WAYS OF RELATIVIZATION AND RELATIVIZED POSITIONS IN GUMUZ

Asfaw Amena

ABSTRACT

This study analyzes ways of relativization and relativized positions in Gumuz. It follows the theory of Government and Binding (GB) of Chomsky (1981, 1982, 1986) and other recent developments.

It is argued that Gumuz uses the strategy called gapping (EC). This means that relativized positions are not filled by phonetically real NP's but indicated by an empty category (EC) which is pro. This is in the case of declarative clauses. In interrogative relatives where Wh-movement is involved the EC is a Wh-trace (=variable).

1. Introduction

The question of relativization has been a central concern in much of recent works in generative grammar (Keenan, 1985:155). The reason for this is that relative clauses are formed in different ways in different languages. Modern Greek, for example, has three main ways of relativization (Joseph, 1983:2).

In some languages, relative clauses involve movement. English is an example of this. Other languages may have other ways of relativization. In languages which lack movement, there may be a rule which interpretes a base generated pronoun in a relative clause. Modern Hebrew uses this strategy. In this language, the pronoun which is base generated in a relativized position is interpreted as a resumptive pronoun (Borer, 1984:220). In other languages, relativization involves gapping which is called empty category (EC) in the generative literature (Chomsky, 1982:17). Wolayta, an Omotic language of Ethiopia, uses this strategy (Bikale, 1989). In such languages the relativized NP positins are not filled by real NP's.
In still other languages relativization involves pronominal object clitics appearing in relative verbs. The clitics refer to the relativized NP. Amharic is an example of this as shown in Mullen (1986).

2. Basic Word order in Gumuz

Before we go into the relativization strategies it is essential to show the basic word order of the language, because a relativized position is typically correlated with the basic word order of a language (Cole, et.al. 1982:118).

The basic word order of Gumuz is SVO as the following structures in (1) show:

(1) a. [dua-(we) [d - a - suk' gumbba - (ya)]]
   IP      VP
   boy-nom   PAST-3s - kill lion - acc
   'The boy killed the lion'

   b. [dua - (we) [d - a - bic edene - (ya)]]
   IP      VP
   boy-acc   PAST-3s - hit she - acc
   'The boy hit her'

In Gumuz, there is no difference in word order between relative clauses and independent clauses. This is particularly true when subject NP’s are relativized. All Gumuz independent sentences and subject relativized relative clauses follow the same SVO order. Consider the following examples in (2) and (3):

(2) a. [dua-(we) [d - a - suk' gumbba-(ya)]]
   IP      VP
   boy-nom   PAST-3s - kill lion - acc
   'The boy killed the lion'

33
b. [dua-(we) [int - a - suk' gumbba-(ya)]]
   NP       CP
   boy-nom  comp-3s- kill lion-acc
   'The boy who killed a/the lion'

(3) a. [baga-(we) [ d \ sub. a - kode me? a - (ya) ] ]
   IP       VP
   man-nom  PAST- 3s- boy goat-acc
   'The man bought a/the goat'

b. [baga-(we) [int - a - kode me?a - (ya)]]
   NP       CP
   man-nom  com-3s- bought goat-acc

As stated earlier, the similarity between the word order of independent and relative clauses is observed only when the subject NP is relativized.

3. Subject Relativization

At this point it is necessary to show how languages mark relativized positions for there are differences of meanings between clauses due to differences in relativized positions as in (4) below:

(4) a. [The man [who [saw John]]]
   NP       CP       IP

b. [The man [who [John saw]]]
   NP       CP       IP

In (a), the relativized position is that of the subject whereas in (b), it is that of the direct object. The following D-structures of (4) show these positions.
(5) a. [The man [NP [who saw John] [CP IP]]]

b. [The man [NP [John saw who] [CP IP]]]

In both clauses, the wh-element 'who' moves to comp which is empty and identifies the relativized positions in the clauses.

However, there is no relative pronoun in Gumuz declarative clauses to identify the relativized NP positions. Consider examples (2b) and (3b) above:

In such structures/inter/ is attached to the relative verbs. In both examples, the relative clauses follow the SVO order and occur following the head nouns. The verbs in both relative clauses need external arguments, but there are no such overt arguments in the positions. Keenan (1985) calls this strategy gapping or in the terminology of the generative literature an empty category (EC) (Chomsky, 1982).

