*), *h,* and an abstract laryngeal which occurs only in word-final position and is actualized mainly by shortness on the preceding vowel. In the examples in this study, a vowel plus the abstract laryngeal is written as a single vowel, and a vowel alone at the end of a word is written as a double vowel. There are five tone levels, written with the numbers ^{1} to ^{5} from low to high. For further information about the phonology of Copala Trique, see Hollenbach 1984.

(3) *nii*^{5} *nianh*^{5} *a*^{32}
she this DECL
this woman *or* this one

(4) *ze*^{32} *kiranh*^{5} *chii*^{3} *a*^{32}
thing bought man DECL
the thing that the man bought

(5) *reh*^{32} *ka?anh*^{32} *chii*^{3} *a*^{32}
place went man DECL
the place where the man went

(6) *yan*^{32} *kawi?*^{3} *chii*^{3} *a*^{32}
place died man DECL
the place where the man died

English has nothing resembling introductory pronouns, and they are therefore difficult for English speakers to conceptualize. They are also hard to translate because English noun phrases rarely contain modifiers when they have a pronoun head, and so it is necessary to resort to the word 'one' or a generic noun like 'person', 'thing', or 'place'. When introductory pronouns precede a relative clause, they combine in a single morpheme the functions of head and relative pronoun, and so they need to be translated by sequences like 'person who', 'thing that', or 'place where'.

It is important not to confuse introductory pronouns with true relative pronouns. Relative pronouns occur with a noun head, and link it to the following relative clause. Copala Trique does not have relative pronouns; it has only introductory pronouns, which do not occur together with a noun head, but rather take the place of one. Therefore, even though (4)–(6) may appear to have the structure of headless relatives, they cannot be analyzed in this way.

Introductory pronouns contrast with ordinary third-person pronouns, which occur as the final element within their noun phrase and cannot be modified by adjectives, deictics, or relative clauses. They are listed in (7). The two pronoun sets do not contain the same categories: the introductory pronouns lack an animal category, and the ordinary pronouns lack a place category.

(7) *zo?*^{3} 'he'
no?^{3} 'she'
zho?^{3} 'it (animal)'
yo?^{3} 'it (inanimate)'

It is important to note that there is no referential difference whatever between the corresponding masculine, feminine, and inanimate pronouns of the two sets; the difference is solely a question of syntactic function. From the point of view of the speaker, the extra set of pronouns complicates the grammatical description of the language. For the hearer, however, the presence of an introductory pronoun versus an ordinary pronoun signals crucial structural information about a sentence. Perhaps the closest parallel in English syntax is the case distinction in the pronoun system.

The pairs of sentences in (8) and (9) show ordinary pronouns contrasting with introductory pronouns. In each case, the noun phrase is enclosed in square brackets. Note that the hearer is able to make a parsing decision about whether to close a noun phrase node or hold it open for the inclusion of further material simply on the basis of which pronoun occurs.

(8) a. *ka?anh*^{32} *[zo?*^{3}*]* *ngah*^{32} *a*^{32}
went he Putla DECL
[He] went to Putla.

b. *ka?anh*^{32} *[zii*^{5} *chee*^{5} *chreh*^{32}*]* *ngah*^{32} *a*^{32}
went he walks trail Putla DECL
[The man who walks on the trail] went to Putla.

(9) a. *nawih*^{3} *[yo?*^{3}*]* *a*^{32}
finished it DECL
[It] is all gone.

b. *nawih*^{3} *[ze*^{32} *za?*^{1}*]* *a*^{32}
finished thing good DECL
[The good stuff] is all gone.

Copala Trique is a vso language, and in relative clauses, the verb immediately follows the head of the noun phrase, as seen in (8b) and also (4)–(6). There are, however, various sequences besides relative clauses in which the syntax permits a verb to follow a noun or pronoun. One of these sequences is an independent clause with an element in preverbal focus position. In (10a) and (11a), a pronoun is modified by a relative clause; in (10b) and (11b), a pronoun occurs in preverbal focus position.[3] The presence of an introductory pronoun versus an ordinary pronoun is the only difference between the pairs in (10) and (11). If there were no such

[3]A focused element is indicated by small capitals in the free translation.

difference, the only thing that would prevent ambiguity is the fact that (10a) and (11a) are not complete sentences.

