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COMP IN (CUZCO) QUECHUA*

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The purpose of this paper is to sketch the basis for a revised theory of COMP. We will show that data from a non indoeuropean language, in this particular case Cuzco Quechua, an SOV language, challenge some of the analyses of COMP, in particular those of Bresnan (1970) and Chomsky and Lasnik (1977). We will analyze the structure of Quechua subordinate clauses and we will argue for a set of specific positions on the S level. These positions will serve to link categories inside of the S to categories outside of it. This theory is inspired by two theoretical principles: first constraining semantic interpretation in that it will not allow for anything inside of S to be related to anything outside of it without making reference to COMP, and second, constraining variation between languages.

We first review two of the more obvious possibilities for COMP in Quechua, nominalizers and subordinators on the one hand, and WH elements on the other hand. This will be done within the frame work of Bresnan (1970) and Chomsky and Lasnik (1977). In the second part of the paper, we discuss the status of independent suffixes, which following Zwicky's analysis could be generated in COMP and then moved to their position in the sentence. In the third part of the paper we propose a revised theory of COMP for Quechua.

1.0. Nominalizers and subordinators, and WH elements.

At first sight, it appears that the elements in Quechua which correspond most closely to the notion of 'complementizer' as it was developed for English is the class of nominalizers and adverbial subordinators. Note the following examples:

- (1) mana - cu vali - n - man rima - qti - nku adverbial qti
NEG - INT be good-3rd-MODE speak - SUB - 3rd pl.
'wouldn't it be good if they talked'
- (2) señoraca - q tapuku - sqa - n - kuna - ta nuqaqa yaca - ni - cu
lady-GEN ask NOM - 3rd-pl. - ACC I know 1st NEG
'I do not know the things that the lady is asking nominal sqa
- (3) payqa awilaca - y - tan kompañã - rqa - n huc'uyca ka - spa
she granny - my - ACC hold company - PAST - 3rd small be - SUB
'she held granny company when she was small' adverbial spa
- (4) huq runasimi yacaci - q kan agentive q
someone Quechua teach - NOM is
'someone (who) is a Quechua-teacher'

- (5) cayri paga - na - cu ka - ra - n nominal na
 and pay - SUB - INT be - past - 3rd.
 'did you have to pay before?'

In all these cases the underlined elements in the verbal form appear to 'introduce' the subordinate clauses, and define their relation to the matrix clause. This general consideration would lead us to analyze them as COMP in a base rule such as (6), in which the COMP position is to the right of S since the underlined elements in (1) - (5) appear to the right of the subordinate clauses:

- (6) $\bar{S} \rightarrow S \text{ COMP}$

Particular feature combinations are spelled out to define these morphemes. A possible feature system for the elements dominated by COMP in Quechua would be as in (7):

(7)

	r(q)a	sqa	tns	fut	q	na	qti	sti	y	sqa	spa
										nom	
action before	+	α	-	-	-	-	-	-	-	α	+
action after	-	$-\alpha$	+	+	-	+	+	-	-	$-\alpha$	-
nominalizer	-	-	-	+	+	-	-	+	+	+	-
finite	+	+	+	+	-	+	+	-	+	+	+

On the horizontal axis we list the subordinators and nominalizers along with the tense markers (/r(q)a/, /sqa/, and future). On the vertical axis we specify four dimensions:

- action before: this means that the clause marked positive for the X feature has taken place before the time of the speech act or the action of the higher verb.
- action after: the same but after
- nominalizer: the clause introduced by this element is realized as an NP.
- finite: the action of the clause introduced by this element is finite.

This notation refers to the fact that these elements give opposite values for the two dimensions involved. In Quechua, tense markers such as rqa and sqa form one class with the subordinators and nominalizers.