/suk' / 'kill' and / kode / 'buy' in (2b) and (3b) respectively need both internal and external arguments. / gumbba / 'lion' and / me?a / 'goat' are internal arguments and the external argument positions are empty as they are relativized.

Following this observation the D-structure representations of (2b) and (3b) may be shown as in (6) respectively.

(6)a. [dua-(we)[int[e [a [suk' gumbba-(ya)]]]]]

boy - nom comp 3s killed lion - acc 'The boy who killed a/the lion'
One may raise a question concerning the property of the empty category (EC) in such positions. According to Chomsky's (1982:79) classification, there are four types of EC: NP - trace, Wh - trace (variable), PRO and Pro. To which of these do the EC's in (6) above belong? A trace is a result of movement. In the examples we have considered so far, there is no movement. This rules out the possibility that e is a trace. It cannot also be PRO because PRO is ungoverned whereas the EC's in (6) are all in governed positions since the clauses are finite. It is possible to assume that the EC in such positions is Pro and as such, it would be in the scope of Binding Principle B (Rizzi, 1986:510). Consider structures (6a and b):

(7) a. 

NP 

dua-(we) 

SPEC 

e 

C 

int 

SPEC 

Pro 

I' 

a 

V 

NP 

suk 

gumbba-(ya) 

'The boy who killed a/the lion'
The relativized subject positions are empty. The e in such positions is [ + p, -a ] that means, non-anaphoric or Pro since it is governed. According to the Binding Theory, Pro is like pronominals such as he, she, they etc. except that it lacks phonetic matrix, and hence is free in its local domain. Following this, it is possible to conclude that Gumuz, like a number of other Ethiopian languages uses the Pro in situ strategy in forming relative clauses. Baye (1987), Bikale (1989), Mengistu (1989) and Alemayehu (1990, 1992) argue that Oromo, Wolayta, Khamtanga, Chaha and Kunama Marda, respectively use this strategy. In all, a base-generated EC, i.e, Pro is used in a relativized position.

4. Object Relativization

The preceding section shows clauses with relativized subjects. In this section, we shall observe relativized objects.
4.1. Direct Objects

When a direct object NP is relativized we have structures like the following:

(8a. [me?a-(ya) [int - a - kode baga-(we) e]]
   NP            CP
   goat-acc       comp - 3s-bought man - nom
   'The goat which a/the man bought'

b. [gumbba-(ya) [int - a - de - su - suk mah e]]
   NP            CP
   lion - acc    comp - 3p-FUT - 3p - kill they
   'The lion which they will kill'

As can be seen from the examples, the head nouns /me?a-(ya)/ 'the goat' and /gumbba-(ya)/ 'the lion' appear initially. Moreover, the object suffix /-ya/ is optionally attached to the head nouns. Like in relativized subject NP's, the relativized object NP positions are also empty.

Furthermore, the verb appears before the subject. This order is different from the basic SVO order of the language. This change suggests that the verb has moved form its base position. What motivates the movement of the verb? As mentioned in Radford (1988:403), verbs move to INFL to acquire Tense/Agreement features associated with the head I. Chomsky (1986b:68) assumes such movement to be obligatory for otherwise the agreement affixes under I would lack a bearer. The following D-structure shows the unassociated Tense/AGR features under I.
The I in (9) contains both Tense and AGR affixes. These affixes need a host to get attached to. For this reason V-moves to the left rather than INFL to the right (Cook, 1988: 130) as it is a general property of movement that it cannot down grade constituents. Moreover, "a moved constituent cannot occupy a lower position than any of its traces" (Radford, 1988:564). So, the reason why V moves to I is to pick up affixes of Tense and AGR. This movement leads to the amalgamation of V + INFL (henceforth Vi)\(^1\), this gives us the inflected verb, Vi. This verb has also to move to C, the head position of CP (Chomsky, 1986b:68).
Consider the first movement from VP to I in (10).

(10) \[
\begin{array}{c}
\text{[Vi]} \\
\text{I} \\
\text{VP}
\end{array}
\]

The V-head of VP cannot reach the head position of CP directly because it has to form the inflected verb Vi, first within IP. It is after movement to I that it moves to C. After the V to I and then to C movements, the S-structure of (9) looks like (11).

