

Cowichan Relative Clauses<sup>1</sup>

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## 1. INTRODUCTION

Cowichan relative clauses are not introduced by relative pronouns or by subordinating particles. Let us call the argument in a relative clause which is bound to the head the *pivot* (cf Dixon 1979). The relative clause pivot is marked by its absence in Cowichan, as in (2) and (3) where *e* marks the site of the missing pivot.

(1) ni? k'wicət--əs k'wə swəy?qe? k'wə sməyəθ.  
 AUX butcher-3SUBJ ART man ART deer  
*The man butchered the deer.*

(2) k'wə swəy?qe? ni? k'wicət--e e k'wə sməyəθ  
 ART man AUX butcher-∅ ∅ ART deer  
*the man who butchered the deer*

(3) k'wə sməyəθ ni? k'wicət--əs k'wə swəy?qe? e  
 ART deer AUX butcher-3SUBJ ART man ∅  
*the deer which the man butchered*

Note that both the subject NP and the transitive subject agreement marker<sup>2</sup>/-əs/ are missing in (2) where the relative clause has a subject pivot. Let us call this absence of an argument *deletion*, using the term without prejudice, since a number of formal analyses are possible and not all involve deletion.

<sup>1</sup> I wish to thank Ms. Ruby Peter of the Cowichan Band, Duncan, B.C., for her advice and her grammaticality judgements.

<sup>2</sup> See Hukari (1977) for details on the Cowichan person system. We can analyze the missing subject marker in (2) as the dependent subject marker, rather than the transitive subject marker. The two forms are homophonous and no more than one can appear on a word. As any dependent subject marker appears on the verb of the relative clause, this may cause the deletion of the transitive subject marker, accounting for the fact that (3) does not have two such suffixes. The generalization then is that the dependent subject marker is deleted in a relative clause with a subject pivot.

The relativization of syntactic roles other than subject or object appears to involve other strategies<sup>3</sup>. In section three I show that other arguments are promoted to the pivotal role of subject by nominalization, which can be viewed as a lexical process, and therefore all relative clauses involve the apparent deletion of the subject or the object.

While deleting the relative pivot (or not generating one in the first place) seems highly plausible from a cursory examination of the data, it is possible that other considerations, such as properties of universal grammar, lead to another analysis. In section two I explore major analyses of English relative clauses with a view toward the possibility that they describe universal principles which are operative in Cowichan, despite formal dissimilarities between the two languages. In section three the Cowichan data are subjected to closer scrutiny. In section four properties of Cowichan relative clauses and related constructions are examined in light of the analyses of section two. I conclude that relative clause formation in Cowichan does not involve a movement rule, so Cowichan relative clauses are either base generated with missing pivots or they are derived by the deletion of a pro-form.

## 2. RELATIVIZATION IN ENGLISH

In this section several major analyses of English relative clauses are examined in light of the possibility that they describe universal principles which are operative in Cowichan, despite formal dissimilarities between the languages.

### 2.1 *Wh*-movement and Deletion

Discontinuities in English relative clause constructions are

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<sup>3</sup> See Keenan and Comrie (1977) and Comrie and Keenan (1979) for discussions of relative clause formation strategies across languages. A re-examination of their data might be interesting in light of my claim that nominalization is a lexical process in Cowichan relatives.

often taken as evidence for a grammar with transformations. Consider the following examples where the relative pronoun may be a considerable distance from the clause in which it seems to play a role.

- (4) the cupboard in which<sub>i</sub> [Mary believes [that John keeps his books e<sub>i</sub>]]  
 (5) the crime which<sub>i</sub> [Marsha thinks [that Felix said [that he was charged with e<sub>i</sub>]]]

It would appear that a simple phrase structure analysis would lead to overgeneration, assuming that the relative pronoun (or prepositional phrase) is generated in situ.

- (6) \*the cupboard in which Mary believes that John keeps his books there

A movement analysis, on the other hand, will account for such discontinuities. There are however essentially two surface relative constructions in English, as exemplified in (7) and (8).

