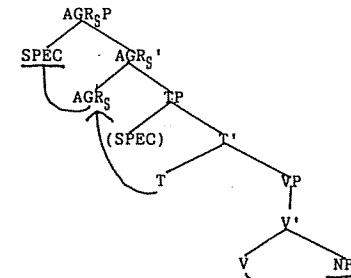


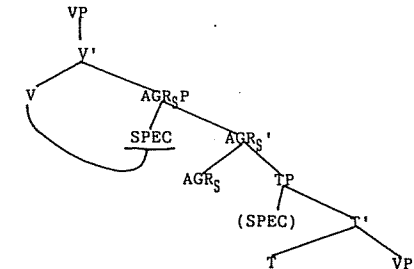
- (1) Languages are based on simple principles that interact to form intricate structures. (Here, minimalism is simply the culmination of a decades old research direction.)
- (2) The language faculty is 'nonredundant'. For example, an ill-formed sentence is ruled out by just one principle or constraint. (In Chomsky's work, this goes back at least to the late 1970's.)
- (3) The language faculty has 'symmetry': parallel phenomena fall under the same principles.
- (4) Principles of 'economy' play a central role in determining computations and the structural descriptions they generate. (In recent theorizing, Greed, Procrastinate, Shortest Move, etc.) (Hints of this in the earliest work in generative grammar.) *<I will be exploring some of these in some detail.>*
- (5) Language has two interface levels: LF, which interfaces with the conceptual-intentional performance system; and PF, which interfaces with the articulatory-perceptual performance system. There are no other levels. (In part, reminiscent of Generative Semantics proposals of the mid- to late- 1960's.) *<This has major implications for virtually every aspect of syntax. I will be particularly concerned with Case, Binding, ellipsis, and quantifier scope.>*
- (6) Conditions on the levels represent necessary properties of the interfaces. *<The notions 'well-formed LF object' and 'well-formed PF object' will be considered.>*
- (7) A linguistic expression is a formal object that satisfies the interface conditions in the optimal way.
- (8) Basic linguistic relations are stated in terms of core structural notions, those given by X' theory. Thus, Spec-head and head-complement, but not government. *<I will discuss the interactions between this desideratum and (3) above, especially with respect to theories of Case and agreement.>*
- (9) Strong lexicalism: words enter syntactic structures fully inflected, and with abstract features to be checked by functional heads. There is no word formation by syntactic affixation; Case is a matter of checking rather than assignment; etc. (Obvious roots in "Remarks on Nominalization".) *<I will examine some of the history of theories of case and of verbal inflection in this regard. With respect to verbal inflection, I will argue for a weaker form of lexicalism.>*

## A. Levels of Representation: Case Considerations

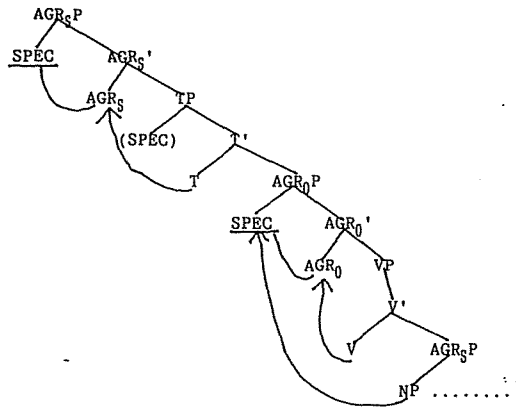
- (1) John saw Mary



- (2) John believes Mary to be intelligent

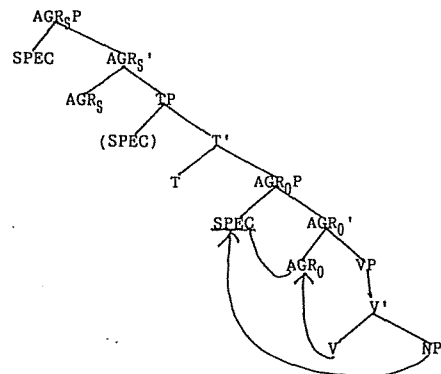


(3)



- (4) T raises to AGR<sub>S</sub> and, when T is finite, the combination licenses nominative Case in SPEC of AGR<sub>S</sub>.  
 (5) V raises to AGR<sub>0</sub>, and, when V is accusative, the combination licenses accusative Case in SPEC of AGR<sub>0</sub>.

