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BARRIERS FOR BASQUE AND VICE-VERSA

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1. It is a standard claim in the literature on Basque that lexical material cannot intervene between a moved Wh-element and a verb (Altube (1929)). The theoretical status of this descriptive generalization is unclear, even at an observational level.¹ Here we will start by assuming that the issue at stake is, essentially, that no lexical material can intervene either between a Wh-element and its trace, or between a Wh-trace in its D-structure position and the verb (as described in (2)):²

- (1) a. Zuk [zer [pro t edango duzu]]
_{1 CP 2IP 1 2}
 You-ERG what-ABS drink it-aux-you
 'What will you drink?'
 b. * [Zer [zuk t edango duzu]]
 c. Ardoa [Nork [t pro edango du]]
_{1 CP 2IP 2 1}
 Wine-the-ABS who-ERG drink it-aux-he
 'Who will drink wine?'
 d. ?* [Nork [t ardoa edango du]]
- (2) a. * Wh [...X...t ...] if X is lexical (as in (1a-b))
_{1IP 1}
 b. ?* [...t...X...V...] if X is lexical (as in (1c-d))
_{IP}

(Notice that pro is licensed in object position. Note also that (2b)-type violations are rather better than (2a)-type ones.)

Altube also observed that (3c) cannot be an answer to (3a):

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- (3) a. Ardoa [nork [t pro edaten du]]
 Wine-the-abs who-erg drink it-aux-he
 'Who drinks wine?'
- b. Ardoa [[JONEK pro edaten du]]
 Wine-the-abs John-erg drink it-aux-he
 'John drinks wine'
- c. * JONEK ardoa edaten du
 John-erg wine-the-abs drink it-aux-he

(The non-focalized version of (3c) is perfectly fine.) Apparently, no lexical material can intervene between a focalized phrase and V. Altube's insight was to collapse this fact concerning focalization with the ones described above. De Rijk (1978) made an interesting proposal to account for Altube's observation: Wh-movement and focalization in Basque are the same process, at whatever relevant level.³ It can be shown independently that only one focalized phrase per clause is possible in Basque; thus the ungrammaticality of (4):

- (4) a. Gamma-irazketa adjuntuei D-egituran ezartzen zaie
 'Does Gamma-filtering apply to adjuncts at D-structure?'
- b. * Ez, GAMMA-MARKATZEA ARGUMENTUEI S-EGITURAN ezartzen zaie
 ('No, GAMMA-MARKING applies to ARGUMENTS at S-STRUCTURE')

Interestingly, a Wh-moved phrase and a focalized phrase cannot co-occur in the same clause:

- (5) * Nork esan duzu
 Who-erg say it-aux-you
 ('Who have you said
 KANUTOA lapurtu digula
 joint-the-abs steal it-aux-us(dat)-he-comp
 has stolen OUR JOINT?')

If focalization and Wh-movement are the same process, the fact in (5) follows directly, given the property of Basque behind the description in (2). However, it isn't clear that these two phenomena should be identical. For one thing, focalization does not seem to involve movement to Comp, even though it does seem to involve the creation of a variable.⁴ Let us assume that it is precisely the fact that both phenomena entail an operator/variable relation that makes them show identical properties. If this is the case, it looks like the nature of the process underlying (2) may be dependent on the Empty Category Principle (ECP, see Chomsky (1981)), or whatever other requirement on traces there are.

2. Consider the notion of M(inimality)-barrier (as defined in Chomsky (1986b)):

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- (6) A is an M-barrier for B iff A includes C and D where C is a maximal projection including B and D is a head c-commanding B.

Take now the ungrammatical Basque structure in (7):

- (7)
- ```

 CP
 /\
 Wh- C'
 /\
 IP C
 /\
 NP I'
 lexical /\
 VP I
 /\
 t V

```

And consider whether there is an M-barrier for t. Let Infl be a head D c-commanding t, where t is B. Let IP be a maximal projection C included by A, where A is C'. It is then straightforward that C' is an M-barrier for t, according to (6). Finally, assume (8), (9):

- (8) A assigns +gamma to B only if A governs B.<sup>5</sup>
- (9) A governs B iff there is no D, D an M-barrier for B, such that D excludes A.