- (7) a. the person who e gave the book to Mary  
 b. the person to whom Felix gave the book e  
 c. the person who Felix gave the book to e  
 d. the book which Felix gave e to Mary  
 (8) a. the person \*(that) e gave the book to Mary  
 b. \*the person to (that) Felix gave the book e  
 c. the person (that) Felix gave the book to e  
 d. the book (that) Felix gave e to Mary

A movement rule is generally accepted for (8) in the transformationalist literature, as in Chomsky (1965), Ross (1967), Edmonds (1976) and Bresnan (1979). Following along the lines of Edmonds, let us say that relative clause structures contain a complement node COMP which attracts the pivot NP (which has the feature WH). That is, (9) is transformed into (10) by *wh*-movement.

- (9) [the man<sub>i</sub> [ [ e WH ] [John saw [ WH ] ] ] ]  
 NP            S' COMP            S            NP            S S' NP  
 (10) [the man<sub>i</sub> [ [ [ WH ] WH ] [John saw [ e ] ] ] ]  
 NP            S' COMP NP<sub>i</sub>            S            NP<sub>i</sub>            S S' NP

While some controversy surrounds data such as (8), Bresnan (1977) posits a deletion rule where *wh*-fronting does not apply in the derivation, as does Emonds. Following along the line of Emonds, the COMP node of this construction does not attract the pivot (as his *wh*-movement rule operates only if the COMP node contains the feature WH, as in (9) above).

(11) [the man<sub>i</sub> [ [ e ] [John saw [ WH ] ] ] ]  
 NP S' COMP S NP<sub>i</sub> S S' NP

(12) [the man<sub>i</sub> [ [ that ] [John saw [ e ] ] ] ]  
 NP S' COMP S NP<sub>i</sub> S S' NP

The pivot is erased and *that* is inserted into the empty COMP (and may be optionally deleted subsequently).

Chomsky (1977) derives *that*-relatives through *wh*-movement with the deletion of the relative pronoun once it is in the COMP. His analysis is based on the assumption that cyclic transformations are governed by various constraints which generally limit their domain to one clause. For example the subjacency condition stipulates that no cyclic transformation may move an element (X or Y below) up or down more than one cyclic node:

(13) ...X...[ ...[ ...Y... ] ... ] ...X..., where  $\alpha$  and  $\beta$  are cyclic nodes.  $\alpha$   $\beta$

Chomsky (1980)<sup>4</sup> takes S', S and NP to be the cyclic nodes in English. In cases where subjacency seems to be violated, he claims that movement takes place in successive cycles, raising an element from COMP to COMP, as in (14), where *e* marks the trace of the *wh*-element which has been moved on successive cycles.

<sup>4</sup>I take here a more restricted version of subjacency, following Chomsky (1980). In Chomsky (1977) only S' and NP are cyclic nodes in English and other constraints cause *wh*-movement to be bounded. For the the discussion at hand the two formulations seem to be equivalent.



The rule will bind the relative head with the *wh*-phrase (or COMP), working down through any intervening COMP nodes (which are indexed in the process) until it reaches the pivot. As in Chomsky's analysis, a verb such as *believe* may function as a bridge for COMP-to-COMP binding, whereas the binding operation would otherwise not violate subadjacency. An interpretive analysis has the advantage of not requiring a movement rule in the derivation of constructions in which no surface *wh*-words ever occur, as in topicalizations (which are derived by *wh*-movement in Chomsky (1977)).

- (18) The books (\*which) Mary  $\left. \begin{array}{l} \text{*complained} \\ \text{says} \end{array} \right\}$  that John keeps e  
in the cupboard.

The credibility (such as it is) of a movement rule in the derivation of constructions such as (18), where a *wh*-pronoun never surfaces, hinges on the fact that *wh*-movement is a plausible analysis of *wh*-relatives in English. One wonders if the existence of constraints on known movement rules constitutes sufficient evidence for positing the analogue of *wh*-movement in a language for which subadjacency holds but where there is no surface evidence of a displaced element such as a relative pronoun. I return to this question in section four.

