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More Advanced Syntax
Squib 1

Free Relatives in Lingít and Haida: Evidence that the Mover Projects

1. Introduction

In this paper, I will examine the form of free relatives in the Northwestern languages Lingít and Haida. I will argue that properties of free relatives in these languages pose difficult challenges to both the classic ‘Head’ and ‘Comp’ analyses of free relatives. In brief, free relatives in these languages possess internal properties that strongly distinguish them from the language’s usual methods of clausal modification. I will argue that these properties render it implausible that free relatives in these language either are or contain nominal adjuncts.

On the other hand, the properties that sharply distinguish free relatives in Haida and Lingít from the languages’ normal relative clauses render them quite similar to the language’s subordinate interrogative CPs. Indeed, free relatives in these languages have *exactly* the internal structure of the languages’ subordinate questions, *modulo* certain complicating details. These facts are predicted by recent analyses of free relatives which argue them to be structures in which a *wh*-operator moved to the left periphery of the CP projects the category of the resulting constituent. I end with some thoughts on how such ‘Move-and-Project’ analyses of free relatives may be consistent with well-know facts from German extraposition that seem to require the Comp analysis.

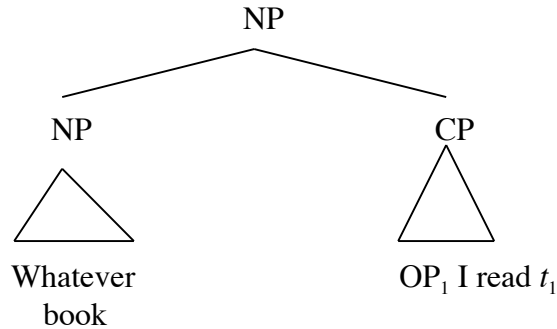
2. Two Analyses of Free Relatives

In this section, I will present two ‘archetypical’ analyses of free relatives, the Head analysis and the Comp analysis. As befits analytical archetypes, they will be presented here only in rather vague, non-specific terms. The reason is not simply one of space, but also one of logical power. It will be argued that the facts from Haida and Lingít challenge the archetypes themselves, that is, the very structural intuitions underlying the various particular instances of these analytic types. As such, the facts challenge each of the analyses collected under these types. Moreover, by dealing in general archetypes, one makes clear that the data presented challenge the *spirit* of the various particular proposals, since it would not be surprising to learn that some turn of ingenuity might ‘save the phenomena’ for any of the more concrete proposals that have been made.

The first analytical archetype is the so-called ‘Head analysis’. The *locus classicus* for this general view is Bresnan and Grimshaw (1978). The Head analysis assigns to the free relative boldfaced in (1) a structure essentially like that in (2).

(1) Dave read **whatever book I read**.

(2)

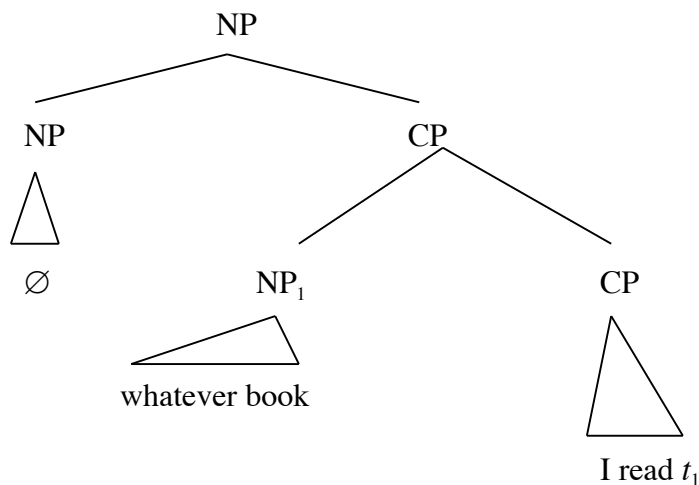


Under the Head analysis, the seemingly left-peripheral wh-phrase of an English free relative does not actually originate within the following subordinate clause. Rather, it is a NP which is then *modified* by one of the language's independently existing structures of clausal modification. More generally, for the purposes of this discussion, a 'Head analysis' of free relatives is any analysis in which the syntactic relationship between the wh-head word determining the syntactic category of the free relative and the subordinate clause with which it forms a constituent is *the same as* the syntactic relationship between the head of an externally headed relative clause and the subordinate clause with which it forms a constituent. That is, under a Head analysis, the boldfaced constituent in (1) and the boldfaced constituent in (3) are structurally identical.

(3) Dave read **the book I read**.

The second analytical archetype to be introduced is that of the 'Comp analysis'. The first paper to convincingly defend an explicit version of the Comp analysis is Groos and van Riemsdijk (1981). The Comp analysis assigns to the free relative in (1) the structure in (4).

(4)



Under the Comp analysis, the seemingly left-peripheral wh-phrase is truly left-peripheral; it occupies the left periphery of the subordinate clause with which it forms a constituent. Moreover, the Comp analysis holds that the left-peripheral wh-phrase originates in the

following subordinate CP, moving up to the left periphery of that CP to create a clausal modifier. This clausal modifier is finally adjoined to a phonologically empty syntactic node, one that must match the syntactic category of the moved wh-word. Under a Comp analysis, then, it is the boldfaced constituent in (5) which the free relative in (1) is structurally identical to.

(5) Dave read the book **which I recommended**.

In the interests of precision, let us adopt the following more general characterization of a 'Comp analysis'. A 'Comp analysis' of free relatives is any analysis in which all the overt phonological material in the free relative constitutes a clausal modifier, one which happens to be adjoined to a phonologically empty syntactic node. Furthermore, I will assume that, in the interests of making the Comp analysis maximally contentful, any proponent of the Comp analysis will make the additional assumption that the clausal modifier which the free relative comprises is one instance of a structure that can act more generally in the language as a clausal modifier. That is, any Comp analysis worth its salt must predict that the form of a language's free relative always matches, more-or-less, with some pattern of clausal modification independently visible in the language.

Although our characterizations of these analytic archetypes leave open a number of details and specifics, we shall see that enough content has been given to both the Head and the Comp analyses to render them empirically falsifiable. That these analyses have existed as viable accounts for so long is due, I believe, to a syntactic accident of the Indo-European language family. In many languages, especially those most familiar to syntacticians, considerations of gross morpho-syntactic form do nothing to challenge either the Head or the Comp analysis. In these languages, the morphological and syntactic properties of free relatives are consistent with either of the two analyses. There are, however, languages in which standard relative clauses have a number of special morpho-syntactic properties that distinguish them from other instances of clausal subordination. We shall see in the following sections that, for two such languages, free relatives differ from other relative clauses in ways that deeply challenge both the hypotheses introduced above.

3. Questions, Relative Clauses and Free Relatives in Lingít

In this section, I shall introduce some basic facts regarding the structure of questions, relative clauses and free relatives in the Na-Dene language Lingít, spoken in southern Alaska and northern British Columbia. It will be shown that free relatives in Lingít possess morphological and syntactic properties which are incompatible with either the Head analysis or the Comp analysis.

3.1 Wh-Questions

A wh-question in Lingít requires overt movement of the interrogative phrase to the left periphery of the clause. The interrogative phrase is then immediately followed by the enclitic particle *sá*. The following sentences illustrate.