Given (8), it is clear that the Wh-element in (7) cannot gamma mark t, in violation of the ECP (see fn.5).<sup>6</sup> What we have to explain is why when the subject is null, C' is not an M-barrier for t (i.e., why something like (1a) is grammatical).

Following Saddy (1987), we propose relativizing the notion maximal projection.<sup>7</sup> In particular, let this notion be characterized in terms of agreement, essentially as in (10):

- (10) A is a maximal projection only if there is a B such that B agrees with the head of A.

Further, let us make the following crucial assumption:

- (11) empty categories bear no r(eferential)-index inherently.

Given (10) and (11), we open the possibility of turning a maximal projection into a non maximal projection "temporarily", so to speak. The idea is that whether or not a projection is maximal depends on whether or not its head agrees with some element (an argument or a quantificational item). For two categories to agree, they have to be r-co-indexed (see Chomsky (1986a)), which

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in turn implies that both of these categories have r-indices. Let us assume that this co-indexation is checked cyclically. Then, at cycle A, projection B will be non-maximal if it does not have an element agreeing with it. Suppose *pro* is a potential agreeing argument for B. It still won't induce B to be maximal, because B cannot agree with *pro*, assuming (11). Suppose we proceed then to cycle C. Suppose further that *pro* gets indexed in this cycle. Then, in C B will be a maximal projection, for after being indexed *pro* does bear an r-index and hence can agree with B (see Saddy (forthcoming) for related discussion). So now take a version of (7) with an empty subject. In order for C' there to be an M-barrier for t, one of the things we need is that IP be a maximal projection. But IP cannot be a maximal projection when *pro* is its subject, at least not until *pro* is indexed. In fact, assume *pro* is indexed above the CP cycle.<sup>8</sup> Given this state of affairs, there are no M-barriers for t in this case, which means that the latter can be gamma marked.<sup>9</sup>

This accounts for the part of Altube's generalization which deals with operator-variable relations.<sup>10</sup>

3. Chomsky (1986b) proposed that, apart from the ECP, all traces must satisfy a head-government requirement.<sup>11</sup> Let this requirement be stated as in (12):

- (12) t must be lexically governed,  
 where A lexically governs B only if A is a lexical X<sup>0</sup>  
 and A governs B.

By lexical, we'll understand whatever characterization teasing apart for example V and N from Infl and Comp. We'll also assume the Verb-movement hypothesis which we will take, among other things, as making the landing site Infl lexical in all relevant respects.<sup>12</sup>

The question we are interested in is what counts as a head governor for a trace in a structure like (13):

- (13) ?\* Nortzuk [t Jon maite duzue]  
 Who-of-you Jon love him-aux-you  
 ('Who of you love Jon?')

Assuming maite raises to Infl, it would have to be the unit [V[Infl]] which lexically governs the trace. We'd like to argue, however, that in a sentence like (13) this is not the case.

In Saddy's theory, an argument is external to XP if this argument does not agree with X and agrees with Y, for X and Y distinct heads. It is usually claimed for Basque that all verbal arguments in tensed clauses agree with Infl. This means that in particular direct objects are external to VP in Basque. However,

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take (14):

- (14) a. Jonek lan egin du  
 Jon-ERG work-ABS make it-aux-he  
 'Jon has work-done'
- b. Jonek lana egin du  
 Jon-ERG work-the-ABS make it-aux-he  
 'Jon has done the work'
- c. Lanak nekatu nau  
 Work-the-ERG tired me-aux-it  
 'Work has tired me'
- d. \* Lanek nekatu nau  
 Work-ERG tired me-aux-it  
 ('Work-tiring has happened of me')

Direct object arguments, unlike subject arguments, may undergo Noun-incorporation. Baker (1986) argues that only VP internal arguments undergo such a process, so it is unclear that the direct object could be external to VP in Basque. On the other hand, take a close look at the sequence of agreement markers in the auxiliary. Whereas the ergative marker appears to the right of the auxiliary root, the absolutive marker appears to its left.<sup>13</sup> If morphological facts are to mirror syntactic facts, following again Baker, this order should be significant, and should discriminate one agreement marker from the other.