## 2.2 Head Raising

Vergnaud (1974), in his analysis of French relative clauses, generates an empty NP head, filling it with the pivot NP from the relative clause after first moving the pivot into the COMP by *wh*-movement. His motivation for raising involves verb-noun idioms for which I consider here English counterparts discussed by Bresnan and Grimshaw (1978). Compare the following examples.

- (19) The headway that we made was insufficient.  
(20)\*The headway that we enjoyed was insufficient.

The noun *headway* generally occurs only as an idiom chunk along with *make*, yet here it occurs as the relative head and not in construction with *make*. A raising analysis would account for the distribution of *headway* in such examples, but the weakness of this argument becomes apparent when we consider the following.

(21) We didn't make the amount of headway that was expected of us.

(22)\*We didn't enjoy the amount of headway that was expected of us.

Clearly a raising analysis will not account for both (19) and (21). Evidently such idiom chunks need not be adjacent in base structures and hence (19) and (20) do not provide evidence for the raising analysis. Nevertheless, I will consider below the plausibility of deriving relative heads in Cowichan through raising from the relative clause (without *wh*-movement), since this seems no less plausible than a Cowichan version of *wh*-fronting.

### 2.3 Base Generated Relative Clauses

Brame (1978) presents an interpretive analysis of English relative clauses. As he operates within a nontransformational model, his analysis is substantially different from those discussed above, although Bresnan's and Grimshaw's binding rule is analogous in some respects and their binding rule is offered in the matrix of a transformational model.

Brame presents a system for assigning functional (semantic) interpretations to syntactic and lexical categories. The lexical items *hit* and *put*, for example, are assigned the following specifications.

(23) *hit*;  $F^V, \_\_ (A^{n(s)}, A^{n(o)})$

(24) *put*;  $F^V, \_\_ (A^{n(s)}, A^{n(o)}, A^p(\text{dir}))$

That is, they are both verbal functions ( $F^V$ ), both taking subject and object arguments ( $A^{n(s)}$  and  $A^{n(o)}$ ), but *put* is a three-place

predicate which requires a directional PP argument ( $A^{p(\text{dir})}$ ). Suppose *put* occurs in the wrong syntactic context, as in (25).

(25) [ [Marsha] [ [put] [the car] ] ]  
           S NP           NP VP V   V NP           NP VP S

The assignment of functional structure will not associate the argument  $A^{p(\text{dir})}$ , the directional PP, with any syntactic material, so the functional interpretation of the sentence will be incomplete, as in (26) where the various functions are defined to operate over phrase markers in the obvious way (e.g.,  $A^{n(s)}$  is the NP daughter of S).

(26)  $F^v(A^{n(s)}, A^{n(o)}, A^{p(\text{dir})})$   
 $F^v$ : put = f (assign *put* a verbal function, f)  
 $A^{n(s)}$ : Marsha = i (assign *Marsha* the subject function)  
 $A^{n(o)}$ : the car = j (assign *the car* the object function)  
 $A^{p(\text{dir})}$ : (no assignment)  
 Interpretation:  $F(i, j, A^{p(\text{dir})})$ , incomplete

That is, the functional interpretation of (25) is incomplete since there is no syntactic material to associate with the directional PP function and, unless additional rules interpret this argument, the construction is ill-formed.

If (25) is a relative clause of the appropriate type, the directional PP argument will receive an interpretation by rules which interpret the relative function and bind a relative clause argument to the relative pronoun. That is, rules will identify *where* and  $A^{p(\text{dir})}$  to be of the same functional type and the relative pronoun can be assigned to the argument, completing the interpretation of the clause in (27).

(27) the place where Marsha put the car

In fact, if there is not an uninterpreted argument in the subordinate clause, the relative operator cannot make an assignment and the construction is deviant, as in (28), where too many arguments

are generated for the construction.

(28) the place where Marsha put the car there

Since neither movement rules nor deletions are part of Brame's model, both *wh*-relatives and *that*-relatives must be generated directly with missing pivots. Optional base rules generate a variety of syntactic structures, some of which will be filtered out by the rules of functional interpretation. Provided an uninterpreted argument is available in the functional structure of the relative clause, it can be bound to the head noun.