- (6) Daa sá i-ya-téen?
 what SA you-+i-see
What do you see? (Dauenhauer & Dauenhauer 2000; p. 77)
- (7) Wáa sá i-tu-wa-tee?
 how SA you-inside-+i-be
How are you feeling? (Dauenhauer & Dauenhauer 2000; p. 83)
- (8) Daakw aa naa-x sá i-si-tee?
 which moiety-in SA you-+i-be
Which moiety are you (from)? (Dauenhauer & Dauenhauer 2000; p. 86)
- (9) Goo-x' sá yéi ya-tee?
 where-at SA so +i-be
Where does he live? (Dauenhauer & Dauenhauer 2000; p. 92)
- (10) Daat eetéenáx sá i-ya-tee?
 what in.place.of SA you-+i-be
What do you need? (Dauenhauer & Dauenhauer 2000; p. 92)

Sentences (8), (9) and (10) demonstrate that pied-piping of complex NPs and PPs is possible in Lingít. In these cases, the clitic *sá* follows the entire interrogative constituent moved into the left periphery. The reader should take note of the morphemes realizing the feature “+i” in the verbs above; this feature will be discussed in more detail later, and will form a key part of our argumentation. For the moment, the reader should be aware that the term ‘+i’ has no theoretical significance; it is a descriptive name for a class of prefixes whose distribution is rather complex and depends upon morphosyntactic properties of the clause.

As Lingít is a robustly head-final language, the sentences above do not themselves demonstrate the existence of movement in the language’s wh-questions. However, the inclusion of an overt subject in an object or oblique question readily demonstrates that interrogative phrases in the language must be left peripheral. The sentences below illustrate.

- (11) a. Wáa sá tu-wa-tee i éesh?
 how SA inside-+i-be your father
How does your father feel?
- b. Ax éesh ya-k'úi.
 my father +i-good
My father is good. (Dauenhauer & Dauenhauer 2000; p.138)

- (12) a. Daa sáwé i éesh a-l'óon?
 what SA.part your father 3rdO-hunt
What is your father hunting?
- b. Ax éesh guwakaan a-l'óon.
 my father deer 3rdO-hunt
My father is hunting deer. (Dauenhauer & Dauenhauer 2000; p. 186)

3.2 Relative Clauses

Relative clauses in Lingít are generally prenominal. As is the case in the overwhelming majority of languages employing prenominal relative clauses, there exists no overt relative pronoun in the Lingít relative clause. That is, clausal modification of nominals in Lingít involves the appearance of a subordinate clause immediately preceding the modified NP and containing a gap without a corresponding relative pronoun. The following sentences illustrate.

- (13) yáa [l .át-x wu-si-tee-yi] kaa
 this not thing-at perf-+i-be-sub man
The man who didn't amount to much. (Naish 1966; p. 105)
- (14) ldakát yáa [has doo.ee-dax ya-w-doo-tláag-i] tl'átk.
 all this plur 3rd-from face-perf-4th-win-sub land
All the land that they had won from them. (Naish 1966; p. 105)
- (15) yóo [.á-t wu-li-s'ées-i] yaakw tlein
 that there-to perf-+i-sail-sub boat big
That big boat that sailed.
(That big sailboat.) (Naish 1966; p. 106)
- (16) wéi [doo shát .á-x kéet doo een héen-t ya-w-si-goo-wu] yé
 that his wife there-at killer.whale her with water-to face-perf-+i-swim-sub place
The place where the killer whale swam down with his wife.
 (Naish 1966; p. 106)
- (17) [doo éesh-ch doo jee-dei ya-wu-s-káa-yi] dáanaa
 his father-erg his hand-to face-perf-promise-sub money
The money his father promised him. (Naish 1966; p. 107)
- (18) [yindasháan .á-t woo-.aat-i] ku.oo
 upside-down there-to perf.+i-go-sub people
The people who went around upside down. (Naish 1966; p. 107)
- (19) [tlax kunax ya-xw-si-gei-yi] .át
 very very face-1st.perf-+i-value-sub thing
The thing I valued very highly. (Naish 1966; p. 107)

The reader should take note of the subordinative suffix *i / yi / u / wu* appearing in all the verbs above. This suffix is a general characteristic of verbs heading embedded clauses. Moreover, note the appearance of the +i prefixes on the verbs in (13), (15), (16), (18) and (19). Although the exact distribution of the +i prefixes is an incredibly complex matter¹, the ability for certain verbs to carry one of these +i prefixes is a property shared by both main clauses and relative clauses.

As the above sentences illustrate, the ‘default’ position for a Lingít relative clause is prenominal. However, there is a process of relative clause extraposition in Lingít which can postpose the relative clause to the right of the modified noun.

- (20) yóo taan doogoo [s a-ka-w-si-hán-t-i]
 that sealion skin plur 3rdO-outside-perf-+i-cut-habit-sub
That sealion skin that they cut into strips. (Naish 1966; p. 106)

Examples such as this, however, are pragmatically marked; they bear special ‘discourse properties’ that render them quite rarely attested in texts.

3.3 Free Relatives

Although they are only very rarely encountered in texts, the form of Lingít free relatives is clearly described on p. 50 of Naish (1966). A free relative in Lingít contains an interrogative pronoun, which occupies the left peripheral position of the constituent.

- (21) [Adoo sá a-wu-kéi-yi] woo-góot.
 Who SA 3rdO-perf-pay-sub perf.+i-come/go
Whoever paid came. (Naish 1966; p. 50)²

Although free relatives are not often encountered in corpora, a leisurely search through available texts produced the following two instances.

- (22) [Goot’á sá a-nax̄ k̄u-ya-wóol-i] yei-náx̄ neil-x̄ kadagáan.
 where SA it-across areal-face-be.holes-sub thus-from house-into sun.shine
Wherever there were holes, the sun shone through into the house.
 (Dauenhauer & Dauenhauer 1987; p. 206; line 265)

- (23) [Ch’a goo sá oil áa du-hóon], oil station, awe a-nax̄ na-kúx̄-ch ya yaakw.
 just where SA oil part. 4th-buy, oil station, part it-across prog-go-gen. this boat
Wherever they would buy oil, an oil station, there the boats would sail.
 (Story 1995; p. 328; line 135)

¹ For some insight into the distribution of the +i prefixes, see Leer (1991; p. 94) and Story & Naish (1973; p. 369).

² Actually, what appears on p. 50 of Naish (1966) is the phrase “*Adoo sá awukéiyi ...*”. The gloss Naish provides, as well as the ellipses and her surrounding discussion indicate that this is an indefinite NP that can combine with an appropriately formed verb. I have supplied that verb in (21) above.

Note that, in the bracketed free relatives above, none of the verbs bear prefixes carrying the ‘+i’ feature. Naish (1966) reports that this is a general characteristic of Lingít free relatives. Specifically, free relatives in Lingít are reported to contain verbs in the so-called ‘subordinative paradigm’. The subordinative paradigm is a morphological form the verb adopts in some (though not all) embedded clauses. Its primary characteristic is the inability for the verb to take a ‘+i’ prefix, even in those contexts where one would otherwise be obligatory. For example, the verb contained within the free relative in (21) appears without an accompanying ‘+i’ prefix, even though its perfective aspect would otherwise require one. This is quite unlike verbs contained within Lingít relative clauses, where we have seen that ‘+i’ prefixes are possible.

3.4 The Head Analysis and The Comp Analysis in Lingít

The morphological and syntactic properties of Lingít free relatives just enumerated cast serious doubt upon both the Head analysis and the Comp analysis of those structures.

Let us first consider the Head analysis. This analysis claims that the syntactic relationship between the *wh*-head word determining the syntactic category of the free relative and the subordinate clause with which it forms a constituent is *the same as* the syntactic relationship between the head of an externally headed relative clause and the subordinate clause that it forms a constituent with. That is, for the Head analysis, the interrogative pronoun in the free relative is *modified* by its subordinate clausal material, presumably by mechanisms of clausal modification independently available in the language.

The syntactic and morphological differences between relative clauses and free relatives in Lingít demonstrate that the Head analysis cannot be correct. As we saw in section 3.2, relative clauses in Lingít are almost exclusively prenominal. It is only in very special, pragmatically ‘marked’ contexts that a relative clause in Lingít can follow the head it modifies. However, the description of Lingít relative clauses in Naish (1966), as well as the available evidence³, argues that the subordinate clausal material in a Lingít free relative obligatorily *follows* the relative pronoun. That is, if the Head analysis were correct, one would expect sentences such as (21) to appear as in (24), contrary to fact.