We want to suggest that the structure in (13) can be analyzed as in (15a) in D-structure and as (15b) after "move-alpha":

- (15) a.
- ```

      IP
      /\
Nortzuk 1 I'
        /\
        VP I
        /\ /\
      Jon V I zue 1
        2/\ \
        V d u
        / 2
      maite
  
```
- b.
- ```

 CP
 /\
Nortzuk 1 C'
 /\
 IP C
 /\
 t I'
 /\
 VP I
 /\ /\
 Jon 2 t I zue 1
 v /\
 V I
 /\ \
 V d u
 / 2
 maite

```

Further, we want to revise definition (6) as in (16), (17):

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- (16) A is an M-barrier for B with respect to G iff A includes C and D, where C is a maximal projection intervening between G and B, and D is a head m-commanding B.
- (17) For A, B, C distinct chains, C intervenes between A and B iff C includes at least one of the links of B and does not include at least one of the links of A.

Now consider (15b) in the light of (16). I' there is an M-barrier for t with respect to V because I m-commands t, and VP is a maximal projection intervening between V and t. If, on the other hand, VP lacked agreement with the direct object (say, by substituting pro for the lexical NP) then VP wouldn't be a maximal projection, in the manner we saw above; thus the grammaticality of such a version of (15). There is a prediction this analysis makes. Infinitives do not show agreement with any of their arguments; a structure otherwise equivalent to (15) should be fine, and it is:

- (18) Alkateari galdetu diogu zeinek txakurra hil  
 Mayor-dat ask aux who-erg dog-abs kill  
 'We asked the Mayor who would kill the dog'

(From our point of view, VP would not be a maximal projection here, in the intended sense.)

Note that the class of structures ruled out by (6) is included in the class of structures ruled out by (16); thus, the latter has at least the same descriptive power as the former. One structure that should worry us is (19). The issue is why VP here is not an M-barrier (so that lexical government of t can proceed):

- (19)
- ```

  CP
  /\
  Wh- C'
      /\
      IP C
      /\
      pro I'
          /\
          VP I
          /\ /\
          t t V I
              v
  
```

The answer to this has to be that the indexing assumptions we've been maintaining for pro are true of traces as well. In fact, let us assume that all gamma marking amounts to is the indexing of traces, which otherwise would remain unindexed. This of course entails removing from the grammar the stipulation that moved elements must be co-indexed with their traces. The consequence of

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this move are less problematic than it might seem. For variable traces, independent LF principles ensure that these elements be hooked up to a valid, unique operator (see Chomsky (1982)). As for the locality of this relation, (8) is ensuring it, where (8) is now understood in terms of the indexation of the variable. The same goes essentially for NP traces, where the theta criterion ensures the uniqueness of the antecedent.¹⁴

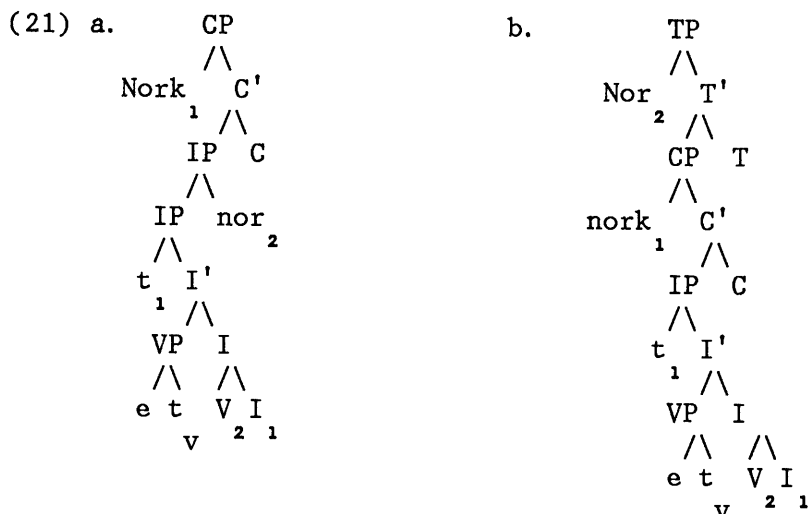
What we have said now accounts for the part of Altube's generalization which deals with head-trace relations. Interestingly, violations of (12) are weaker than violations of the ECP filter associated to (8).