## 2.4 CONCLUSIONS

A number of points emerge from the discussion of English relative clauses which may have some bearing on the analysis of the Cowichan construction.

### 2.4.1 COMP

A leftward movement rule has some plausibility in the analysis of English relative clauses--perhaps even for *that*-clauses, given the facts concerning *wh*-relatives and their virtual identity to interrogatives (cf, Chomsky, 1977).

(29) Where did Martha  $\left\{ \begin{array}{l} *complain \\ say \end{array} \right\}$  that John keeps his books?

Bresnan (1979) makes the conjecture that there is a correlation in languages between the position of *wh*-type words and that of clausal complementizers (e.g., *that*). She points out that if interrogative and relative pronouns move only into a COMP node, this correlation is no mere fortuitous coincidence. A possible issue in the analysis of Cowichan, then, is the existence of a COMP node. That is, if COMP is not evident in relative clauses, does it surface elsewhere?

### 2.4.2 Raising

Given the formal possibility of raising the relative head from its pivotal point in the relative clause (Vergnaud 1974),

this might offer an alternative to *wh*-movement in Cowichan, if *wh*-movement lacks motivation.

### 2.4.3 Deletion

If neither *wh*-movement nor raising are defensible analyses of Cowichan relative constructions, then deletion in situ would seem to be an alternative. However the possibility of a strictly interpretive approach along the lines of Brame (1978) may be at least equally plausible.

## 3. COWICHAN RELATIVES AND RELATED CONSTRUCTIONS

In this section relative clauses and related constructions (interrogatives and clefts) are examined. I show that all relatives involve a subject or an object pivot and that putative counter-examples which appear to contain oblique or adverbial pivots are actually subject-pivoted. Further, we shall see that interrogatives and related constructions do not appear to involve a movement rule analogous to *wh*-movement.

### 3.1.1 Subjects and Objects

Subject and object pivots are phonologically absent from relative clauses, as shown in (2) and (3) in section one above. However only in the case of subject pivots is it clear that the surface form involves the conspicuous absence of an element (i.e., deletion), since third person objects are never marked in the person system. Further, noun phrases are optional in Cowichan and hence it is difficult to say that a pivotal NP has been deleted. This much seems to be true: a subject or object pivot is not overtly marked in Cowichan.

### 3.1.2 Obliques and Adverbials

Oblique objects and adverbials (instrumentals or locatives) appear to function as pivots, as in (31) and (33) below.

- (30) ni? cən q'wələm ?ə t<sup>θ</sup>ə sceeɪtən.  
 ART I barbecue PREP ART salmon  
*I barbecued the salmon.*
- (31) k<sup>w</sup>θə sceeɪtən ni? nə--s--q'wələm  
 ART salmon AUX my S barbecue  
*the salmon which I barbecued*
- (32) ni? cən pasa?q<sup>w</sup> ?ə tən?a ʃləmelə.  
 AUX I head-hit PREP this bottle  
*I got hit on the head with this bottle.*
- (33) k<sup>w</sup>θə ʃləmelə ni? nə--ʃ(x<sup>w</sup>)--pasa?q<sup>w</sup>  
 ART bottle AUX my INSTR head-hit  
*the bottle which I got hit on the head with*

The argument introduced by a preposition in (30) is an oblique object of a syntactically intransitive verb and the corresponding relative involves the prefix /s-/ (S-NOM). Similarly, an instrumental appears to be the pivot in (33) and this role is signalled by the presence of the instrumental-locative prefix /ʃx<sup>w</sup>-/ (INSTR).

If we examine nominalization independently of relativization a natural explanation for the nominal forms emerges. Nominalization may change the thematic (case) role of the syntactic subject of a lexical item. So we can compare *employ*, *employer*, and *employee*.

- (34) John employs Felix.  
 (35) John is an employer.  
 (36) Felix is an employee.

The nominal *employer* takes agent subjects when it happens to function as a predicate nominal, while *employee* takes patient subjects. In Cowichan S-NOM and INSTR are highly productive, regular processes. An S-NOM, when functioning as a predicate, takes subjects which correspond to oblique objects of the corresponding unnominalized predicate. Similarly, an instrumental nominal predicates on semantic instruments. These facts are born out by the following examples which correspond to the relative clauses of (31) and (33).