(6)



- (7) The Case feature of an NP must be licensed via SPEC-head agreement. An NP with an unlicensed Case feature is an ill-formed LF object. A-movement is driven by the need for the Case feature to be licensed (one aspect of 'Economy of Derivation').

### B. The 'Extended Projection Principle'

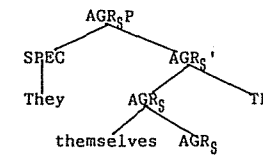
- (8) \*has been arrested John  
 (9) John has been arrested  
 (10) The police have arrested John  
 (11) \*The police have John arrested

- (12) By licensing Case, the relevant feature of a head is discharged and disappears.  
 (13) Tense in English has a 'strong' NP licensing feature. A strong feature (or a functional head containing one) is an ill-formed PF object.  
 (14) 'Procrastinate'. Delay performing a necessary operation until LF, except to prevent a PF violation.

### C. SPEC of AGR<sub>0</sub>: Further Arguments

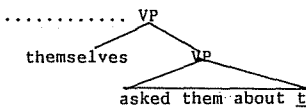
- (15) They injured themselves

(16)

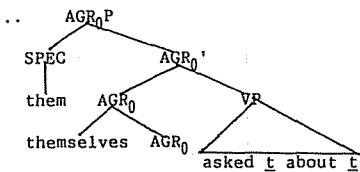


- (17) I asked them about themselves

(18)



(19)



- (20) The FBI proved that few students were spies  
 (21) The FBI proved few students to be spies  
 (22) Joan believes he<sub>i</sub> is a genius even more fervently than Bob<sub>i</sub> does  
 (23) \*Joan believes him<sub>i</sub> to be a genius even more fervently than Bob<sub>i</sub> does

- (24) ?The DA proved [the defendants to be guilty] during each other's trials  
(25) ?The DA accused the defendants during each other's trials  
(26) ?\*The DA proved [that the defendants were guilty] during each other's trials
- (27) Noone saw anything  
(28) \*Anyone saw nothing
- (29) The DA accused none of the defendants during any of the trials  
(30) ?The DA proved [none of the defendants to be guilty] during any of the trials  
(31) ?\*The DA proved [that none of the defendants were guilty] during any of the trials
- (32) Jones proved the prisoners guilty with one accusation each  
(33) Jones proved the defendants to be guilty with one accusation each  
(34) Jones prosecuted the defendants with one accusation each  
(35) ??Jones proved that the defendants were guilty with one accusation each
- D. On the Other Hand...: The Problem of Apparent S-structure Requirements
- (60) Which book that John<sub>i</sub> read did he<sub>i</sub> like  
(61) \*He<sub>i</sub> liked every book that John<sub>i</sub> read  
(62) \*Who said that he<sub>i</sub> liked which book that John<sub>i</sub> read
- (63) John<sub>i</sub> wonders which picture of himself<sub>i</sub> Mary showed to Susan  
(64) \*John<sub>i</sub> wonders who showed which picture of himself<sub>i</sub> to Susan  
(65) John<sub>i</sub> said that every picture of himself<sub>i</sub>, Mary likes  
(66) \*John<sub>i</sub> said that Mary likes every picture of himself<sub>i</sub>
- (67) There arrived two knights on each other's horses  
(68) Two knights arrived t on each other's horses  
(69) The DA proved [two men to have been at the scene] during each other's trials  
(70) \*The DA proved [there to have been two men at the scene] during each other's trials
- (67) If the general program is correct, either there is no QR, or QR raises just the quantifier head, and not the entire quantificational expression. Similarly for LF wh-movement. We will return to this issue.

- (1) \*John is likely [t will win]
- (2) Standard analysis from the 1980's: Movement is a 'last resort'. If an NP already is in a Case-marked position, it can't move to another. (A still earlier related approach was in terms of 'Case clash'; note that even two instances of the same Case, as in (1), clash.)
- (3) I believe it to be likely John will win  
(4) It is likely John will win
- (5) Last resort relative to what? Should (3), (4) be compared to (16), (1)? The answer is no if derivations to be compared have identical lexical choices. The relevant comparison would then be between (16), (1) and (6), (7) (which are themselves ungrammatical), in violation of the 'Extended Projection Principle'.
- (6) \*I believe     to be likely John will win  
(7) \*    is likely John will win
- (8) Thus, the proposal that the movement of an item  $\alpha$  is driven exclusively by requirements of  $\alpha$  itself, even if failure to move results in a 'crashed' derivation, as in (6), (7). This is 'Greed'.
- (9)     seems to [<sub>q</sub> a strange man] [that it is raining outside] [Chomsky (1993)]
- (10) Raising of  $\alpha$  must be blocked, both in LF ((9) is not a well-formed sentence) and in overt syntax:
- (11) \*A strange man seems to t that it is raining outside
- (12) Chomsky's proposal is that  $\alpha$  has no reasons of its own for moving, either overtly or covertly, since its Case is licensed by to. Again, Greed is implicated, since movement would help the derivation satisfy the EPP.
- (13) Contrary to standard assumptions, (1) and (11) do not actually provide evidence for Greed. In fact, under independently plausible assumptions, they argue against Greed, since that constraint is redundant for such examples.
- (14) The Case feature of an NP must be checked. A reasonable technical instantiation of this is as follows: if the Case feature survives until the LF interface level, the derivation crashes. The feature disappears