(11) \[
\begin{array}{c}
\text{NP} \\
\text{gumbba-(ya)} \\
\text{int[desusuk']} \\
\text{C} \\
\text{IP} \\
\text{NP} \\
\text{I} \\
\text{VP} \\
\text{NP} \\
\text{tj} \\
\text{V} \\
\text{tj} \\
\text{e}
\end{array}
\]

'The lion which they will kill'

The moved V leaves its trace in its base position. This trace must be properly governed. According to Chomsky (1986b: 69), V-movement is an instance of head movement which is local. Such traces are governed by their antecedents.
In the structure observed here, the V raises to I and subsequently to C in (11) forming a chain headed by the inflected verb, Vi. Then the head of the Chain (Vi) governs the subject NP. However, this Vi is not permitted to either mark or case-mark the subject NP, "only the terminal D-structure position in the chain retains the capacity to mark or Case-mark" (Chomsky, 1986b:72).

The AGR, which is nominal in the sense that it contains the features person, number and gender is assigned the same index as the subject NP. That is, AGR is co-indexed with the subject to express the agreement relation (Chomsky, 1986a:162). Observe the following structure.

(12) [gumbba-(ya)[int - a - de - su - suk; [ mah
      NP      CP       IP
      I
lion -acc  comps'p - FUT - 3p - kill they

[t;  [t;  e]]]]
I  VP

'The lion which they will kill'

In (12), the object position is not filled by a phonetically real NP because it is the relativized position. It is an e which is governed by the verb, /suk / 'kill' and assigned the patient - role and accusative case, and the subject / mah / 'they' is governed by I and assigned agent - role and nominative case. Hence, the D-structure of (8) is as in (13) respectively.

(13)a. [ me?a-(ya) [int [baga-(ya) [a [kode e]]]]]
    NP  CP  IP  I  VP
goat -acc comp man - nom 3s bought

'The goat which a/the man bought'
b. [gumbba-(ya) [int [mah [a-de-su [suk e]]]]]  
NP     CP     IP     I     VP

lion - acc comp they 3p-FUT - 3p kill
'The lion which they will kill'

Regarding the word order change exhibited in the surface, it is a result of the verb moving from its base position within VP to the IP external position.

4.2. Prepositional Objects

We have seen subject and direct object relativizations in the preceding sections. We now consider how objects of prepositions are relativized. The following examples are illustrative of this.

(14) a. [bakee [d-a c lamana ki-baga]]  
IP     VP
Bakee PAST-3s-give money to - man
'Bakee gave money to a man'

b. [baga-(ya) [int - a - ge - c bakee lamana e]]  
NP     CP
Man - acc comp 3s - to - gave Bakee money
'The man whom Bakee gave money to'

In (a), the preposition /ki-/ 'to' is attached to the noun /baga/ 'man' whereas in the relative clause in (b), /ge/ which has the same purpose as /ki-/ is prefixed to the relative verb. /ge/ adds the prepositional meaning 'to' to the verb's meaning of 'give'. /ge/ is the relativized object NP position within the PP. It is preceded by the subject of the clause /bakee/. The verb has moved to the head position of CP. The following D-structure shows its position before movement.
We may assume different head movements in the above structure. First the preposition /ge/ moves to the relative verb because in Gumuz we cannot have a P without an overt complement. In other words, like in French (Radford, 1981), the preposition cannot be stranded in Gumuz. The prepositional object position is empty as it is relativized. Thus, since the prepositional head cannot be stranded it has to move to the verb to get a bearer.

V-movement is another instance of head to head movement. After collecting the Tense / AGR elements in I, it moves to the C of CP.

Let us also observe (16) where we have relativization with an instrumental PP.

(16) a. [ muha - (ya) ] [ int - a - ge; - suk; ] [ edene
   NP CP IP
   spear - acc comp - 3s - with - killed lion
   I VP PP

"The spear with which she killed a lion"
b. [Kulfiya - (ya) [int - a - ge; - ko - kodas; NP CP
key - acc comp - 3p with - 3p - opened
they door house
[mah [t; [t; jis misa [t; e]]]] IP I VP . pp

'The key with which they opened a door'

In the above structures, /ge/ adds the meaning 'with' to the meanings of /suk'/'kill' and /kodas/'open'. Then the meaning will be 'kill with' and 'open with' respectively. In the examples, the relativized positions are the object of prepositions. These positions are empty as they are relativized.

After the P's move to the verbs they together move to the C positions leaving coindexed traces in their original positions.

Moreover, /ge/ may also add the prepositional meaning 'for' as in (17) below.