- (37) ni? nə--s--q'wələm tə?i sceełtən.  
 AUX my S barbecue this salmon  
*This salmon is what I barbecued.*
- (38) ni? nə--š(xʷ)--pasa?qʷ tən?a šləmelə.  
 AUX my INSTR head-hit this bottle  
*This bottle is what I got hit on the head with.*

Here the nominals function as main clause predicates. While such sentences are highly restricted in discourse function (and hence exceedingly difficult to elicit) they are fully grammatical and illustrate the theme changing role of nominalization. Clearly there is no need to posit additional relativization processes, since constructions such as (31) and (33) follow respectively from (37) and (38) via whatever analysis we accept for the relativization of subject pivots.

### 3.3 Interrogatives

Cowichan interrogatives show no apparent displacement of an interrogative pronoun. The interrogative pronouns function as main predicates and may take simple or complex NP subjects.

- (39) stem tə?i. *What is this?*  
 what this
- (40) stem k'wə ni? k'wic'ət--əs t<sup>θ</sup>ə swəy?qe? e.  
 what ART AUX butcher-3SUBJ ART man Ø  
*What did the man butcher?*
- (41) ɬwet t<sup>θ</sup>ey? *Who is that?*  
 who that
- (42) ɬwet t<sup>θ</sup>ə ni? k'wic'ət--e e t<sup>θ</sup>ə sməyəθ.  
 who ART AUX butcher-Ø Ø ART deer  
*Who butchered the deer?*

Sentences (40) and (42) are predicate plus complex NP constructions, where the complex NPs are headless relative clauses, which are common constructions in Cowichan, as in (43).

- (43) ni? cən ləmnəxʷ k'wəə ni? k'wic'ət t<sup>θ</sup>ə sməyəθ.  
 AUX I see ART AUX butcher ART deer  
*I saw the one who butchered the deer.*

Further, the complex NP may have a lexical head, as in (44), bearing out this analysis.

- (44) *ɬwet t<sup>θə</sup> swəyʔqeʔ niʔ kʷicət--e e t<sup>θə</sup> sceɛtən.*  
 who ART man AUX butcher-Ø Ø ART salmon  
*Who is the man who butchered the salmon?*

The initial position of interrogative pronouns follows from their predicate function, as in (39), where the subject is a simple NP. In fact, a movement analysis of interrogatives such as (40) or (42) would cause the grammar to generate them doubly, since the interrogative predicates in (39) and (41) are presumably base generated and headless complex NPs are independently attested, so (40) and (42) follow from existing constructions.

### 3.4 Cleft Sentences

Interrogatives are a special case of a general construction type, the Cowichan cleft construction, which is comprised of a predicate nominal plus a complex NP subject. Compare the following cleft sentences to the basic pattern of (45)

- (45) *niʔ kʷicət--əs t<sup>θə</sup> swəyʔqeʔ t<sup>θə</sup> sceɛtən ʔə*  
 AUX butcher-3SUB ART man ART salmon PREP  
*t<sup>θə</sup> ʃəptən.*  
 ART knife  
*The man butchered the salmon with a knife.*
- (46) *swəyʔqe t<sup>θə</sup> niʔ kʷicət t<sup>θə</sup> sceɛtən ʔə t<sup>θə</sup> ʃəptən.*  
*It was a man that butchered the salmon with a knife.*
- (47) *sceɛtən t<sup>θə</sup> niʔ kʷicətəs t<sup>θə</sup> swəyʔqeʔ ʔə t<sup>θə</sup> ʃəptən.*  
*It was a salmon that the man butchered with the knife.*
- (48) *ʃəptən t<sup>θə</sup> niʔ ʃ(xʷ)-kʷicəts t<sup>θə</sup> swəyʔqe t<sup>θə</sup> sceɛtən.*  
*It was a knife that the man butchered the salmon with.*

Again a movement rule is not only unnecessary but redundant, since both predicative nominals (cf, (49) below) and headless complex NP are independently attested.