(24) [a-wu-kéi-yi] adoo sá woo-góot.

Another difficulty with the Head analysis arises from morphological differences between verbs inside relative clauses and those inside free relatives. As we saw in section 3.2, a verb inside a Lingít relative clause can carry a +i prefix. Again, however, according to the description in Naish (1966) and available data, this is not the case for verbs inside Lingít free relatives. Such verbs must appear in the ‘subordinative paradigm’, and so cannot carry ‘+i’ prefixes, even in cases where they would be otherwise required. That

³ Lingít is still natively spoken by about 800 individuals. Although there is a wealth of information about other aspects of its syntactic structure, the language’s free relatives are rather under-described. The only discussion is that referred to above in Naish (1966). It is my intention to travel to Alaska in the coming months, to collect newer, richer data on these structures.

is, if the Head analysis were correct, one would expect sentences such as (21) to appear as in (25), contrary to fact.

(25) [Adoo sá aawa-kéi-yi] woo-góot.
 who SA 3rdO.perf.+i-pay-sub perf.+i-go/come
Whoever paid came.

In brief, the Head analysis makes at least two predictions regarding the form of free relatives in Lingít, neither of which is correct.

Let us now turn our attention to the Comp analysis. The Comp analysis holds that all the overt phonological material in the free relative constitutes a clausal modifier, one which happens to be adjoined to a phonologically empty syntactic node. Moreover, we assume here that any serious Comp analysis must predict that the form of a language's free relative matches, more-or-less, with the pattern of clausal modification independently visible in the language.

The syntactic and morphological differences between free relatives and relative clauses in Lingít strongly challenge the Comp hypothesis. As we have seen, nominal modification in Lingít does *not* make use of overt interrogative pronouns. Furthermore, nominal modification in Lingít does not require the verb to appear in the 'subordinative paradigm'. Thus, if the Comp analysis were correct, Lingít free relatives like that in (21) should look like the structure in (26).

(26) [[aawa-kéi-yi] ∅] woo-góot.
 3rdO.perf.+i-pay-sub N

Just as with the Head analysis, the Comp analysis makes two predictions regarding the form of free relatives in Lingít, both of which fail.

In general, the form of a Lingít free relative is quite unlike the form of regular relative clauses in the language. However, we may nevertheless ask whether there is any structure in Lingít which is interestingly similar to its free relatives. As a matter of fact, there is: the language's questions. As we saw in section 3.1, it is questions in Lingít which make use of obligatorily left-peripheral interrogative phrases. Indeed, free relatives in Lingít look very much like the language's set of subordinate interrogative clauses.

(27) Ch'a yeeháan-ch gax-yi-sa-kóo [wáa sá .á-t guga-tee-yí].
 just you.pl-ERG fut-2ndpl-know how SA there-to fut-be-SUB
You'll all find out what will happen. (Dauenhauer & Dauenhauer 1987; p.214, ln 420)

We shall return to these facts after we consider a very similar state of affairs in Haida, a language neighboring Lingít to its south.

4. Questions, Relative Clauses and Free Relatives in Haida

In this section, I shall introduce some basic facts regarding the structure of questions, relative clauses and free relatives in the language isolate Haida, once spoken in Southern

Alaska, and now spoken almost exclusively on the Queen Charlotte islands in British Columbia. It will be shown that, as in Lingít, free relatives in Haida possess syntactic properties which are incompatible with either the Head analysis or the Comp analysis.

4.1 Questions

The formation of *wh*-questions in Haida is rather different from what was seen for Lingít. In Haida, it is possible for an interrogative phrase to be fronted into the left periphery, where it occupies the ‘focus position’ of the clause.

(28) Giisd-.uu dang gyaa taanaa nee tla.àwhla-ang?
 who-FOC you POSS smokehouse build-pres
Who is building your smokehouse? (Enrico 2003a; p. 134)

(29) Guus-.uu raan-sùusda Bill gu’laa jahlii-gang?
 What-FOC fruit-from.among Bill like best-pres
What fruit does Bill like best? (Enrico 2003a; p. 135)⁴

However, it is also possible in Haida for the interrogative phrase to remain *in-situ*. In such cases, the sentence must be marked as interrogative by use of the particles *gu* / *gwa*.

(30) Huu-gu Bill guus taa-gaa?
 here-Q Bill what eat-EVID?
What did Bill eat (here)? (Enrico 2003a; p. 134).

Embedded questions in Haida have a curious idiosyncrasy: they use a different set of interrogative pronouns from those in matrix questions. That is, syntactically identical interrogative pronouns have different phonological forms in embedded and matrix questions. Compare the words for ‘who’ and ‘what’ in (28) and (29) to those in the sentences below.

(31) [Gina hll 7isging-aay]-gi-hla ts’i k’alt’acung.
 what I hold-inf PP-IMP guess
Guess what I have! (Enrico 2003a; p. 485)

(32) [Nang qats’i-yaay]-gi dii-7ad ‘la kyaanang-gan.
 Who come.in-inf PP me-PP 3rd ask-past
He asked me who came in. (Enrico 2003a; p. 485)

⁴ The sections in Enrico (2003a,b) discussing questions, relative clauses and free relatives in Haida are very well-organized, well-written, and employ a remarkable number of illustrative forms. Furthermore, Enrico (2003a,b) is widely available; a copy of the volumes can even be found in the MIT library, and I was able to purchase my own new copies over Amazon. For these reasons, I will not employ as many illustrative examples of the Haida patterns as I have for the Lingít.

An additional special property of Haida embedded questions is that they all must be non-finite. The reader should note the appearance of the infinitival suffix on the verbs in the embedded questions above.

4.2 Relative Clauses

Haida currently employs two relativization strategies; both head-internal relatives and head-external relatives are possible in the language. However, in terms of both textual frequency and naturalness to speakers, head-internal relatives are vastly preferred. A head-internal relative in Haida has the form of a Haida matrix clause, except that a special form of the present-tense suffix must be used.

- (33) [‘lann-gee kun-gu qiid sdang gud-ga xat’as-s]-ràad7àa laa ‘la da tl’asgad-aa-n.
 town-def point-at tree two recip-PP touch-pres-between 3rd 3rd push-evid-past
He pushed it between the two spruce trees touching one another at the edge of town.
 (Enrico 2003a; p. 564)

The suffix *-s* appearing on the embedded verb *xat’as* in (33) is the realization of present tense in embedded clauses in Haida. In matrix clauses, the present tense is usually realized as the suffix *-(g)ang*, as the sentences in (28) and (29) demonstrate.⁵

In general, any NP inside a Haida head-internal relative clause may be construed as the clause’s head.⁶

- (34) [Tl’a 7iihlaants’adaa-s n-ee-sda 7istl’a.a-gan]-raa.uu hl 7iij-.ang qasa.a-ang.
 indef be.male-pres. house-def-from come-past PP-foc I go-going.to-pres
I’m going to go to the men who came from the house.
I’m going to go to the house where the man came from.
 (Enrico 2003a; p. 565)

A rich discussion of Haida’s head-internal relatives can be found in Enrico 2003, one that highlights typologically interesting differences between the Haida structures and those found in many Asian languages.

Although head-internal relatives are the ‘norm’ for Haida speakers, head-external relative clauses are possible as well. Interestingly, these clauses *both* are prenominal and contain overt relative pronouns, violating the otherwise overwhelming typological generalization that prenominal relatives do not contain relative pronouns.

- (35) [Ga-ra ‘ll taana-dyaa-s] n-aay 7un.gu ‘la ‘la rahllnaa-gaa-s.
 where-in 3p smoke.fish-prog-pres house-def on.top 3rd 3rd put.up.on-evid-present
He put him up on the house in which he was smoking fish.
 (Enrico 2003a; p. 566)

⁵ As always, there are special cases under which *-s* appears as the form of the present morpheme in matrix clauses. This is witnessed in, for example, sentence (35).