There are several major problems, however, with identifying the class of elements described, with a COMP such as given in base rule (6). First of all, several suffixes appear to the right of the COMP forms in (1) - (5). These, including person, number and independent suffixes as shown in (2) for example. Second, the theory of agreement processes and word formation developed in Lefebvre & Dubuisson (1978) and Muysken (1978) respectively, does not allow for this type of transformational process affecting parts of lexical items. Third, some of these suffixes, particularly /-y/, /-na/, and /-q/, appear in contexts where an \bar{S} analysis does not seem to be called for: some of the complex verbal constructions. [cf. Muysken, 1977, where this problem is noted but not solved.] For these reasons, a simple version of base rule (6) can not be adequate for Quechua. One possible way around the first two problems would

be to claim that base rule (6) holds, but that there is surface lexicalization, preceded by a COMP attachment transformation of the following type (8):

$$\begin{array}{rcccl}
 (8) & X & \begin{bmatrix} +V \\ BF_2 \\ F_1 \\ j \end{bmatrix} & \begin{bmatrix} K F \\ :k \\ V F_n \end{bmatrix} & Y \\
 & 1 & 2 & 3 & 4 \\
 & 1 & 2+3 & \emptyset & 4 \implies \\
 & & \begin{bmatrix} +V \\ BF_2 \\ y F_n \end{bmatrix} & &
 \end{array}$$

In this transformation, the features of the COMP are adjoined to the features of the verb. Lexicalization would then operate on the conjoined feature bundle 2+3, and the word formation component would produce a lexical item matching this bundle. However the third problem that the suffixes /-y/, /-na/ and /-q/ appear in contexts where an \bar{S} analysis does not seem to be called for, as in complex verbal constructions, is not solved by this type of analysis. Nonetheless, the generalization that Quechua is COMP-final, expressed in (6), has some validity, as will be shown in section 3.

There seems to be a process in Quechua which related an element to the left of the sentence with a position within it, quite similar in important respects to 'Wh-movement' in English and other European languages.

There are however at least two differences between them:

- (a) First, the class of Wh-elements in Quechua can not be defined morphologically;
- (b) Second, no evidence has been found so far for unbounded left-ward Wh-movement.

Among the elements appearing to the left of the sentence we find words such as in (9):

(9)	pi	'who'
	mayqin	'which'
	ima	'what, which'
	may	'where'
	hayka	'when'
	hayk'a	'how many'

They appear in questions such as (10) and (11):

- (10) ima - ta - taq ruwa - ra - nki - ri?
 what - ACC - IND do - past-2nd - IND
 'what did you do?'
- (11) pi - kunan cay - ta t'uqacinku
 who - plur. this - ACC sing
 'who (pl.) sings that?'

They also appear in embedded questions as shown in (12) and (13):

(12) cay - pi riqsiwaq [may sit^yu-manta ka - sqa - n -ta- pas]
that - in you-can-find where place-from be - SUB - 3rd-ACC IND
'in that you can find out from which place they are'

(13) mana - cu uyari - ra - nki [pi-tapis sayna rima - q - ta]
NEG - INT hear - past- 2nd who like-that speak - NOM- ACC
'haven't you heard anyone who talks like that'

If we assume structure-preservingness, i.e. that no element can occur in a position not provided for it by the phrase structure rules, particularly in embedded sentences (cf. Emonds, 1976), we have to account for the distribution of Wh-elements in Quechua, which can include NP's and PP's, by adopting an extra-sentential Wh-position, as in Ps-rule (14):¹

(14) $\bar{S} \rightarrow WH S$

To form Wh-questions, this position needs to be filled.

So far, two (rough approximations of) base rules have been discussed: rule (6) and rule (14):

(6) $\bar{S} \rightarrow S COMP$

(14) $\bar{S} \rightarrow WH S$

Quite obviously, the early theory of complementizers closely associated Wh-elements and COMP, as is seen in Bresnan's Complementizer Substitution Universal (1970; 317):

"Only languages with clause-initial COMP permit a COMP substitution transformation."

Wh-movement would clearly be such a transformation; in Quechua the combination of (6) and (14) is a direct counter-example to the universal.