4. There is a plausible analysis of multiple Wh-questions in Basque which follows from our approach. Consider (20):

- (20) a. [Nork [t₁ pro₂ maite du] nor₂]
 CP ¹IP₁ ₂
 'Who loves who?'
- b. * [Nor [Nork [t₁ pro maite du]]
 TOP₂ CP ¹IP₁ ₂

Multiple questions involve right dislocating one of the Wh-phrases. This is just an instance of Altube's problem, as discussed above: if we left the Wh-phrase in situ, this element would intervene either for the antecedent or the head government requirement of the S-structure trace. Assuming that right dislocation involves pro in the argument position, we have no special problems for the S-structure representation of (20). But if this were the whole story, (20b) would be fine, where instead of right dislocating the second Wh-phrase, we left-dislocate it (cf. the perfect (1c)). Now, at LF we want to interpret the empty category construed to the dislocated operator as a variable. Let gaps be determined functionally, (as in Chomsky (1982)), or perhaps freely (as in Brody (1984)), details aside, and let these elements be able to change in feature specifications from one level to the next: i. e., an S-structure pro may be an LF variable. Let the empty category which concerns us be specified as a variable if it is properly indexed by its antecedent. Assume intermediate LF structures for (20a) and for (20b) as in (21a) and (21b), respectively (let TP be a projection of TOP, according to standard X' requirements):

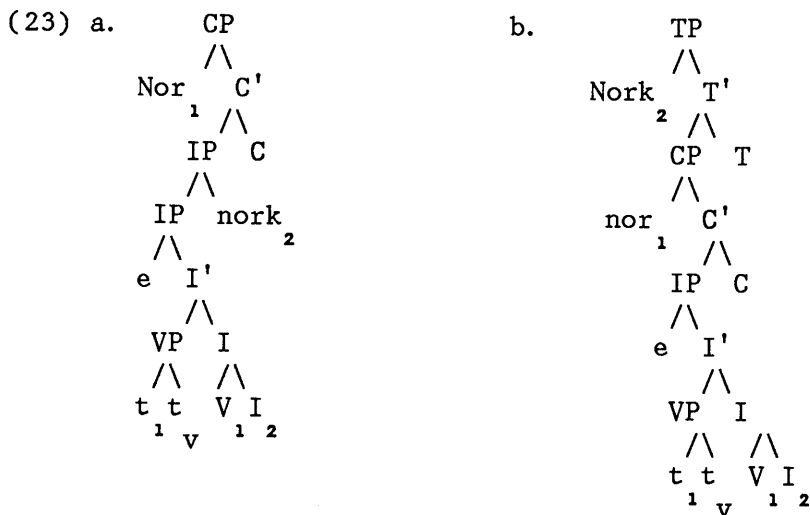
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And consider now how the underspecified gap in (21) can be characterized as a variable. This in (21a) is straightforward, since there is no M-barrier for *e* with respect to its potential antecedent nork. In (21b), however, T' is an M-barrier for *e* with respect to nork, which prevents *e* from being indexed.¹⁵

Let us extend the paradigm in (20) to include the cases in (22), with the associated structures in (23):

- (22) a. ?* [Nor₁ [pro₂ t₁ maite du] nork₂]
 ('Who does who love?')
 b. * [Nork₂ [Nor₁ [pro₂ t₁ maite du]]
 TOP CP



(23b) is ruled out in the manner (21b) is: T' is an M-barrier for

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e with respect to nork. As for (23a), it is a violation of the head-government requirement (for e) of exactly the same nature as (13) above. In particular, it is the indexed t which blocks head government of e by the raised V, upon specifying VP as a maximal projection, thereby inducing I' to be an M-barrier for e with respect to [V[Infl]]. The marginality of (23a) goes along with the marginality of head-government violations observed above.