⁶ This is, of course, *modulo* certain island conditions that appear to be weaker than those in English.

- (36) [Til-guud 'il tlaalra qaajuu-gaang-aa-s] k'iw-aay 'la 'la qin-daa-yaa-gan.
 Where-on 3rd husband hunt-freq-evid-pres trail-def 3rd 3rd see-caus-evid-past
She showed him the trail on which her husband used to hunt.
 (Enrico 2003a; p. 565)

The relative pronouns in Haida head-external relatives are all from the set of the language's subordinate interrogative pronouns, such as in (31) and (32). Furthermore, sentences (35) and (36) illustrate that the subordinate form of the present tense suffix is used in head-external relatives, as expected.

Perhaps related to the marginal status of head-external relatives in Haida is a curious constraint on the grammatical function of their relative pronouns. The relative pronoun in a Haida head-external relative must be complement to either a directional or a locational postposition. Non-oblique interrogative pronouns cannot function as relative pronouns in head-external relatives. The following sentence illustrates.

- (37) * [Gina hll gi7indaa-saa-s] qan taygyaa daa tl'aa gi7inda-ga.
 what I wear-fut-pres kerchief you but wear-pres.
You are wearing the kerchief that I was going to wear.
 (Enrico 2003a; p. 567)

4.3 Free Relatives

Enrico (2003a,b) has a comparatively rich discussion of free relatives in Haida, supported by a great number of illustrative forms. It reports that free relatives in Haida have a structure rather similar to the language's subordinate questions.

In a Haida free relative, there must appear at least one of the language's subordinate interrogative pronouns. In nearly all the examples Enrico (2003a,b) provides, the interrogative pronoun contained within the free relative occurs to the left of its accompanying subordinate clause.⁷

- (38) [Gin-rii tl'a 7isdaa-.asii-s] tl'a ts'asdlasaa-yaa-n.
 what-in indef put-fut-present indef put.out-evid-past
They put out what they were going to put in. (Enrico 2003a; p. 568)

- (39) [Tilt'axan xan da na7waa-s] – gu hlaa-7asing na7waa-s-ga.
 where ever you dwell-pres - at I-too dwell-fut-pres
I will live wherever you live. (Enrico 2003a; p. 598)

⁷ There are only two examples where potentially the interrogative pronoun of the Haida free relative is *not* to the left of its accompanying subordinate clause. In both these cases, it seems the pronoun might be contained *in situ* within the subordinate clause. However, there are other examples superficially similar to these for which Enrico provides a bracketing that places the pronoun in the left periphery. Thus, I find it likely that future research will reveal Haida free relatives to require leftward movement of the interrogative pronoun.

- (40) Haw.isan [gyaa-gu tl'aa ga t'asdlaa-yaa-n] – gee-ran tl'a 7istl'a.a-gaa-n.
 again where-at indef indef leave-evid-past def-PP indef arrive-evid-past
They came back again to the same place where they had left some [bodies] behind.
 (Enrico 2003a; p. 604)

As the examples above illustrate, the embedded clause of a Haida free relative may be finite. As expected, the suffix *-s* surfaces when the verb of the free relative is in the present tense. The reader will note that sentence (40) illustrates the ability for free relatives in Haida to bear definiteness marking, a property unavailable to the language's subordinate clauses though frequent with its nouns.

Unlike the language's head-external relatives, there is no requirement on the relative pronouns of Haida's free relatives that they be oblique. Compare sentence (37) to sentences (41) and (42).

- (41) [Ginn t'alang taa-.ang qasa.aa-s] 'la suuda-gan.
 what we eat going.to-pres 3rd mention-past
She mentioned what we are going to eat. (Enrico 2003a; p. 481)

- (42) [Nang-.an qats'aa-s] ga taa hlangaa-gang.
 who-ever come.in-pres indef eat could-pres
Whoever comes in could eat. (Enrico 2003a; p. 624)

4.4 The Head Analysis and the Comp Analysis in Haida

As was shown to be the case in Lingít, the syntactic properties of Haida free relatives strongly challenge both the Head analysis and the Comp analysis of those structures.

Let us first consider the Head analysis. Recall that this analysis claims the interrogative pronoun in the free relative to be *modified* by its subordinate clausal material, presumably by mechanisms of clausal modification independently available in the language. We have seen that Haida possesses two mechanisms for the clausal modification of NPs: internally-headed relative clauses and externally-headed relative clauses. Given the overwhelming tendency for the relative pronoun of a Haida free relative to appear to the left of its accompanying subordinate clause, it is unlikely that such structures are instances of internally-headed relatives. Recall, now, that the preferred mode of clausal modification in Haida is the internally-headed relative. Under the simplest assumptions, then, the Head analysis makes the incorrect prediction that free relatives in Haida should have the form of internally headed relative clauses.

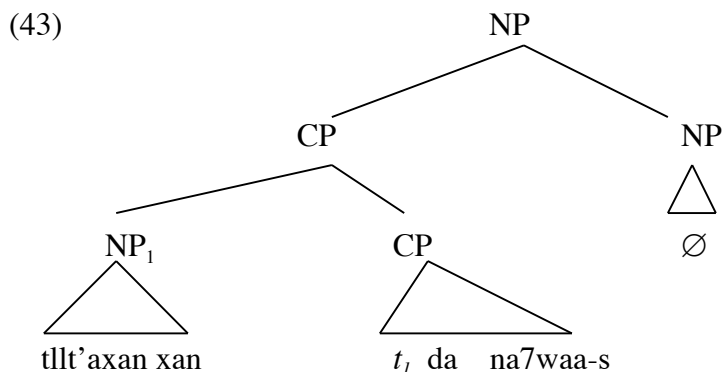
We may, however, weaken the Head analysis so that it needn't predict that the most common or natural structure for normal relatives is also that for free relatives. Nevertheless, the Head hypothesis is still committed to the relative pronoun of a free relative being modified by *some* independently visible method of clausal modification. Since we have ruled out the possibility that Haida free relatives are cases of internally-headed modification of the relative pronoun, let us consider whether they could be cases of *externally*-headed modification. That is, let us consider whether the subordinate clausal material in (42) could be an instance of a Haida externally-headed relative. Given what we know about externally-headed relatives in Haida, the answer must be 'no'.

Besides their obligatorily containing relative pronouns, externally-headed relatives in Haida are *prenominal*. Again, given the overwhelming tendency for the relative pronoun of a Haida free relative to appear to the *left* of its accompanying subordinate clause, an analysis whereby that subordinate clause is an externally-headed relative can be easily ruled out.

We find that the subordinate clause of a Haida free relative is not profitably analyzed as either an internally-headed relative or an externally-headed relative. As those are the only two means for constructing relative clauses in Haida, one can conclude that the Head analysis of Haida free relatives has been falsified.

Let us now consider the viability of the Comp analysis for free relatives in Haida. The Comp analysis holds that all the overt phonological material in the free relative constitutes a clausal modifier of a null syntactic projection. Furthermore, the Comp analysis predicts that the form of a language's free relative matches some pattern of clausal modification independently visible in the language.

Is it possible that the phonologically overt material in Haida's free relatives is nothing more than a normal clausal modifier? Again, the peculiar syntactic properties of relative clauses in Haida points to a negative answer. Given the tendency of the relative pronoun in a free relative to appear left-peripheral, one can rule out the possibility that Haida free relatives contain internally-headed relative clauses. At first glance, however, it appears that Haida free relatives might contain *externally* headed relative clauses. That is, nothing internal to its structure suggests that the bracketed constituent in (39) cannot have the analysis in (43).



Although nothing rules out the Comp analysis for sentence (39), certain properties of Haida externally-headed relative clauses argue that this cannot in general be the correct analysis. Recall that the relative pronoun of an externally-headed relative clause in Haida must bear an *oblique* grammatical function. If the phonologically overt material in a Haida free relative was nothing more than one of the language's externally headed relatives, then one should find a similar requirement of obliqueness placed upon the relative pronoun in a free relative. As we saw in (41) and (42), however, this is not the case.