(17) [dua-(ya) [int - a - ge; - kode; [bakee NP CP I IP
boy - acc comp - 3s - for - bought Bakee orange
[t; [t; birtuka [t; e]]] ] VP . pp

'The boy for whom Bakee bought orange'

The prepositional meaning 'for' and the meaning of the verb 'buy' together convey the meaning 'buy for the benefit of'. Without /ge/ the verb alone cannot convey this meaning. Consider the following ill-formed structure because of the absence of /ge/.
The above structure is ill-formed because the relativized position is not marked for both case and 0-role. This shows that the preposition /ge/ in such relative clauses assigns case and - roles to the relativized empty prepositional object (=Pro). This is parallel to the argument in Mullen (1986) where she says that Amharic prepositional object clitics which have similar functions as /ge/ plus the verbs they are attached to, give a new grammatical relation. Since the relative verb and the preposition carry different meanings, we may expect a new grammatical relation when they occur together. But this does not mean that the relative verb plus the preposition assign - roles. For example, it is the presence of the preposition /ge/ which adds prepositional meanings to the meanings of the verbs. Thus, like in independent clauses, it is the preposition which assigns - roles to the relativized empty prepositional object positions. Accordingly, in (16) for instance, /ge/ assigns the instrumental - role to pro, and in (17) it assigns the benefactive - role to the relativized empty position (=pro).

According to Marantz (1981) quoted in Mullen (1986:278) for similar phenomena in other languages, such elements can be classified under "applied affix", a morpheme bearing its argument structure, which is affixed to a verb. This assumption does not indicate the base position of such elements. But it is reasonable to say that such elements are prepositional heads. Thus, /ge/ is a prepositional head of a PP which moves to V for the same reason of stranding.
5. **Interrogative Relatives**

There are relative clauses which behave like Wh-NP's in languages like English. Observe the following.

(19) a. \([\text{intse } \text{kodê yakee } e]\)

What bought Yakee

'What did Yakee buy?'

b. \([\text{intse int-a-kodê yakee e}]\)

what comp-3s-bought Yakee

Lit. 'What is that/which Yakee bought?'

In both (a) and (b), the questioned NP's are the object NP's which are empty. According to the basic word order of the language, the NP's should occur after the verb in D-structure.

Are the Wh-NP's in CP in D-structure? The answer to this question may give light to the nature of e in (19). Consider the following structure from which such questions may be derived.

(20) \([\text{yakee d-a-kode me?a-(ya)}]\)

Yakee PAST-3s-buy goat - acc

'Yakee bought a/the goat'

When one forms an echo question, we have (21) with a rising intonation.
This means that (19) has undergone Wh-movement. As stated in Radford (1988), if the Wh-word originates within IP and moves to CP, it is clear that Wh-movement must have applied to the clause. Thus, the D-structure of (19) is as in (21). From this we may assume that the position of 'what', which is the base position of the questioned NP, /intse/ in (19), is in (19). (21) may show the position of /intse/, 'what', which is a in (19). (21) may show the position of /intse/, 'what', which is a in (19). From this we may assume that the position of 'what', which is the base position of the questioned NP, /intse/ in (19), is in (19). From this we may assume that the position of 'what', which is the base position of the questioned NP, /intse/ in (19), is in (19). From this we may assume that the position of 'what', which is the base position of the questioned NP, /intse/ in (19), is in (19). From this we may assume that the position of 'what', which is the base position of the questioned NP, /intse/ in (19), is in (19). From this we may assume that the position of 'what', which is the base position of the questioned NP, /intse/ in (19), is in (19). From this we may assume that the position of 'what', which is the base position of the questioned NP, /intse/ in (19), is in (19). From this we may assume that the position of 'what', which is the base position of the questioned NP, /intse/ in (19), is in (19).
(23) a. \([\text{intse}; [\text{kode}; [\text{yakee} \{t; t; t; \}]]]\)
   \[
   \begin{array}{ccc}
   \text{CP} & \text{C} & \text{IP} & \text{I} & \text{VP} \\
   \text{what} & \text{bought} & \text{Yakee} \\
   \end{array}
   \]

   'What die Yakee buy?'

b. \([\text{intse}; [\text{int - a - kodo}; [\text{yakee} \{t; t; t; \}]]]\)
   \[
   \begin{array}{ccc}
   \text{CP} & \text{C} & \text{IP} & \text{I} & \text{VP} \\
   \text{what} & \text{comp - 3s - bought} & \text{Yakee} \\
   \end{array}
   \]

   Lit. 'What is that/which Yakee bought'

/\text{intse}/ has moved from the object position to the Spec. of CP leaving a trace behind. "This type of trace is consequently a Wh–trace, also known as variable" (Cook, 1988:126). The moved elements and their traces form chains and "Chain formation can only be initiated from IP internal position" (Epstein, 1992:239). Similarly, in the above examples, the verbs move from VP internal to C of CP and /\text{intse}/ moves from VP internal to Spec. of CP. There are two chains formed shown as in (24).