(10) a. *nii*^{5} *go?*^{3} *sa?anh*^{32} *ra?a*^{3} *chii*^{3} *a*^{32}
she gave money hand man DECL
the woman who gave money to the man

b. *no?*^{3} *go?*^{3} *sa?anh*^{32} *ra?a*^{3} *chii*^{3} *a*^{32}
she gave money hand man DECL
SHE gave money to the man.

(11) a. *nii*^{5} *go?*^{3} *chii*^{3} *sa?anh*^{32} *ra?a*^{3} *a*^{32}
she gave man money hand DECL
the woman to whom the man gave money

b. *no?*^{3} *go?*^{3} *chii*^{3} *sa?anh*^{32} *ra?a*^{3} *a*^{32}
she gave man money hand DECL
The man gave money to HER.

Another syntactic pattern in which a verb can follow the head of a noun phrase is found in paratactic sentences, in which two independent clauses are simply juxtaposed, with no conjunction linking them.[4] In (12a) and (13a), a pronoun is modified by a relative clause; (12b) and (13b) show paratactic sentences. The presence of an introductory pronoun versus an ordinary pronoun lets the hearer know whether the boundary between two independent clauses has been reached.

(12) a. *nawih*^{3} *ze*^{32} *cha*^{4} *shnii*^{3} *a*^{32}
finished thing ate boy DECL
The stuff the boy ate got used up.

b. *nawih*^{3} *yo?*^{3} *cha*^{4} *shnii*^{3} *a*^{32}
finished it ate boy DECL
It got used up; the boy ate (it).

[4]A set of paratactic sentence types was described for Chicahuaxtla Trique by Longacre (1966), and there are many parallel structures in Copala Trique.

(13) a. *chee*^{5} *zii*^{5} *ka?anh*^{32} *ngah*^{32} *a*^{32}
walks he went Putla DECL
The one who left for Putla is walking.

b. *chee*^{5} *zo?*^{3} *ka?anh*^{32} *zo?*^{3} *ngah*^{32} *a*^{32}
walks he went he Putla DECL
He is walking; he has left for Putla.

In both (12) and (13), the choice of pronoun makes the construction explicit. In (12), the choice of pronoun is the only difference between the paired forms, and the sentences would be completely ambiguous if there were no difference in the pronouns. In (13), however, the pronoun choice is not the only difference. The presence of the second pronoun *zo?*^{3} 'he' in (13b), which serves as the subject of 'went', shows that this sentence does not contain a relative clause. In (13a), there is a gap following 'went' that is logically filled by the pronoun *zii*^{5} 'he', which is the head of the relative clause.

Still another circumstance in which a verb can follow the head of a noun phrase involves object-complement clauses. In (14), the sentences begin with the verb *a?weh*^{32} 'be willing'. In (14a), the subject of 'be willing' is a noun phrase containing a relative clause. In (14b), the subject of 'be willing' is an ordinary pronoun, which is followed by an object-complement clause. Note that, in addition to the difference between the two pronouns, (14b) contains the pronoun *no?*^{3} 'she' as the subject of 'go'; the presence of this pronoun also prevents ambiguity.

(14) a. *a?weh*^{32} *nii*^{5} *ka?anh*^{2} *ngah*^{32} *a*^{32}
is^willing she will^go Putla DECL
The woman who will go to Putla is willing.

b. *a?weh*^{32} *no?*^{3} *ka?anh*^{2} *no?*^{3} *ngah*^{32} *a*^{32}
is^willing she will^go she Putla DECL
She is willing to go to Putla.

In (15a), a noun phrase containing a relative clause is the subject of the initial verb; (15b) shows a syntactic causative in which the verb *?yah*^{3} 'make, do, cause' and its subject follow an object-complement clause.

(15) a. *kotoh*^{32} *zii*^{5} *ki?yah*^{3} *ya?anh*^{32} *a*^{32}
slept he made god DECL
The man that God made slept.

b. *kotoh*^{32} *zo?*^{3} *ki?yah*^{3} *ya?anh*^{32} *a*^{32}
slept he made god DECL
God caused him to sleep.