- (49) *swəyʔqeʔ t<sup>θeyʔ</sup>.*      *That one is a man.*  
 man                    that

### 3.5 Conclusions

An examination of Cowichan relatives and related constructions has not revealed apparent evidence of a movement rule. Relativization in Cowichan reduces to two cases: subject pivots and object pivots, since putative oblique and adverbial pivots were shown to be subjects of nominal predicates. This reduces considerably the complexity of relativization and, as argued in section four, makes a movement rule far less attractive. Further, no evidence of a movement rule was found in our examination of related constructions such as interrogatives and clefts.

## 4. MOVEMENT RULES AND COWICHAN RELATIVE CLAUSES

### 4.1 *Wh*-movement

No case for *wh*-movement emerged from an examination of relative, interrogative and cleft constructions in section three. This finding does not preclude a *wh*-movement rule in Cowichan, but it shows that there is a remarkable lack of language-internal evidence for such a rule.

An argument against *wh*-movement may be possible, that moving a pro-form to a COMP node is not tenable because there is no COMP in Cowichan. The lack of a COMP would not eliminate the alternative of a movement rule which does not involve COMP, although such a rule would be a counterexample to Bresnan's (1979) generalization that the position of relative-interrogative pronouns and complementizers correlate cross-linguistically. It is difficult however to argue that Cowichan does or does not have complementizers (and hence the node COMP), given the lack of cross-linguistic criteria for complementizers. Perhaps the most revealing observation is that relative clauses are not introduced by particles or words which might be candidates for the category of complementizer.

Since there are elements which introduce subordinate clauses,

the possibility that Cowichan has a COMP cannot be absolutely dismissed, although the case for one is quite slim. Perhaps the most likely candidate as a complementizer is a particle which is variously realized as /kʷə/, /kʷə/ or /kʷs(ə)/, with a complex and somewhat idiolectal distribution of the alternate forms. However its resemblance to the articles /kʷ/ *masculine, hypothetical* and /kʷs/ *feminine, hypothetical* is striking, despite the fact it does not seem to carry the gender distinction (as far as I know). Further, it is confined to nominalized clauses, as in (50) and (51).

- (50) ?i cən ?u?--statəl?stəxʷ kʷ(ə) ən?--s--ni? ce?  
 AUX I HYP--know ART? your--S--AUX FUT  
 cala?iθamʷʂ ?ə kʷs ?əpanus.  
 lend-me PREP ART ten-dollars  
*I know that you will lend me ten dollars.*

- (51) ?i cən θay?θət kʷə nə--s--ni? ce? tey.  
 AUX I practicing ART? my--S--AUX FUT race  
*I am practicing to canoe-race.*

The subordinate clause in (50) is interpreted as an object, while the one in (51) seems to be an oblique object, despite the absence of a preposition (as the verb is reflexive and hence syntactically intransitive). The fact that this particle introduces nominalizations but not other subordinate clauses suggests that it is an article rather than a complementizer.

#### 4.2 Boundedness

Relativization is clause-bounded in Cowichan. This fact is not evidence for a COMP node. If, however, there were an escape hatch (COMP-to-COMP movement) this would provide indirect evidence for COMP, assuming we accept Chomsky's (1977) analysis. As it turns out, there are apparent exceptions to boundedness but on closer examination the pivot is actually in the higher clause of the relative, not the more deeply embedded one.

- (52) stem kʷəə niʔ s--cəsəəeʔəlt ʔuʔ--kʷicət--ənʔ.  
 what ART AUX S--telling-me HYP--butcher--I  
 PASSIVE

*What was I being told to butcher?*

- (53) ʔi cəsəə--əs ʔuʔ--nemʔ--ənʔ kʷicət kʷəə sceeltən.  
 AUX telling-me HYP--go--I butcher ART salmon  
 3SUBJ

*She is telling me to go butcher the salmon.*

The relative clause verb in (52) has the S-NOM prefix, which should indicate that the pivot has been promoted from oblique object to subject. But a corresponding affirmative sentence (53) shows that argument to function as the object of the lowest clause. This would seem to indicate that relativization can go down into lower clauses and that arguments besides oblique objects function as pivots of S-NOM predicates. If this is so, it is a serious counterexample to my claim that S-NOM is a lexical process. But (53) is a spurious comparison, as shown by (54), where the pivot of (52) functions as the oblique object in the higher clause.