5. To conclude, there are a couple of technical issues we'd like to address. Consider what prevents an intermediate structure like (24a) (notice that the ungrammatical (24b) can be easily derived from (24a))⁶:

- (24) a. [Jonek [nor [t maited] u]
 IP VP ¹VP ↓
 Jon-erg who-abs love-he aux-he
 b. * Nor Jonek t maite du
 ('Who does Jon love?')

Nor in (24) agrees with V, thus making VP a maximal projection. VP includes itself (a maximal projection) and V (a head m-commanding t), and intervenes between nor and t. This is so because VP includes t and does not include nor. Hence, VP is an M-barrier for t with respect to nor.

Chomsky (1986a) uses the device of VP adjunction to explain subject/object asymmetries with respect to the ECP.¹⁷ Crucially, Basque does not show these asymmetries, as (25) shows:

- (25) a. * Zer ez daki Peruk [nork [t t erosi duen]]
 1 CP 2IP 2 1
 ('What does Peru wonder who bought?')
 b. * Nork ez daki Peruk [zer [t t erosi duen]]
 1 CP 2IP 1 2
 ('Who does Peru wonder what bought?')

The strong ungrammaticality of both examples in (25) shows that the analysis of (24) is on the right track: traces of direct objects cannot have an antecedent governor adjoined to VP, and once the spec of Comp is blocked as a site from which to establish the relation, an ECP violation is yielded. In turn, this analysis still allows for VP adjunction of direct object operators in a language like English: direct objects do not agree with V in English, and hence do not specify VP as a maximal projection; thus, no M-barrier can be induced either.¹⁸

On the other hand, we have to prevent this interpretation of minimality from giving the wrong results in (26):

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- (26) a. [Nor [pro [t maite d]u]]
¹IP VP ₁
 Who-abs love him-aux-him
 'Who does he love?'
- b. [Nork [t [pro maite d]u]]
¹IP VP ₁
 Who-erg love him-aux-him
 'Who loves him?'

That is, if nor agrees with the verb, why isn't VP a maximal projection in (26a)? Or if nor agrees with Infl, why isn't IP a maximal projection in (26b)? We clearly have to prevent agreement in these cases from yielding the corresponding maximal projections. (27) is a way to go about it:

- (27) A is a maximal projection only if there is a B such that B agrees with the head of A, and the projection of A does not exclude B.

From this point of view, the agreement that the Wh-operator shows with respect to V or I in (26) is irrelevant, since the projections of either of these categories excludes this operator.

NOTES

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¹ Altube's observation has been reexamined in recent years. There are two logical possibilities: (i) there is a position which is a sister of V in the phrase marker to which Wh-phrases must move (see fn.3); (ii) we are dealing with a phenomenon involving the removal of lexical material intervening between a Wh-phrase in its usual Comp position and V. We will explore the second possibility.

² Basque is head-last and spec-first. The latter claim depends on the assumption in Abney (1986) that determiners are heads--they appear to the right of nouns in Basque. Comp appears to the right (but see Ortiz de Urbina (1986)). If we assume the specifier of Comp is to the left, and movement is to this site, then the fact that Wh-movement is to the left in Basque follows. Notice also that "displaced" intervening arguments (which we'll argue below are left-dislocated) are expanded in the pre-CP TOP position of

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Chomsky (1978) (see Salaburu (1985)).

³ It is sometimes said that Basque uses the so-called "focus position" both for Wh-movement and for focalization (see for instance Horvath (1986)). However, it is not clear what the notion focus position means, if by "position" we refer to one in the phrase marker. Choe (in progress) attempts a principled answer to this problem by positing the existence of a category "focus", which projects in the usual X' sense, and to which focalized phrases move. There is one problem with this approach for Basque. The hypothesized focus position must be an A' position, from this point of view. Focalization of phrases in A' position has a semantic import which is rather different from that of focalization of phrases in an A-position, as Rooth (1986) observed; thus, the contrasts in (i):

(i) Context: Yes, Mary is a very nice woman, however...