Even though the only formal difference between (15a) and (15b) is the presence of an introductory pronoun versus an ordinary pronoun, the two sentences have very different syntactic structures. The main verb in (15a) is 'slept', and the main verb in (15b) is 'made'.

2. Verbs with two continuative aspect forms

Trique verbs are characteristically inflected for three aspects: continuative (CONT), completive (CMPL), and potential (POT), roughly equivalent to present, past, and future tenses. Continuative aspect is usually expressed by the stem alone. A set of about ten to twelve common Trique verbs, however, nearly all referring to position, has a second continuative-aspect form with a lowered tone, sometimes with the addition of final *h*. These are listed in (16).

(16)

	CONT1	CONT2	CMPL	POT
sit	*yaan*^{5}	*yanh*^{1}	*kayaan*^{5}	*kayanh*^{1}
sit	*ne*^{3}	*ne*^{13}	*kane*^{3}	*kane*^{13}
stand	*nikun?*^{3}	*nikun?*^{1}	*kanikun?*^{3}	*kanikun?*^{13}
lie	*nah*^{3}	*nah*^{13}	*kinah*^{3}	*kinah*^{13}
be in	*nuu*^{32}	*nuu*^{2}	*kunuu*^{32}	*ku*^{2}*nuu*^{32}
be in	*shion*^{4}	*shion*^{1}	*kishion*^{4}	*kishion*^{1}
be wedged	*?nih*^{32}	*?nih*^{2}	*ki?nih*^{32}	*ki*^{2}*?nih*^{32}
be on top	*taa*^{5}	*tah*^{1}	*kitaa*^{5}	*kitah*^{1}
hang	*noko?*^{3}	*noko?*^{1}	*kanoko?*^{3}	*kanoko?*^{13}
be stuck	*no*^{4}	*no*^{1}	*kano*^{4}	*kano*^{1}
exist	*man*^{4}	*man*^{1}	*kuman*^{4}	*kuman*^{1}
move	*wah*^{32}	*wah*^{2}	———	———

There is no aspectual difference whatever between the two continuative forms. The difference between them is that each is used in a different syntactic environment. The low-tone form (continuative 2) occurs in clause-

initial position, both in independent clauses and in relative clauses. The basic form (continuative 1) is used in noninitial position; it occurs mainly in independent clauses that have some element in preverbal focus position.[5]

In (17a) and (18a), a noun nucleus is modified by a relative clause, using the continuative-2 form; in (17b) and (18b), an independent clause occurs with one noun in focus position, using the continuative-1 form; and in (17c) and (18c), a verb-initial independent clause occurs with the continuative-2 form.

(17) a. *yanh³ tah¹ riaan³² me³sa⁴ a³²*
paper is^on face table DECL
the paper that is on the table

b. *yanh³ taa⁵ riaan³² me³sa⁴ a³²*
paper is^on face table DECL
THE PAPER is on the table.

c. *tah¹ yanh³ riaan³² me³sa⁴ a³²*
is^on paper face table DECL
The paper is on the table.

(18) a. *shnii³ ne¹³ ra⁴ we?³ a³²*
boy sits in house DECL
the boy who is living in the house

b. *shnii³ ne³ ra⁴ we?³ a³²*
boy sits in house DECL
THE BOY is living in the house.

c. *ne¹³ shnii³ ra⁴ we?³ a³²*
sits boy in house DECL
The boy is living in the house.

Relative clauses like (17a) and (18a) are quite common in Copala Trique because prepositional phrases cannot modify a noun; **yanh³ riaan³² me³sa⁴ a³²* 'the paper on the table' and **shnii³ ra⁴ we?³ a³²* 'the boy in the house' are not acceptable noun phrases.

[5]Speakers are not always consistent in their use of the continuative-2 form. For some, it seems to be obligatory in relative clauses, but optional at the beginning of independent clauses, which may indicate that, for them, it is becoming a relative-clause marker. Also, there are differences among speakers about which verbs have continuative-2 forms.