We find, then, that the phonologically overt material in a Haida free relative is not profitably analyzed as either a case of the language's internally-headed or externally-headed relative clauses. Since the Comp analysis assumes that this material can be

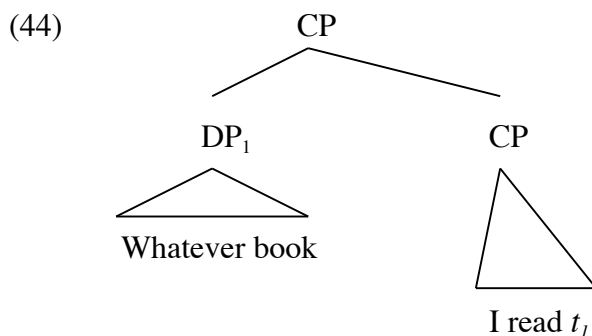
analyzed as some form of clausal modification independently available in the language, we can safely conclude that it has been falsified.

Just as for its neighbor Lingít, free relatives in Haida are significantly *unlike* the language's normal relative clauses in a number of syntactic respects. Let us note, however, that Haida's free relatives *do* rather closely resemble the language's embedded questions, illustrated in (31) and (32). In both structures, a subordinate interrogative phrase appears to the *left* of a subordinate clause, and for neither is there a constraint that the interrogative phrase bear an oblique grammatical function. Nevertheless, the reader may recall that there does seem to be one property that separates Haida's free relatives from its subordinate questions: finiteness. Although free relatives in Haida can be finite, it seems that subordinate questions must all be non-finite.

It may, however, be possible to analyze the non-finiteness requirement on Haida subordinate questions so that their internal structure is brought closer together with that of the free relatives. After all, the non-finiteness requirement on Haida subordinate questions needn't be the result of some *internal* property of theirs. It may instead be the result of an idiosyncratic restriction on the form of the Haida lexicon. Suppose that in Haida, there is a constraint that if a verb selects for the feature '+interrogative', it also selects for the feature '-finite'. The consequence will be that an interrogative clause in Haida cannot be complement to a verbal head unless it is also non-finite. If this is on the right track, then it follows that free relatives and subordinate questions in Haida have exactly the same internal structure; the greater restriction on the appearance of subordinate questions is due to additional external conditions imposed upon them by the language's verbs.

5. The Move-and-Project Analysis

We have seen in sections 3 and 4 that free relatives in the languages Lingít and Haida have properties that distinguish them from the languages 'normal' relative clauses, and which cast serious doubt upon both the Head analysis and the Comp analysis of free relatives. Furthermore, we have seen that those properties which distinguish free relatives from 'normal' relatives in these language are generally shared with the languages' subordinate questions. This, of course, raises the issue of whether free relatives could simply *be* subordinate questions, at least in their syntactic form. That is, could it be that the boldfaced constituent in (1) simply has the structure in (44)?



Although such an analysis would account for the many parallels between free relatives and subordinate questions, it faces some insuperable challenges. In general, the problem is that, by numerous criteria, the free relative seems not to have the syntactic properties of a CP, but rather of the operator occupying its left periphery.

The most well known of these phenomena is the fact that a free relative can be complement to a head if and only if that head selects for the category of its left peripheral constituent. For example, contrast the sentences in (45) with those in (46).⁸

- (45) a. Dave will get [however tall his father was].
b. Dave will reach [whatever height his father was].
- (46) a. * Dave will get [whatever height his father was].
b. Dave will reach [however tall his father was].
- (47) a. Dave will get six feet tall (before he's grown).
b. Dave will reach his father's height (before he's grown).
c. * Dave will get his father's height (before he's grown).
d. Dave will reach six feet tall (before he's grown).

The contrast between (45) and (46) emphasizes the non-semantic nature of this phenomenon. It is not, for example, simply a matter of the free relative taking on the *semantic type* of its left peripheral operator. After all, the free relatives in (45) and (46) all seem to denote the same semantic entity – heights. What must be the case is that the free relative takes on the *syntactic category* of the operator, a more fine-grained property which accounts for the observed contrast. This is bolstered by the parallel facts in (47), where it is shown independently that the predicate ‘get’, in the sense of ‘become’, cannot take a DP as its complement.

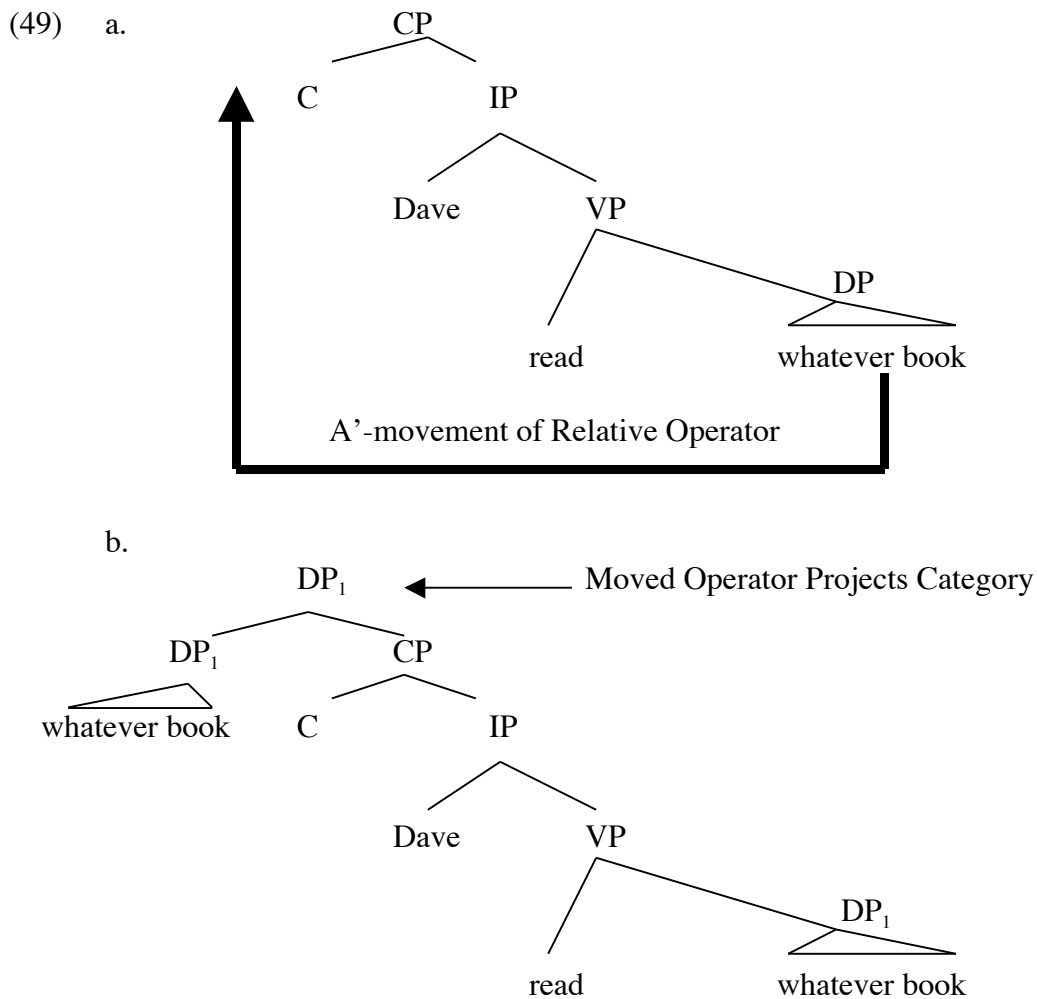
Other phenomena converge towards the conclusion that the free relative absorbs the syntactic properties of its left peripheral constituent. The interrogative phrase in a free relative seems to control agreement of the matrix verb.