a. John doesn't love MARY; in fact, he doesn't love anyone

b. MARY, John doesn't love; # in fact, he doesn't love anyone

In (ib), there is a presupposition that John loves someone else other than Mary, which is not present in (ia)--compare (ib) with a non focalized version, which does have the same semantic import as (ia). The Basque instances of focalization which we are discussing show the type of semantics associated to (ia), not (ib):

(ii) MIREN ez du maite Jonek; izan ere, Jonek ez du inor maite

Jon doesn't love MIREN; in fact, Jon doesn't love anyone

Interestingly, De Rijk's argument that Wh-movement and focalization involve the same mechanism (see the text immediately below) works only for focalization in an A position; thus, (iii) is grammatical:

(iii) Jakin nahi nuke nork esan duzun lapurtu digula KANUTOA

'I'd want to know who you have said OUR JOINT has stolen'

(Basque is an SOV language (see fn.2); any argument appearing after the verb is displaced from its A-position.) Therefore, we will assume that focalization in an A position and in an A' position are different processes, and further that the first process is the one with relevance here.

⁴ See Rochemont (1986) and references cited there for relevant discussion. There is a sense in which focalization may be seen as the LF counterpart of topicalization, as in Lasnik and Saito (forthcoming) (i.e., as topicalization in situ). If topicalization is posited for the Syntax, the null hypothesis is that it takes place at LF as well.

⁵ Gamma assignment here has the sense of Lasnik and Saito (1984), though it will be modified below. An obvious difficulty for the approach we are taking is what happens with (i) in English:

(i) Who did John see t

Let us assume, however, that (ii) is an intermediate step in the derivation of (i) (as in Chomsky (1986a)):

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(ii) [John [who [see t]]]

In (ii), there are no M-barriers between the operator and the trace, and gamma assignment can proceed. Then the question is why this option is not open for Basque. We return to this in sec. 5.

⁶ Assume (i) for now (from Lasnik and Saito (1984)):

(i) * [t, -gamma]

Of course, assume also that the default value for traces which are not gamma marked is -gamma.

⁷ For a similar idea, though with a different technical spell out from that of Saddy's, see Fukui and Speas (1986). Note that this notion is relativized relevant to barrierhood. That is to say, we may as well keep the X'-theoretic term "maximal projection" to refer to the category which has reached the highest level of projection. We could still have a notion (call it "M-blocking-category") which discriminates certain maximal projections from others as counting (as C in (6)) for determining an M-barrier, say in terms of agreement. We regard this as a terminological point which won't affect our proposal.

⁸ What we have in mind is that pro is r-indexed by an element in the TOP position, which is either lexically present or empty, in which case is determined by the discourse (see Huang (1984) for a similar proposal in terms of Control Theory):

(i) a. [Miren [Jonek pro maite du]]

TOP | _____ |

'Miren, John loves (her)'

b. (Miren) [e [Jonek pro maite du]]

TOP | _____ |

'(Miren) Jon loves (her)'

A problem with this approach is that, according to De Rijk (1978), left-dislocation is not possible at all in Basque. His point is well taken. Consider (ii):

(ii) * Zalduna, herensugeak bera jan zuen

Knight-the dragon-the him eat aux

('The knight, the dragon ate him')

A pronominal bound by the left-dislocated phrase yields an ungrammatical result. But note that this is the case elsewhere when pro is an option. Thus, take the Spanish facts in (iii):

(iii) a. * Juan, Maria dice que el es inteligente

Juan Maria says that he is intelligent

b. Juan, Maria dice que pro es inteligente

Juan Maria says that (he) is intelligent

These contrasts are very reminiscent of the ones discussed in Montalbetti (1984), and may find a similar explanation. On the other hand, there is rather strong independent evidence that left-dislocation is what is at stake (and not, say, movement), since the subjacency condition (see Chomsky (1981) and elsewhere) does not affect the construction in question:

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- (iv) Komikia, jakin nahi nuke pro irakurri duzuen
'The comic-book, I wonder whether you have read (it)'

⁹ Here, we are departing from Lasnik and Saito (1984) in one important respect. Given their model of the grammar, gamma marking must take place after "affect alpha", the transformational operation. In fact, gamma marking is the last process taking place at, say, S-structure before the filter in fn.6 applies. For us, on the other hand, it is crucial that gamma marking be successive cyclic, or otherwise the indexation device proposed above will be nullified. Below we will see how gamma assignment can be seen as another instance of affect alpha, in which case its successive cyclic character follows.