In (17a) and (18a), the head noun serves as the subject of the verb in the relative clause, but it is also possible for a head noun to have some other role in a relative clause. In (19a), the head noun is a location. The relative clause contains the continuative-2 form of the verb, followed by the subject and a stranded preposition. If a location is in focus position in an independent clause, the preposition may be stranded, as in (19b), or fronted along with its object, as in (19c). If it is stranded, the only difference between the relative clause and the independent clause with focus is the presence of the continuative-2 verb versus the continuative-1 verb. Sentence (19d), like (17c) and (18c), shows a verb-initial independent clause containing a continuative-2 form.

(19) a. *yoo*^{4} *nuu*^{2} *ro*^{3}*ko?oo*^{13} *ra*^{4} *a*^{32}
palm^basket is^in gourd^bowl in DECL
the palm basket that the gourd bowl is in

b. *yoo*^{4} *nuu*^{32} *ro*^{3}*ko?oo*^{13} *ra*^{4} *a*^{32}
palm^basket is^in gourd^bowl in DECL
The gourd bowl is in THE PALM BASKET.

c. *ra*^{4} *yoo*^{4} *nuu*^{32} *ro*^{3}*ko?oo*^{13} *a*^{32}
in palm^basket is^in gourd^bowl DECL
The gourd bowl is IN THE PALM BASKET.

d. *nuu*^{2} *ro*^{3}*ko?oo*^{13} *ra*^{4} *yoo*^{4} *a*^{32}
is^in gourd^bowl in palm^basket DECL
The gourd bowl is in the palm basket.

Even though continuative-2 verbforms are very common, they are somewhat less frequent as a syntactic marker of relative clauses than introductory pronouns. Of the ninety-five relative clauses in the corpus studied, fifty-four had introductory pronouns, and twenty-three of these also had continuative-2 forms. An additional ten had just the continuative-2 form without an introductory pronoun.

3. Parsing strategies for unmarked relative clauses

In the text sample examined for this study, thirty-one of the ninety-five relative clauses had noun heads, rather than pronoun heads, and verbs other than continuative-2 forms. The question that I address in this section is: how does the hearer decide that these sequences are relative clauses,

rather than some other construction in which a verb can follow a noun? Because language must be processed quickly, the way in which the hearer arrives at a decision must be largely unconscious and based on plausible guesses, rather than precise reasoning. Many factors seem to be involved. Some, like the immediate discourse context and the mutual belief system, are not specifically linguistic. Other factors, such as common syntactic patterns and collocational facts about individual lexical items, are not only linguistic, but highly language specific.

Before attempting to assess the role of these factors, it is necessary to consider the following statistics. In the text sample I examined, which contained 728 sentences, I found 178 sequences that contained neither an introductory pronoun nor a continuative-2 verbform, but which could potentially be parsed, at least locally, as relative clauses. Of this number, however, I judged that 147 were not relative clauses; the 31 that were comprised less than 20% of the total. On the basis of frequency, therefore, a strategy that leads the hearer to consider other structures first will be more efficient than one that leads him to begin with a relative-clause analysis.

The role of the discourse context and the mutual belief system in the parsing process is that they help the hearer know who the participants are, what has happened so far, and what is likely to happen next. If the information contained in a potential relative clause moves the narrative forward, it is likely not to be a relative clause. If it contributes to the identification of a participant, it is likely to be a relative clause.

The role of syntactic patterns and collocational factors is that the presence of specific lexical items, especially verbs, creates expectations in the hearer. For each verb, one or more case frames is stored in the hearer's mental lexicon, and, as he processes incoming material, he looks for some element that can plausibly express each position in the pattern.[6] If all the positions are filled, he will parse the structure as an independent clause; but if there is a gap in some position, he will parse it as a relative clause.

The patterns that the hearer has stored in his brain include structures larger than single clauses, such as paratactic sentences containing two juxtaposed independent clauses and single clauses containing embedded object-complement clauses. For many of these structures, the presence of particular lexical items serves as an important parsing cue.

[6]For a view of parsing based on this position, but formulated in the framework of government-and-binding theory, see Pritchett (1988). For a view of parsing based on the notions of late closure and minimal attachment, see Frazier (1979). I have not treated Frazier's model in this study because a pilot study showed that these two principles often made incorrect predictions for Copala Trique. Other material on parsing strategies is found in Frazier and Fodor (1978) and Frazier and Rayner (1982).

In order to see these factors in operation it will be helpful to work through some examples. Example (20) is a paratactic sentence which contains a local ambiguity.