- (48) a. Whichever dog you fed is in the backyard right now.
b. * Whichever dog you fed are in the backyard right now.
c. * Whichever dogs you fed is in the backyard right now.
d. Whichever dogs you fed are in the backyard right now.

One last case worth mentioning here are the well-known ‘matching-effect’ phenomena, where the left peripheral constituent in the free relative must satisfy the case requirements of both the matrix and the subordinate clause. Again, these agreement and case phenomena demonstrate that the properties of the free relative absorbed from its left peripheral constituent include purely structural, non-semantic ones.

⁸ These sentences are adopted from similar ones appearing in Bresnan & Grimshaw (1978). However, the sentences here have been altered in ways that avoid a lacuna in Bresnan & Grimshaw’s original argumentation, as well as reflect more closely the present author’s own judgments.

It seems, then, that we have reached a paradoxical state of affairs. Lingít and Haida reveal that free relatives have the internal structure of subordinate CPs, and not that of any of any other category. However, well-known phenomena surrounding free relatives in other languages suggest that they have the external syntactic properties of whatever category is in their left periphery.⁹ This seeming paradox, however, can be resolved if one adopts an analysis for free relatives that has been independently proposed by several different authors (Iatridou, Anagnostopoulou, Izvorski (2001), Bury (2003), Donati (2005)). Under this analysis, a free relative is created by moving the relative operator into the left periphery of the CP – just as in a subordinate question – but then allowing the moved relative operator to project the categorial, syntactic features of the entire constituent. The derivation in (49) illustrates the hypothesis.



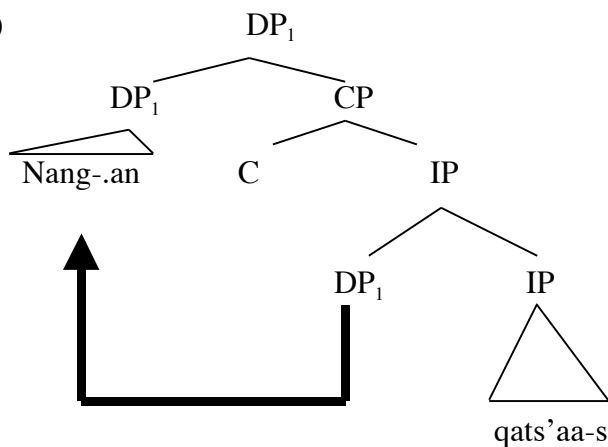
⁹ This is not to suggest that free relatives in Haida and Lingít have the external syntax of CPs; indeed, the examples we've seen here suggest the opposite. However, given the lack of case in these languages, as well as the lack of number agreement with 3rd persons, and the author's own ignorance as to more fine-grained selectional properties of the verbs, it is hard to compose at present time a knock-down argument that free relatives in both these languages have the external *syntactic* properties of their left peripheral constituents. Regarding the definiteness marking mentioned in section 4.3, I would not *a priori* rule out its ability to appear on elements that are of type <e,t> and not of category NP.

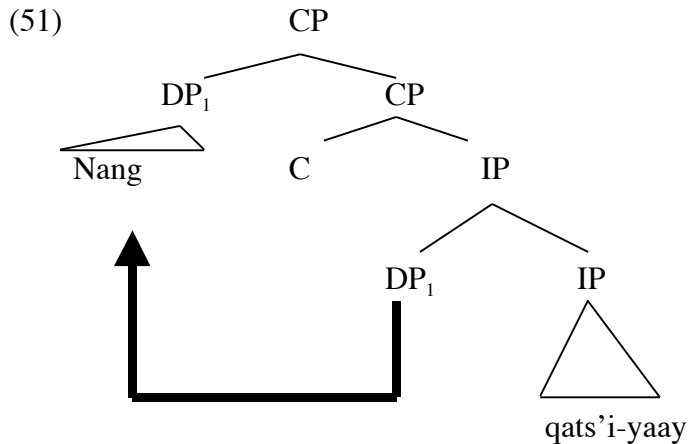
This analysis – which I shall refer to as the ‘Move-and-Project’ analysis – has been proposed to account for the properties of free relatives in languages such as English, where gross morpho-syntactic properties alone are not sufficient to challenge the Head or the Comp analysis. We have seen, however, that such gross properties render neither the Head nor the Comp analysis *prima facie* plausible for either Lingít or Haida. We may wonder, then, how well the Move-and-Project analysis coheres with the facts we’ve seen from Lingít and Haida

As one would expect, given all our preceding discussion, the Move-and-Project analysis works remarkably well as an analysis of free relatives in Lingít and Haida. Recall that free relatives in these languages have internal properties that group them with subordinate question CPs and distinguish them from DPs and constituents of other category. Under the Move-and-Project analysis, free relatives are predicted to have the internal structure of CPs, though their external syntax will be that of their left peripheral constituent. To put the matter more concretely, the Comp analysis and the Head analysis are both challenged by the fact that free relatives in Lingít and Haida contain relative pronouns which *precede* a subordinate clause, an arrangement that is quite different from that found in the language’s standard, modifying relatives. Such a ‘left headed’ structure is not the structure for free relatives expected under analyses that would reduce the free relative to some independently available form of nominal modification. On the other hand, this structure is *exactly* what is expected under the Move-and-Project analysis. Under the latter analysis, leftward movement of the relative operator is required in order to transform the CP into its derived category.

Thus, under the Move-and-Project analysis, the Haida free relative in (42) receives the structure in (50). Moreover, this structure is nearly identical to that assigned to the subordinate question in (32), illustrated in (51).

(50)





The only ‘external’ difference between these structures is whether the whole constituent has the syntactic features of the moved element or the element moved to. The only ‘internal’ difference between these structures is the finiteness of the clause, which has already been shown to possibly be the result of external requirements imposed by the verbs of the language.

We find, then, that the Move-and-Project analysis provides a viable account of the structure of Haida and Lingít free relatives. Given that the Comp analysis and the Head analysis are both thoroughly confounded by the special properties of free relatives in these languages, I conclude that there are strong empirical grounds for rejecting the latter two analyses in favor of the Move-and-Project analysis.

6. The Challenge of German CP Extraposition

Recall that the Comp analysis holds the phonologically overt material in a free relative to be a modifying CP. This analysis did not, of course, arise out of thin air; indeed, it was argued by Gross & van Riemsdijk (1981) to be empirically superior to the Head analysis on a number of grounds. However, the primary empirical motivation for the Comp analysis concerns the ability of free relatives in German and Dutch to extrapose. As we shall see, these data present a *prima facie* challenge to the Move-and-Project analysis just defended.

The empirical argument supporting the Comp analysis is rather straightforward. In both Dutch and German, it is not possible (except in marked, formal registers) to extrapose a DP past the verb.

- (52) Der Hans hat [das Geld das er gestohlen hat] zurueckgegeben.
 the hans has the gold that he stolen has returned.
Hans has returned the money he stole.

- (53) * Der Hans hat zurueckgegeben [das Geld das er gestohlen hat].

However, these languages do readily permit such extraposition of normal, modifying relative clauses.

(54) Der Hans hat [das Geld] zurueckgegeben [das er gestohlen hat].

As first pointed out in Gross & van Riemsdijk (1981), the Head analysis predicts that the subordinate clause in a free relative should extrapose to the right of the VP like the standard relative clause in (54). This is contrary to fact.

(55) * Der Hans hat [was] zurueckgegeben [er gestohlen hat].

It is not, however, the case that German and Dutch disallow *any* extraposition with free relatives. Curiously, these languages allow the *entire* free relative to be extraposed to the right of the verb.

(56) Der Hans hat zurueckgegeben [was er gestohlen hat].

Since the Comp analysis postulates that the phonologically overt material in the free relative is a modifying CP, it correctly predicts the possibility of the extraposition in (56). Thus, the Comp analysis is on these grounds empirically superior to the Head analysis.