(24) a. \([\text{kode}; ... t; ... t;\] \\
    b. \([\text{intse}; ... t;\]

   Since movement is from - position (Chomsky, 1986b) in (24b) t shares the patient – role with the head of the chain /\text{intse}/ 'what'.

According to the EC classification made in Chomsky (1986a), a Wh–trace is a variable which is neither anaphoric nor pronominal, thus \([-a,-p]\). It is subject to principle C of Binding. Thus, as Safir (1984:604) noted for English structures like (who; did Mary see t; ) it is enough to say that in (23), /\text{intse}/ in CP locally A–binds the direct object position (i.e. its trace).
The structures in (19 a and b) behave in the same way. The difference is that the prefix /int/ is attached to the relative verb /kode/ 'buy' in (b). This element appears in the relative constructions as shown in the preceding sections. Although the movements and the properties are the same in both examples, (b) is similar to other relative constructions except that it involves Wh-movement. Thus, the relativized position in this case is empty resulting from movement and is not a base-generated pro.

Questioned subject NP's behave in the same manner. observe (25) below:

(25) [waree; [int - a - suk'; [ t; [ t; [ t; ]]
CP C IP I VP
who comp - 3s- killed
gumbba - (ya) ]]]]]
lion - acc

'Who is that killed a/the lion?'

/waree/ 'who' is extracted from the subject position where the trace t is shown. The verb also moves from the VP internal position to I and then to C. From this we may conclude that the interrogative relatives involve Wh-movement in Gumuz.

6. Passive Relatives

A substitution rule called NP-movement (Radford, 1981:180) applies in a number of constructions including passives. Observe the following structure.

(26) [ gumbba [ d - i - suk' t]]
IP VP
lion  PAST-PASS-killed
'The lion was killed'
/gumbba/ 'lion' has moved from the object position filled by t to the external argument position which is empty as passive verbs do not have external arguments (Chomsky, 1981:118). The movement is triggered by case since [NP, VP] does not receive a verbal case (accusative) within the VP (Jaeggli, 1986:587). Thus, a lexical direct object is not allowed in (26) above. /gumbba/ has thus to move to the subject position where it can get nominative case. This is what we find in independent clauses. However, there is no such NP-movement in passivized Gumuz relative clauses as illustrated in (27) below.

(27) [me?a [int - i - ko - kodok'a [e1 e2 ]]]
NP CP IP

.. goat comp PASS 3P sold

'The goats which are sold'

There are two EC's in this clause. Since relativized positions are empty in Gumuz, e2 is the result of a relativized object. Furthermore, since the passive verb has no overt subject, e1 is the subject of the passive verb assuming that the verb has moved to C. Thus (28) is the structure we get before V-movement has taken place.

(28) [me?a [int [ e1 [i, ko [ kodok'a e2]]]]]
NP CP IP VP

.. goat comp PASS-3p sold

'The goats which are sold'

According to Jaeggli (1986:588), the surface subject of a passive sentence corresponds to the logical object of the verb. The relation of /eo/ with e1 is due to this correspondence.

Thus far, we have considered only the so called "agentless passive" (Radford, 1981:182), i.e. passives which lack any agent phrase introduced by prepositions as in "the city was destroyed by the enemy". In this
structure, the NP, the enemy has been introduced by the preposition by and is called by-phrase (Jaeggli, 1986:599). Although the NP introduced by the preposition by is commonly known as an Agent (Radford, 1981), it is interpreted as an agent only when the external role of the passive verb is Agent (Jaegglie, 1986:599). It can be interpreted as Goal, Source or Experiencer depending on the role assigned to the by-phrase.

In Gumuz such NP's are introduced by the preposition /ki-/ and correspondingly we may call such phrases 'ki-phrases'. Observe the passivized relative clauses with the ki-phrase in (29).