(20) *chee*^{5} *chii*^{3} *achraa*^{5} *zoʔ*^{3} *a*^{32}
walks man sings he DECL
The man walks along singing.

When the hearer encounters the first two words of (20), which are an intransitive verb and its subject, he has met the requirements for an independent clause. When, however, he comes to the third word, the intransitive verb 'sing', it could be either the first word of another independent clause, or the first word of a relative clause modifying 'man'. When he reaches the fourth word, he finds the pronoun 'he', which satisfies the needed subject role for 'sing'. If 'sing' were the verb of a relative clause, no subject would be expressed because the head noun 'man' would logically fill the role. The hearer therefore finds two complete clauses and parses the structure as a paratactic sentence. Additional support for this analysis is found in his mental pattern for paratactic simultaneous action sentences, which have coreferential subjects and often have a motion verb in the first part.

Example (21) is a purpose sentence, but the syntactic ambiguity remains throughout, and the parsing decision must be based on factors outside the syntax. Purpose sentences consist of a main clause followed by a purpose clause, which requires a verb in potential aspect.

(21) *kiranh*^{5} *chii*^{3} *ʔnuu*^{5} *natuʔwee*^{2} *zoʔ*^{3} *a*^{32}
bought man corn will^resell he DECL
The man bought corn in order to resell (it), *or*
The man bought the corn which he will resell.

The hearer can easily parse the first three words of (21) as a transitive clause, but realizes when he reaches the verb 'resell' that he is dealing with a more complex structure. Because this verb is in potential aspect, it can be the verb of a purpose clause. When he reaches the fifth word, which is an ordinary pronoun that can serve as the subject of 'resell', the purpose-sentence reading is confirmed. Because inanimate direct objects are often unexpressed, the lack of an element following the subject does not constitute a gap that forces a relative-clause reading. Either reading is possible, but the purpose sentence takes precedence because of discourse-pragmatic factors: it is far more plausible that the speaker would express the purpose for buying corn than that he would identify which corn was bought.

Example (22), on the other hand, contains a relative clause.

(22) *tanuu*^{3} *tume*^{4} *shuman?*^{3} *kawi?*^{3} *kii*^{3} *a*^{32}
soldier guarded town died yesterday DECL
THE SOLDIER WHO GUARDED THE TOWN died yesterday.

When the hearer encounters the noun 'soldier' at the beginning of (22), he expects it to be a focused element in an independent clause and proceeds to the verb 'guarded'. Because 'soldier' is a plausible subject for this verb, the original hypothesis holds. He moves on to the word 'town', which provides an object for the verb. It is only when he comes to the verb 'died' that he realizes the construction is more than a simple clause. In that neither 'guard' nor 'die' is a verb that takes a sentential complement, he considers the possibility of a paratactic sentence. When he arrives at the time adverb 'yesterday' and sees that there is no subject following 'died', however, the possibility of a paratactic sentence is also ruled out, leaving relative-clause readings as the only remaining possibility. Four such readings are syntactically possible, but three of them are ruled out on other grounds: 'THE SOLDIER guarded the town that died yesterday', 'The town that died yesterday guarded THE SOLDIER', and 'THE SOLDIER THAT THE TOWN GUARDED died yesterday'. Because only animate beings can serve as the subject of 'die' and 'guard', these readings are not considered.

Examples (23) and (24) show the syntactic-causative construction, which contains an object-complement clause in focus position. Virtually any clause in the language can be followed by a form of the verb *?yah*^{3} 'make, do, cause', followed by an agentive subject.[7] Whenever the hearer encounters *?yah*^{3} after a complete clause, he attempts to parse the sentence as a causative, even if there is a noun immediately preceding *?yah*^{3}, which makes a relative-clause reading possible. In these sentences, even though both readings are grammatically correct and lexically reasonable, the causative reading is chosen because this construction is so common. It would be rejected only if there were a mismatch with the discourse context.

(23) *cha*^{4} *chii*^{3} *rtaa*^{31} *?yah*^{3} *sha*^{3}*na*^{1} *a*^{32}
eats man tamale makes woman DECL
The woman makes the man eat the tamale, *or*
The man eats the tamale that the woman makes.