When one considers the facts above, however, it becomes immediately apparent that they pose an interesting challenge to the Move-and-Project analysis as well. Recall that, according to this analysis, the syntactic category of the phonologically overt material in the free relative is identical to the category of its left peripheral constituent. The string “was er gestohlen hat” in (56) is thereby predicted to be an DP, and not a CP. Thus, although the Move-and-Project analysis would correctly predict the impossibility of (55), it would also *incorrectly* rule out the extraposition in (56).

The empirical challenge to the Move-and-Project analysis can be stated more generally in the following way. The data in (52) – (56) demonstrate that a free relative can seem to display the external syntactic behavior of both a DP *and* a CP. Although this seems paradoxical, the Comp analysis provides a means for understanding it: what we overtly ‘hear’ in the free relative is a CP, and the DP properties follow from a phonologically absent DP. The challenge to the Move-and-Project analysis is to provide it’s own explanation of how the free relative can seem to combine the external syntax of both DPs and CPs.¹⁰

Interestingly, there is a way of thinking about the German extraposition facts within the Move-and-Project analysis, though it relies upon conceptions of syntactic labeling which – though they have had currency for a number of years – lack a strong degree of practical development. I should state here, as well, that the ideas which follow are rather programmatic and speculative, though they might point out one path towards an explanation.

First, assuming that the Move-and-Project analysis is correct, let us ask *why*, in the case of free relatives, the moved element is allowed to project the category of the

¹⁰ Let us note in passing that a ‘Parallel-Merge’ analysis of free relatives, such as that developed in Citko (2000), would both account for the CP-like structure of Haida and Lingít free relatives, as well as provide a straight-forward account of the German-Dutch extraposition facts. In the end, then, these extraposition facts may be the crucial evidence for ‘Parallel Merge’. For the moment, though, I will explore how the Merge-and-Project analysis can account for these facts. I feel that ‘Parallel Merge’ should only be adopted as an empirical ‘last-resort’, since the technology strikes me as both unprincipled and overly powerful.

resulting constituent. One answer to this question might play on the logic of a particular algorithm for assigning category specification to syntactic nodes that result from Merger. Suppose that, for reasons that can be spelled out in an explicit model, A'-movement of the interrogative operator in a free relative results in a *choice point* for the labeling algorithm.¹¹ That is, suppose that when the operator of a free relative is moved to the periphery of its clause, it is possible for the algorithm to either assign the resulting structure the category of the targeted position (CP) or the category of the constituent moved to that position (XP). Granted, this assumption is more a desideratum for a theory of labeling yet to be developed, but suppose that it is the introduction of this putative 'choice point' that allows the moved constituent in a free relative to project the category of the structure.

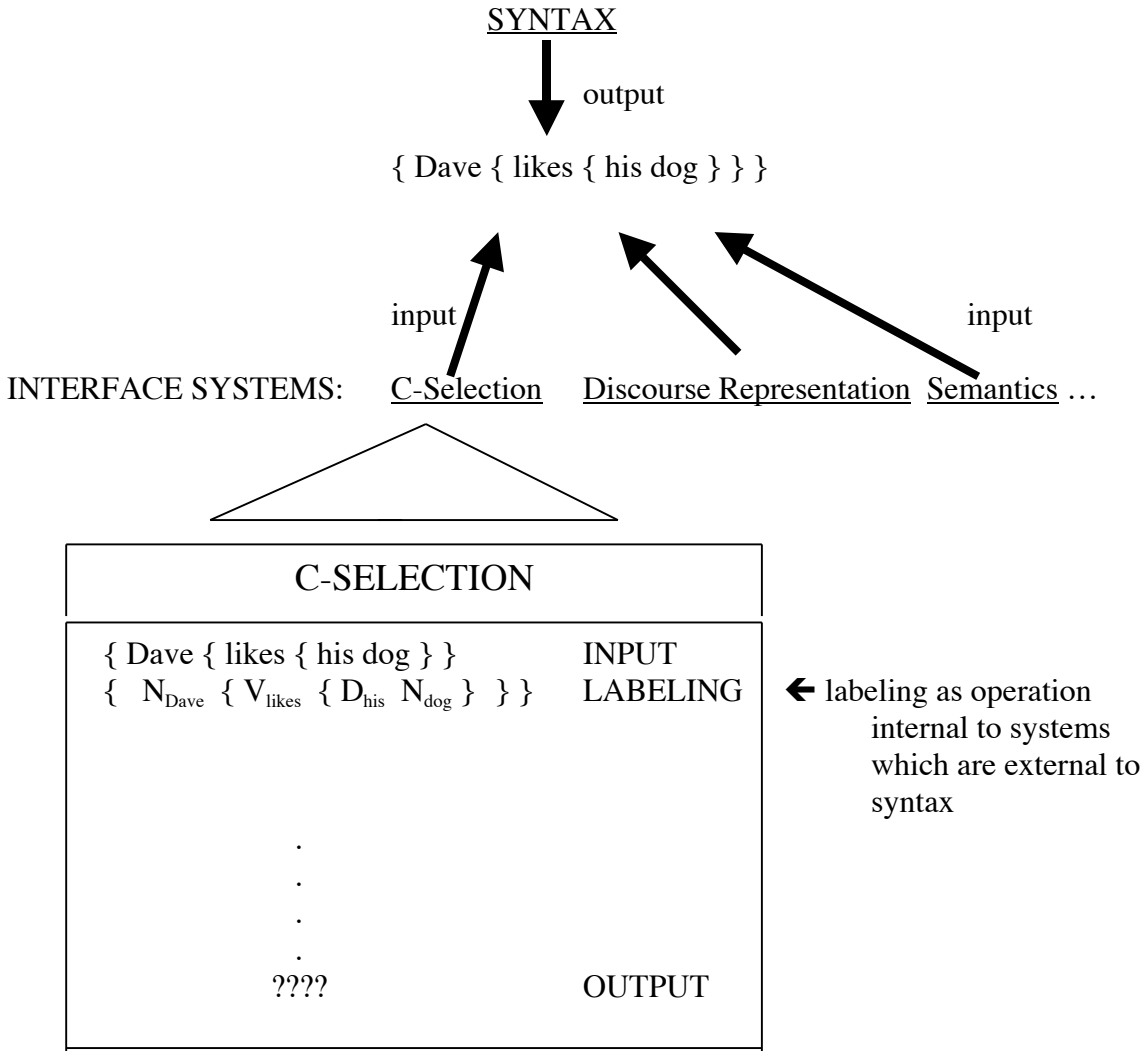
Now, although the notion of a 'category label' is one that is deeply ingrained into the practice of syntactic analysis, it has a rather questionable status within bare phrase structure models of constituency.¹² It remains an open question, however, what the proper means are for 'eliminating' labels from bare phrase structure representations. One possibility, which to my knowledge has not yet been fully explored, is that 'labeling' is not an operation that occurs in the course of the core, 'narrow' syntactic derivation. Rather, it may be that the assignment of 'labels' to the complex set of features output by narrow syntax is done entirely by systems purely external to core syntax. That is, let us suppose that the assignment of syntactic 'labels' to the bare phrase structure representation is accomplished by all and only those external 'interface' systems whose operation relies upon such a labeling. A schematic illustration of the imagined system is presented in (57)

¹¹ Noam Chomsky has explored this notion in recent class lectures (Chomsky 2005). However, within those lectures, the proposed explanation assumed that the interrogative operator in a free relative is a *head*, building upon recent, similar claims by Donati (2005). This explanation, however, should be avoided, as it is possible for a free relative in English to contain a complex relative operator, as the sentence in (i) demonstrates.

(i) I read [[what books] she tells me to read].

¹² See, for example, the extended discussion in Collins (2001).