- (54) ʔi cəsəə--əs ʔə kʷəə sceeltən ʔuʔ--nemʔ--ənʔ kʷicət.  
 AUX telling-me PREP ART salmon HYP--go--I butcher  
 3SUBJ

*She is telling me, of the salmon, to go butcher it.*

Whatever the explanation for the raising phenomenon of (54) may be, the generalization that S-NOM predicates promote oblique arguments to subjects is still valid and relativization is bounded. Hence there is no necessity for proposing COMP as an escape hatch in such constructions.

#### 4.3 Raising

While the primary argument for a raising analysis of lexical heads in English relatives was shown to be invalid above, let us consider raising as an alternative to *wh*-fronting in Cowichan. Assuming that Cowichan has no COMP, consider the following derivation for (2), *the man who butchered the deer*.

- (55) [ [e] [ni? k'wicət [k'θə swəy?qe?] k'θə sməyəθ]]  
 NP NP S NP S NP
- (56) [ [k'θə swəy?qe?] [ni? k'wicət [e] k'θə sməyəθ]]  
 NP NP<sub>i</sub> S NP<sub>i</sub> S NP

The relative head (possibly NP or perhaps a lower category) is empty in the base structure (55) and the lexical head appears in the relative clause. By raising, the lexical item (and the NP) is moved into the empty head position, as in (56).

There are a number of formal problems with this analysis which, taken along with the dubious status of relative raising in general, point toward its implausibility.

#### 4.3.1 Empty NP

Since noun phrases are optional in Cowichan and since a relative need not have a lexical head, it appears that a raising rule would have to move a lexically empty NP into a lexically empty head, as in the derivation of the relative clause in (43) *the one who butchered the deer*.

- (57) [ k'θə [e] [ni? k'wicət [e] k'θə sməyəθ]]  
 NP NP S NP S NP
- (58) [ k'θə [e] [ni? k'wicət [e] k'θə sməyəθ]]  
 NP NP<sub>i</sub> NP<sub>i</sub> S NP

The sole purpose of this exercise would presumably be to bind the pivot to the head, an operation which can be handled by other formal devices such as Bresnan's and Grimshaw's (1978) binding rule.

A formal problem arises in the derivation of relatives with no lexical head: the deletability of lexically unfilled nodes. Recent work by Chomsky (1980 and 1981) suggests that empty nodes should be deleted at some point in the derivation, but only under specific conditions. For example, languages with subject and/or object agreement markers may permit the deletion of lexically unfilled subject or object noun phrases. Let us say that a lexically

empty NP must be deleted or bound (in the sense of relative clause binding), otherwise the derived structure is filtered out as ill-formed. Since Cowichan has subject and object markers (hereafter, an *agreement system*, AG) subject and object NPs are deletable. With a slight revision, this will also account for the fact that only subject and object pivots occur in Cowichan. Let us say that only NPs which are cross-referenced with AG may be deleted and that all empty NPs are ill-formed at some point in the derivation otherwise. It then follows that only subjects and objects can be pivots, since these are the only NPs which are cross-referenced with AG and hence they are the only deletable NPs.

Returning to the problem of lexically empty relative heads, the relative pivot is deletable in (43) since it is a subject and is therefore cross-referenced with AG in the relative clause. But the lexically empty head is not cross-referenced unless it appears as a subject or an object in the higher clause. A headless relative NP may appear as an oblique object, where it is not deletable in our theory and hence it should be ill-formed, yet (59) is grammatical.

- (59) ni? cən q'wələm ?ə k'wəə ni? k'wicət--əxw.  
 AUX I barbecue PREP ART AUX butcher--you  
*I barbecued what you butchered.*

I see no way around this formal inconsistency without an ad hoc condition on relative constructions. This formal problem, along with the implausibility of moving empty nodes for the purpose of binding, seems sufficient grounds for rejecting the raising analysis. There is however an argument against raising based on lexically filled relative heads, which I consider next.