[7]There are also certain compatibility requirements on aspect sequences.

(24) *katuh*^{5} *shuwee*^{3} *we?*^{3} *ki?yah*^{3} *chii*^{3} *a*^{32}
entered dog house made man DECL
The man caused the dog to enter the house, *or*
The dog entered the house that the man built.

Other verbs like *a?weh*^{32} 'be willing' and *uun*^{3} *nukwah*^{13} 'be able' regularly take object-complement clauses in normal order. Some of these verbs require potential aspect in the object complement, and others require aspect agreement. If such a verb has a noun as its subject, the hearer attempts to parse a verb in the appropriate aspect following that noun as part of an object complement, rather than as part of a relative clause modifying the subject noun (or as part of the second clause in a paratactic sentence). The presence of the pronoun subject for the second verb confirms the hypothesis that no relative clause is involved.

(25) *a?weh*^{32} *shreh*^{3} *ki?yah*^{13} *zo?*^{3} *mi*^{3}*sa*^{4} *a*^{32}
is^willing priest will^make he mass DECL
The priest is willing to say mass.

(26) *guun*^{3} *nukwah*^{13} *sha*^{3}*na*^{1} *na*^{3}*shkah*^{2} *no?*^{3} *kah*^{32} *a*^{32}
became strong woman raised she log DECL
The woman was able to lift the log.

Sometimes the significant information the hearer uses involves prohibitions, as well as positive expectations. It is a syntactic fact about Copala Trique that the equative verb *me*^{3} 'be' does not occur in relative clauses.

(27) *shnii*^{3} *chee*^{5} *chreh*^{32} *me*^{3} *tinuu*^{5} *gwaa*^{4} *a*^{32}
boy walks trail is brother John DECL
John's brother is the boy who walks on the trail.

When the hearer encounters the first three words of (27), he attempts to parse them as an independent clause with the subject noun in focus position. When he comes to the verb 'be', however, he knows the structure is more complex than a single clause. Because 'walk' does not take an object complement, one possible reading is ruled out. Because 'be' rarely occurs as the verb in the second part of a paratactic sentence, a second reading is ruled out. And because the verb 'be' never occurs in relative clauses, it must be the main verb, leaving the verb 'walk' as the verb of a relative clause.

In the text corpus there were a few fixed phrases in the form of relative clauses, as in (28) and (29). Such strings seem to be parsed by matching

them with strings stored in the mental lexicon, and this matching apparently takes priority over decision-making processes based on syntax or discourse considerations.

(28) *chruun*^{3} *akaa*^{32}
wood burns
firewood

(29) *aga?*^{3} *a?ne?*^{3} *chruun*^{3}
metal cuts wood
axe

I first became aware of the parsing strategy I propose here when my husband and I tried to construct a descriptive phrase to translate the term synagogue. We used 'house where the Israelites meet together', but found that it was consistently parsed as part of a paratactic sentence. This phrase often occurred in sentences similar to (30). Because the verb 'go' is relatively common in the first part of paratactic sequence sentences, the hearer expected this construction and did not consider the relative-clause reading even though it is syntactically correct.

(30) *ka?anh*^{32} *zo?*^{3} *we?*^{3} *nuu*^{3} *chre?*^{2} *yuwii*^{31} *israelita*^{4} *a*^{32}
went he house become compact person Israelite DECL
He went to the house where the Israelites meet together, *or*
He went to the house; the Israelites meet together.

4. Conclusions

The decision-making process for parsing relative clauses is clearly based on a variety of factors. Even though it is difficult to assess the way in which they interact, I propose the following steps as an approximation to a model of this process.

a. Does an introductory pronoun occur followed by a verb? If so, parse the sequence as a relative clause.

b. If not, does a continuative-2 verbform occur following a noun? If so, parse the sequence as a relative clause.

c. If neither of these conditions is met, but a verb occurs following a noun, is the sequence a fixed phrase (idiom)? If so, parse it as a relative clause.

d. If the noun-verb sequence is not an idiom, try to match the words with the syntactic patterns for clauses with a focused element, clauses with an

embedded object complement, and paratactic sentences. If there is a match, parse the sequence as an instance of that pattern.

e. If the noun-verb sequence does not match any of these patterns, parse it as a relative clause.

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