(29) a. [gumbba [int - i - suk;' [e NP CP IP
lion comp- PASS- Killed

[ [t; [t; [ki - muha ]]]]
I VP PP
by - spear
'A lion which was killed with spear'

b. [me?a [int - i - kode; [e [t; [t; NP CP IP I VP
goat comp- pass- bought

[ [ki - baga ]]]]
PP
by - man

'A goat which was bought by a man'
In (29), we find empty subjects as passive verbs do not have external arguments and an empty direct object. The NP in the ki-phrase, according to Jaeggli (1986) is interpreted as bearing the external role of the passivized predicate. This is true regardless of the particular nature of the role assigned to the NP in the ki-phrase. Thus, the phrase in (29a) is assigned the Instrumental role and in (29b) it is assigned the Goal role. These roles are the external roles transferred on to the NP in the PP in a passive sentence by the crucial involvement of the passive suffix (Jaeggli, 1986:600). The suffix is /i/ in Gumuz.
7. conclusion

Different relativized NP positions have been considered in this paper. It was found out that Gumuz relative clauses use the strategy called gapping. According to this strategy, relativized NP-positions are not filled by phonetically real NP's. These positions are empty. Since the relativized position is governed and marked, the EC in such position is Pro. On the other hand, Gumuz interrogative relatives employ the movement strategy. The Wh-NP's move from their positions to the spec of CP. In this case, the relativized position is also empty because of movement and the e is not a base generated Pro, it is a wh-trace (=variable) which is coindexed with the moved wh-NP.

Wh-movement is not common in other Ethiopian languages, such as Amharic, Oromo, Chaha, etc. Unlike these languages, Gumuz interrogative relatives and Wh-questions employ such movement.

In all relative clauses we have head movements of P to V, and V to I and then to C. The V-movement leads to the word order changes exhibited in sentences with relativized objects. Since the cause for V-movement is the same in all cases, there is no reason why verbs in subject relativized clauses do not move. Thus we assume that all relative verbs in Gumuz move from VP to I and then to C.

Passive relative clauses have also been described. As passive verbs have no external arguments and the relativized positions in Gumuz are empty, we may find passive verbs without external and internal arguments. When a direct object is relativized, for example, the object position is left empty because of relativization and the subject position is also empty as passive verbs do not have overt subjects.
Notes

1. Modern Hebrew has two relativizing strategies, movement and the resumptive pronoun.

2. In linguistic theory, a lexical pronoun in the relativized position has been referred to as 'resumptive pronoun' (see Mullen, 1986).

3. The term clitics is defined as a morpheme that is phonologically bound and syntactically free (see Daly and Rhodes (1981) for the definition).

4. The subject and object affixes are optional in Gumuz.

5. /int/ is treated as complementizer. Since it does not show any nominal feature, like gender, person, number or case it cannot be treated as a pronoun. In English for example, the Wh-relative pronouns show formal differences between nominative, accusative and genitive cases. But /int/ has no such variations. Furthermore, relative pronouns tend to carry specific syntactic properties marked for gender or animacy. Again, /int/ does not carry any of such features (see Asfaw (1993) for details).

6. In Gumuz, the past tense of the relative verb is indicated by zero morpheme.

7. Subject relativization is when the head noun of a relative clause is an understood subject of the clause, and object relativization is when it is understood object of the clause (see Bunte, 1986).

8. The head noun in the relative clause is the noun that is the sister of the relative clause, i.e. the head noun and the relative clause are dominated by the same node. The N circled below is the head of the relative clause as indicated in Culicover (1976:195).

54
9. The four types of expressions (EC's) namely, NP-trace, Wh-trace, PRO and Pro are the realization of the two basic features [a] 'anaphoric' and [P] 'pronominal'. In this case, NP-trace is a pure anaphor, [+a, -p]; whereas Pro is a pronominal [-a, +P]. Variables (Wh-traces) are neither anaphoric nor pronominal, thus [-a, -p]. We then take Pro to be a pronominal anaphor [+a, +p], sharing properties of both pronouns and anaphors.

10. The movement of V to the head of CP is called I-movement (Radford, 1988). This movement may be motivated by the complementizer /int/ which is generated in CP.

11. When external - role is source, the NP in the by-phrase is interpreted as source. When it is goal, the NP can be interpreted as goal. Observe the following examples taken from Jaeggli (1986:599).

   a. Bill was killed by Mary. (Agent)
   b. The package was sent by John. (Source)
   c. The letter was received by Bill. (Goal)
   d. The teacher is feared by all students. (Experiencer)
References


(1986b). Barrier. Cambridge. MIT.