#### 4.3.2 Raising and the Structure-Preserving Constraint

The structure-preserving constraint (Emonds 1976) states roughly that no cyclic transformation can move a category into a position

where that category is not generated by the base rules. That is, a rule moves a category C into C' where C and C' are the same syntactic category. For the structure-preserving constraint to have empirical substance (cf, Hooper (1973: 41-42) it is necessary to assume that no category can be introduced by the base rules in a position where it is never lexically filled except by a movement rule. This excludes the possibility of circumventing the structure-preserving constraint by generating categories in positions where they are merely place holders.

Given this version of the structure-preserving constraint (which is accepted by Emonds (1976)) R. Levine has pointed out to me that one should expect to find noun (or NP) plus S constructions where the noun node is lexically filled in the base for any language where the raising analysis is proposed for relative clauses. In English, for example, there are noun-complement constructions such as the following.

(60) the fact that Felix is a genius

(61) the claim that there are cyclic transformations

If such constructions do not occur in a language, then generating base structures with empty relative heads may constitute a violation of this stronger version of the structure-preserving constraint, since the only time a N or NP node in this position is lexically filled is when relative raising applies. As Cowichan has no N plus S constructions, aside from relative clauses, it would appear that raising is incompatible with the structure-preserving constraint.

#### 4.4 Conclusions

The initial observation about Cowichan relative clauses seems to be the correct one: that the relative clause forming strategy is the deletion (or nongeneration) of the pivot, which may be either a subject or an object. The remaining alternatives, then, are a transformational deletion rule or a strictly interpretive approach

within the matrix of a nontransformational model. While these two approaches may ultimately turn out to be notational variants in some sense, an interpretive analysis appears to provide an interesting direction for further research given the highly restricted nature of Cowichan relative clause formation.

## REFERENCES

- Brame, Michael. 1978. *Base generated syntax*. Seattle: Noit Amrofer.
- Bresnan, Joan. 1977. Variables in the theory of transformations. In Culicover, Wasow, and Akmajian (eds.), *Formal syntax*, 157-196.
- Bresnan, Joan. 1979. *Theory of complementation in English syntax*. MIT Ph.D. dissertation (1972). New York: Garland.
- Bresnan, Joan and Jane Grimshaw. 1978. The syntax of free relatives in English. *LI* 9, 331-391.
- Chomsky, Noam. 1965. *Aspects of the theory of syntax*. Cambridge, Mass.: MIT Press.
- Chomsky, Noam. 1977. On *wh*-movement. In Culicover, Wasow, and Akmajian (eds.), *Formal syntax*, 71-132.
- Chomsky, Noam. 1980. On binding. *LI* 11, 1-46.
- Chomsky, Noam. 1981. *Lectures on binding and government*. (In press) Dordrecht: Foris.
- Culicover, Peter, Thomas Wasow, and Adrian Akmajian. 1977. *Formal syntax*. New York: Academic press.
- Comrie, Bernard and Edward Keenan. 1979. Noun phrase accessibility revisited. *Lg* 55, 649-664.
- Dixon, Robert M.W. 1979. Ergativity. *Lg* 55, 59-138.
- Emonds, Joseph. 1976. *A transformational approach to English syntax: root, structure-preserving, and local transformations*. New York: Academic press.

- Hooper, Joan. 1973. A critical look at the structure-preserving constraint. In Schachter and Bedell, *Critiques of syntactic studies, II*. University of California (L.A.) Linguistics Department.
- Hukari, Thomas. 1977. A comparison of attributive clause constructions in two Coast Salish languages. *Glossa* 11, 48-73.
- Keenan, Edward and Bernard Comrie. 1977. Noun phrase accessibility and universal grammar. *LI* 8, 63-100.
- Ross, John. 1967. *Constraints on variables in syntax*. Unpublished Ph.D. dissertation, MIT.
- Schachter, Paul and George Bedell. 1973. *Critiques of syntactic studies, II*. University of California (L.A.) Linguistics Department.
- Vergnaud, Roger. 1974. *French relative clauses*. Unpublished Ph.D. dissertation, MIT.