While in the early theory, Wh-movement was thought of as a COMP substitution transformation (since only one element could be in COMP), the later theories, e.g. Chomsky & Lasnik (1977), assumed that Wh-movement was an adjunction transformation. Since it was shown by Grimshaw (1975) that in Old English (wh+that) was an acceptable sequence, it was assumed that the occurrence in Modern English of only element in COMP could be accounted for by a filter, combined with free deletion in COMP.

It takes only one more step to dissociate (+Wh) and that entirely, and thus de facto abolish the notion of COMP as a single node under \bar{S} . Such a theory will be sketched in section 3 of this paper for Quechua.

2. The status of independent suffixes and the COMP node.

In this section we discuss Zwicky's (1977) suggestion that independent suffixes could be generated in COMP and then moved to their position in S.

Let us assume as in Lefebvre and Dubuisson (1978) and in Muysken (1978) that in Quechua most classes of suffixes are generated by word formation rules

of type (15) except for 'case' may be, which is not discussed in this paper, and for independent suffixes.

(15) N --- stem + person + number

Independent suffixes are listed in (16):

- (16) I. mi affirmative
 si hearsay
 ca dubitative, 'perhaps'
 cu negative, interrogative
 taq..ri question emphasis
- II. qa focus
 pis/pas indefinite, coordinate
 yá intensifier
 cá intensifier
 raq continuative

These suffixes have the following characteristics:

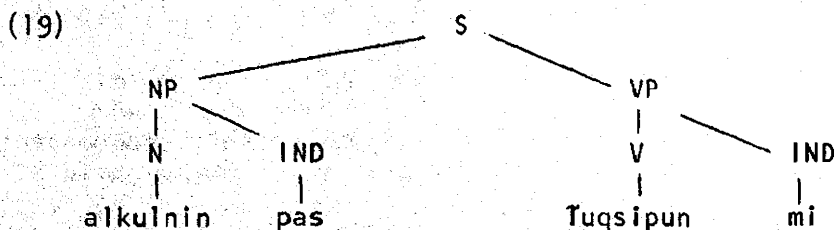
- a) they can appear on any kind of constituent;
- b) they can appear on both major and minor categories;
- c) their stress-behavior is irregular in two ways:
 1. While Quechua has penultimate stress, some of these suffixes can take primary stress, e.g. /-cá/ and /-yá/
 2. While all other suffixes in Quechua are stress shifting, these are optionally non-stress shifting;
- d) Finally, their scope is not limited to the word that they are affixed to, but rather the whole constituent; they all have a discourse function, in the sense that they refer to some general quality or aspect of the action, or to the status of the proposition.² Given these four characteristics, we can conclude that they are not part of word formation. Instead, we propose a phrase structure rule such as (17):

(17) $X^n \text{ --- } X^{n-1} \text{ IND}$

where IND refers to the position of the independent suffixes, and X to any major constituent (N, V, A, P).

Thus for example (19) should be analyzed as (20):

(18) alkuIni - m -pas Tuqsipu - n - mi
 alcohol - 3rd-IND evaporate - 3rd-IND
 'his alcohol is evaporating'



Although the independent suffixes can be generated freely, there are rather strict rules of interpretation governing their distribution, such as the

following:

- a) Each proposition can have one element from the first set of independent suffixes listed in (16) which refer to the quality and status of the information;
- b) the position of the independent suffix in the sentence determines its scope;
- c) subordinating clauses are severely restricted in their capability of including one of these elements. The suffixes of the first category can never occur there. Among the suffixes of the second category /-qa/, /-ya/ and /-ca/ cannot occur in subordinate clauses either;
- d) in main clauses, the combinability of elements from the first and the second set of independent suffixes remains to be studied.

Zwicky (1974) sketches an analysis for some Philippine languages in which independent suffixes similar to the Quechua ones are generated in COMP, and then moved to their position in the sentence.

We feel that bringing elements from COMP into the S of which it is a sister is not attractive for theoretical reasons. A second problem, possibly less serious, is that it would be difficult in Zwicky's analysis to account for the presence of several independent suffixes in the sentence. Thirdly, independent suffixes appear to be mostly a root phenomenon in Quechua, and for this reason an analysis in terms of COMP is not immediately called for.