¹⁰ In Laka and Uriagereka (1987), we offered cases like (i) as counterexamples to this part of Altube's generalization:

- (i) Nola lehendakariak galdera entzun zezakeen
How president-det-erg question-the-abs hear he-aux-mod-it
'How could the president hear the question?!

Examples of this sort are discussed in Mitxelena (1981). It isn't altogether clear that these cases are relevant to the issue at hand, however, since they don't seem to involve a question, but an exclamatory interpretation. This phenomenon needs further investigation, to test in particular whether regular Wh-movement is what is involved here. On the other hand, one problem which the analysis we are now offering presents is that cases like (ii) are out:

- (i) ?* Nor pro zineman ikusiko duzu
Who-abs cinema-loc see-fut he-aux-you
('Who will you see in the movies? ')

Nothing that we've said predicts this, since the adjunct does not agree with Infl, and hence IP is not a maximal projection in (i), in our sense. The graph theoretic approach to barriers in Laka and Uriagereka (1987) would predict this case.

¹¹ In the Lasnik and Saito framework, traces could be antecedent or lexically governed. Chomsky changed this "or" into an "and", assuming that the head government part is independent from the ECP.

¹² For the Verb-movement hypothesis, see Emmonds (1985). (i) shows evidence that this process is taking place in Basque:

- (i) * Jonek maite Mari du
Jon-erg love Mari-abs aux
('Jon loves Mari ')

Even though the word-order of Basque is very free, the adjacency verb-Infl must be kept, which is what we would predict if the verb raises to Infl. We will follow Chomsky (1986b) in assuming that the lexical features of the adjoined head V percolate up to Infl, making it lexical.

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¹³ Interestingly, the dative agreement marker appears to the right as well, prior to the ergative marker. This suggests that datives are external to VP in Basque, which is again confirmed by Noun-incorporation facts of the sort discussed in (14) (nouns cannot incorporate from indirect object position). This leaves the question open as to where exactly indirect objects are attached in Basque. This is particularly interesting, given (i):

- (i) * Zer pro Mariari bidali dio
 What-abs Maria-dat send it-aux-her(dat)-him
 ('What has (he) sent to Maria?')

Extraction across an indirect object is as bad as extraction across a subject. Since the former also agrees with Infl, we may conjecture that it determines IP as a maximal projection, which would argue for treating datives in Basque as external arguments, perhaps adjoined to VP. Interestingly, in the oriental dialects of Basque, where datives do not agree with Infl necessarily, the corresponding version of (i) is still bad.

¹⁴ Actually, the proper way to treat NP traces may be having them bear no r-index. For a development of this proposal, see Uriagereka (forthcoming).

¹⁵ There is a technical detail to consider here: how CP is a maximal projection. Assume for concreteness that the Wh-operator and Comp are co-indexed, which would suffice for (10).

¹⁶ The trace is indexed when nor is adjoined to VP, and later on this element moves across the subject. At worst, this would be just a weak subadjacency violation, but (24b) is terrible.

¹⁷ In fact VP adjunction is crucial in English, for IP is always a maximal projection in this language, where pro is not an option (and hence IP always induces an M-barrier).

¹⁸ This, incidentally, may give a motivation for part of Chomsky's (1986a) stipulation that Wh-operators cannot adjoin to IP. Take a structure like (ia), a stage in the derivation of the ungrammatical (ib):

- (i) a. You wonder whether [who [t left]]
 b. * Who do you wonder whether [t [t left]]

By the same reasoning in the text, IP is an M-barrier for t with respect to who in (ia), since who may be argued to agree with Infl, thus specifying IP as a maximal projection. IP includes itself (a maximal projection) and I (a head m-commanding t), and intervenes between who and t, since IP includes t and does not include who. Thus, we may allow adjunction to IP, but it won't do us any good with respect to antecedent governance.

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