(57) System in which Labeling Occurs ‘Outside’ Syntax



Now, it's likely that the external systems dependent upon labeling are independent of one another. For example, assuming that semantics is sensitive to labeling, the systems responsible for 'c-selection phenomena' presumably operate independently of the semantic system. Ideally, these independent, autonomous systems would be free to assign their own distinct labelings to the output bare phrase structure. That is, if category labeling is internal to c-selective systems and internal to semantic systems, and if the c-selective systems are independent and distinct from the semantic systems, then the labeling assigned by one system should not be affected *nor required to be consistent* with the labeling of the other. The consequence of this assumption is that, where the labeling algorithm encounters a choice point between two labeling assignments, it should be possible for one labeling to be employed by one set of systems, *but an entirely different labeling employed by a different set of systems.*

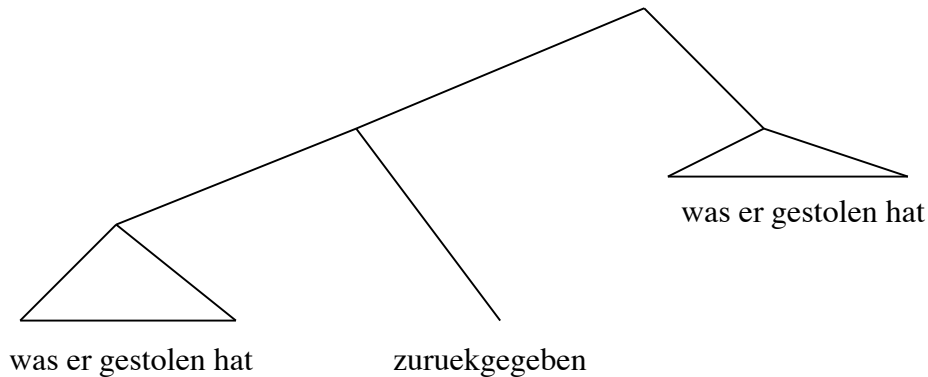
It should now be clear what the relevance of all this speculation is to the puzzling German facts that began our discussion. Recall that the challenge these facts present to

the Move-and-Project analysis is to explain how a free relative could have the external syntax of both a DP and a CP. That is, how is it possible that a free relative behaves like a DP for the purposes of German c-selection, but like a CP for the purposes of German extraposition? As we will now see, an answer to this question can be provided by the combined hypotheses that (i) movement of the operator in a free relative induces a ‘choice point’ in the labeling algorithm, (ii) labeling occurs ‘outside’ of syntax, in independent interface systems, (iii) separate interface systems may assign different labelings to a tree output by narrow syntax exactly in cases where the labeling algorithm encounters a ‘choice point’.

Let us begin by considering how the structure in (56) is represented within the ‘narrow syntax’. Given hypothesis (ii), the syntactic representation of (56) output to the interface systems is that in (58).

(58) Output of Narrow Syntax:

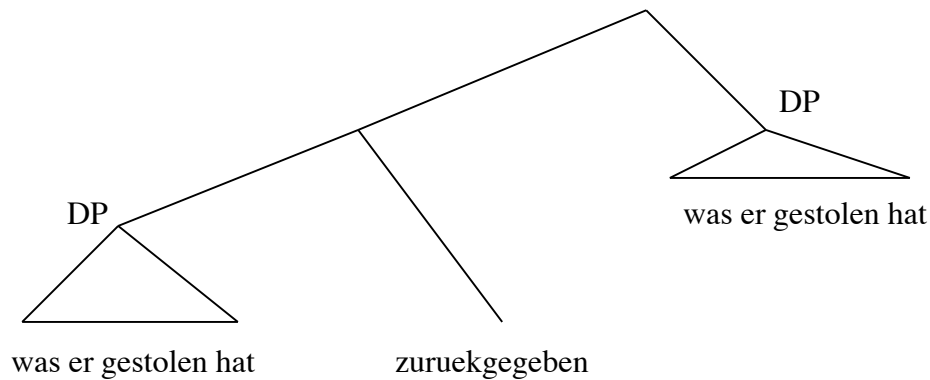
{ ... { { was { er gestohlen hat } } zurueckgegeben } { was { er gestohlen hat } }... }



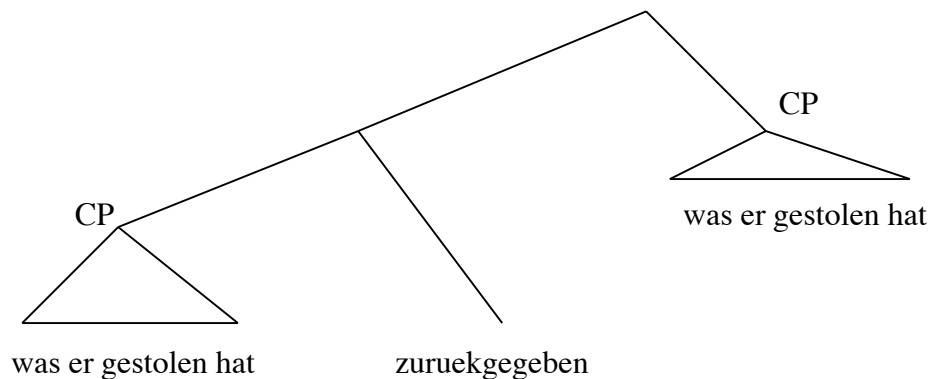
Now, by assumption, the constituent “was er gestohlen hat” has been created by A’-movement of a ‘free-relative’ operator into the left periphery of a CP. Therefore, by hypothesis (i), there are two labelings that could be assigned to this structure by the labeling algorithm employed by the external interface systems. These are listed under (59).

(59) Labelings the Algorithm Can Assign to the Structure in (58)

A. The DP-Labeling



B. The CP-Labeling



Let us make the not-unreasonable assumption that the systems responsible for c-selection in German are independent and distinct from those responsible for the requirement that only CPs may extrapose to the right of verbs. Now, given hypothesis (iii), it follows that the systems responsible for c-selection may assign the labeling in (59A), while those responsible for the extraposition constraint may assign the labeling in (59B). Thus, bare phrase structure output in (58) may converge with respect to *both* these interface systems.

The reader will note that the train of reasoning laid out above indicates one way in which a Move-and-Project analysis might understand the facts in (52) – (56). In brief, a free relative is predicted to retain some of the external syntax of a CP because its very ability to have the external syntax of a category distinct from CP entails a *freedom* in its categorical assignment. If one allows that categorical assignment is done separately and independently by different systems, the natural consequence is that a free relative should be able to look like a CP for some systems, but like a separate category for other systems.

Finally, let us note in passing that, even though this proposal is stated in rather vague, non-committal terms, it does make some *negative* predictions. That is, the logic of the story above does already rule out the existence of certain phenomena. In particular, consider a language – call it ‘Anti-German’ – where (a) DPs cannot extrapose

to the right of the verb, (b) relative clause CPs can extrapose to the right of the verb, and (c) free relatives may *not* extrapose to the right of the verb. All things being equal, the story detailed above predicts that Anti-German should not exist. I leave the proof of this as an exercise to the reader.

7. Conclusion

We have examined in some detail the syntactic and morphological form of free relatives in the Northwestern languages Lingít and Haida, as well as the syntactic and morphological forms of the languages' questions and normal, modificational relative clauses. Comparison of these forms reveals sharp morphological and syntactic differences between the languages' free relatives and their normal, modificational relatives. On the other hand, this same comparison reveals intriguing similarities in form between the languages' free relatives and their embedded interrogative CPs. These details of form cast overwhelming doubt upon both the Head and the Comp analyses of free relatives. However, the Move-and-Project analysis of free relatives is not only consistent with the structural parallels between these languages' free relatives and subordinate questions, it predicts them in an illuminating way. I conclude that the facts in Lingít and Haida provide rather convincing evidence in support of the Move-and-Project analysis, and against the Head and Comp analyses.

Finally, we considered a rather daunting empirical challenge that properties of extraposition in German pose to the Move-and-Project analysis. Although a complete solution was not presented, I have laid out a programmatic train of thought, one which seems like it might yield an interesting – and principled – analysis of the German facts.

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