3.0. The theory of COMP

Having discussed the data in the framework of existing theories, we shall now turn to the description of the theory of COMP that we propose for Quechua.

This theory of COMP crucially involves the idea that positions on the \bar{S} level serve to relate elements within the S which they c-command to elements in the matrix sentence (in the case of subordinate clauses), and to the realm of discourse (in the case of root sentences).

We will assume that this type of relation involves at least three types of grammatical categories in Quechua: WH, Tense and Person. We already postulated a WH node on the S level in (14) and parallel to this one we will postulate a tense and a person node. These will be discussed in turn.

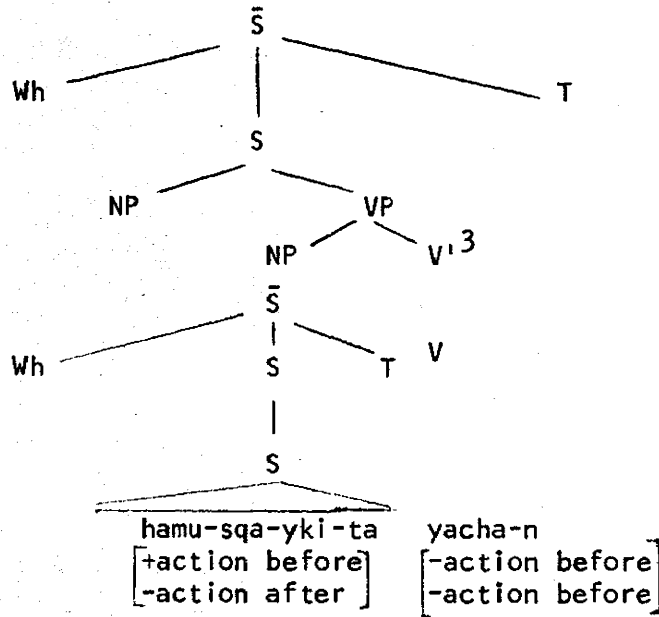
3.1. Tense

In the section on nominalizers and subordinators, (see (7)), a feature matrix was given, which shows the relationship between the tense markers of the main clauses and the 'taxis' elements (adverbial and nominal) of the subordinate clauses. We will assume that the interpretation of subordinate and main clause tense is governed by the same principles, and involves a tense position on the \bar{S} level. To illustrate this idea consider (20):

- (20) hamu - sqa - yki - ta yača - n
 come - NOM - 2nd - ACC know - 3rd
 'he knows that you have come'

The relevant features of this sentence are presented in tree (21):

(21)



An interpretive rule for tense will have in this case the effect as stated in (22):

- (22) a) The action of /hamu-/ took place before that of /yacha-/
- b) The action of /yacha-/ takes place at the same time as the speech act.

We have drawn the tense marker in the tree as being generated to the right of the S. At this point this is an arbitrary choice and whether it is to the right or to the left of the S is of no consequence for the theory established here. It might be that a more constrained version of the semantic interpretation rule would help deciding the issue.

Another promising path to gaining insight into the internal structure of the S would be to investigate relative clause formation in this language in detail. We will not be concerned with this topic in this paper.

3.2 Person

In Lefebvre & Dubuisson (1978) a theory of agreement in Quechua was sketched which involves the notion of matching rules. These check the agreement within the NP and within the S. (23) exemplifies the type of matching rule that is postulated:

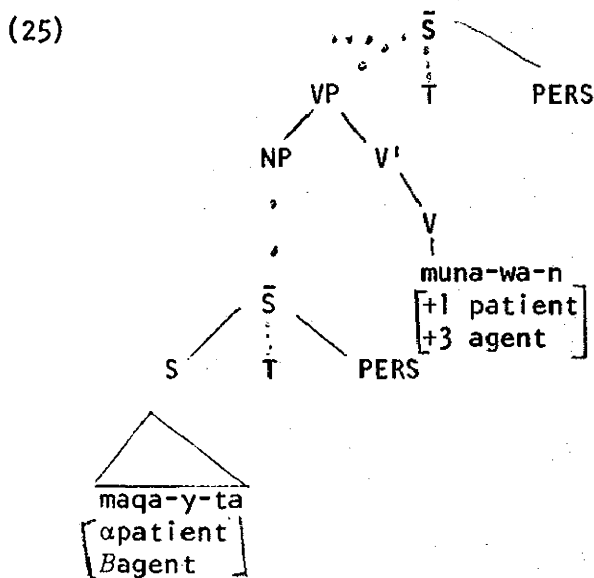
(23) generated structure	qankuna-qa [-gen +nom +animate +2nd person +plural]	ri-nki [+2nd person] -plural
expected structure	[-gen +nom +animate +2nd person +plural]	[+2nd person] +plural

In this case the generated structure does not match the expected structure; and the generated structure will be filtered out.

This theory needs to be refined in order to account for the interpretation of infinitival complements. In Quechua the infinitive form remains unmarked for agent and is optionally marked for patient. The problem is how to account for the interpretation of these forms. Consider the sentences of (24), all of them grammatical:

- (24) a) maqa - y - ta muna - wa - n
 hit - INF- ACC want - 1st - 3rd
- b) maqa - wa - y - ta muna - n
 hit - 1st - INF- ACC want - 3rd
- c) maqa - wa - y - ta - muna - wa - n
 hit - 1st - INF- ACC- want - 1st - 3rd

We will assume that (24) has roughly the structure (25):



The agent and patient of the lower verb have to be interpreted from the higher verb, and we will assume that, also in this case, an intermediate position on the \bar{S} level is involved to relate the two V's. This position is represented as Person in (25).

Conclusion

In this paper we have shown that data drawn from the Quechua language challenge the conventional analyses of COMP. We have sketched the bases for a revised theory of COMP involving the idea that position on the \bar{S} level such as tense and person serve to relate elements within S to elements in the matrix sentence and to the realm of discourse.

The theory of COMP proposed here constrains semantic interpretation on the one hand, and constrains variation between languages on the other hand. The constraint on semantic interpretation may be stated as follows

"No rule may relate α and B without referring to a position on the \bar{S} level:

$$\alpha \left[\begin{array}{c} \bar{S} \\ B \end{array} \right] \dots$$

We argued that question interpretation involving the Wh position, tense interpretation and person interpretation should take place via specific morphosyntactic positions on the \bar{S} level:

$$\left[\begin{array}{c} \bar{S} \\ WH, Tense, Pers, \left[\begin{array}{c} S \\ \dots \end{array} \right] \end{array} \right] \dots$$

The theory proposed here imposes a heavy constraint on variation between languages. We assume that languages differ as to how different morphosyntactic features are lexicalized, but also as to whether they are lexicalized at all. In English and French, Tense is lexicalized as 'that' and 'que' respectively, while in Quechua the morphosyntactic position Tense is not lexicalized but it is bound by the verb morphology.

NOTES

* The Quechua data reported on in this paper were gathered by C. Lefebvre in Cuzco in 1971-72. Fieldwork in Cuzco was funded by the following organizations: Canada Council, The Center for Latin American Studies at Berkeley, and The Language Behavior Research Laboratory of the University of California at Berkeley. Collaboration on this paper was made possible in part by the Netherlands Foundation for the Advancement of Tropical Research (WOTRO). We also to thank Hans den Besten, and Peter Cole for their comments and suggestions.

1. The present formulation leaves the question of whether movement transformations are involved unanswered.

2. For a discussion of their morphological status, see Muysken (1978); for a general description, see Wölcck (1972).

3. In an extended version of this paper we will investigate the status of Aux as a position on the S level and argue that some complex verbal constructions have to be analyzed as \bar{V} . For a first draft of this extended version, see Lefebvre and Muysken to appear in The Montreal Working Papers.

4. For an analysis of French data along those lines, see Lefebvre (in preparation).

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