when it is checked. But then, if the derived subjects in (1) and (11) has already had its Case checked before it moves to subject position, the nominative Case feature of Tense will never be checked, and that will cause the derivation to crash.

- (15) For (11), there is even further redundancy, since a single NP couldn't possible check both the nominative feature of Tense and the oblique feature of to.
- (16) \*I believe [John to be likely [t will win]]
- (17) Here the problem is similar, but with the relevant unchecked feature that of  $AGR_0$  above believe. Again, Greed is at best superfluous, and at worst, redundant. [More on questions about ECM constructions later.]
- (18) \*It is believed [a man to seem to t that S] (Chomsky 1994)
- (19) On the face of it, a much stronger argument for Greed. There is one Case feature to be discharged (that of to), and one NP to check that feature (a man). The movement is solely to satisfy the EPP, thus is altruistic, in violation of Greed.
- (20) \*There is likely [someone to be [t here]]
- (21) [ $\gamma$  to be [ $\beta$  someone here]
- (22) Procrastinate: LF movement is preferred to overt movement.
- (23) At the outset of a derivation, all lexical items to be used are selected. The derivation includes generalized transformations, which combine these lexical items into one structure. At stage (21), it is preferable to fill the SPEC of  $\gamma$  by inserting there rather than by raising someone, since, locally, the latter move would violate Procrastinate. Then when  $\gamma$  is further embedded, once there is raised to the higher subject position, there will be no need to move someone at all in the overt syntax, and, in particular, no need to move it to the position vacated by there. Procrastinate thus suffices to rule out (20), in favor of (24).
- (24) There is likely to be someone here
- (25) [ $\gamma$  to seem to a man that S]
- (26) At this point, the SPEC of  $\gamma$  must be filled. The choices are the raising of a man, or the insertion of it. But just as in Chomsky's discussion of (20), Procrastinate favors the latter over the former, blocking (25) in favor of (27):
- (27) It is believed [t to seem to a man that...]
- (28) Greed is irrelevant to the choice.

(29) \* $John_i$  Infl [ $\gamma$   $t_i$  [ $\gamma$  HIT  $t_i$ ]

(30) HIT is like hit, except that it has no Case feature.

(31) John has originated in complement position, picking up the object  $\theta$ -role of the verb, then moved to SPEC of VP, picking up the subject role, on its way to SPEC of IP. Greed would rule out this derivation (thus explaining why HIT doesn't exist) if a  $\theta$ -role is a formal feature that a verb must discharge but not a formal feature that an NP must possess.

(32) The 'associate' of there moves to there in LP. This accounts for the familiar agreement paradigms:

- (33)a There is/\*are a man here  
b There are/\*is men here

(34) \*There seem to a lot of us that S

(35)a Greed: Movement of  $\alpha$  to  $\beta$  must be for the satisfaction of formal requirements of  $\alpha$ .

- b 'Enlightened self interest': Movement of  $\alpha$  to  $\beta$  must be for the satisfaction of formal requirements of  $\alpha$  or  $\beta$ .  
or c Movement of  $\alpha$  to  $\beta$  is free.

(36) If (34) is well-formed (but semantic gibberish) with a lot of us in situ, as claimed by Chomsky (1993), then (only?) (35)a will exclude it. [If it is semantic gibberish even with movement of a lot of us to There, then (35)a,b, or c will suffice.]

(37) If, on the other hand, (34) is formally defective, the failing must be some unsatisfied requirement of There or of Infl, since all requirements of the complement of to are satisfied. This argues for Greed.

(38) There is someone here

(39) If the Case of someone is licensed by is (Belletti 1988; Lasnik 1992; Chomsky 1994), what is the difference between (34) and (38)?

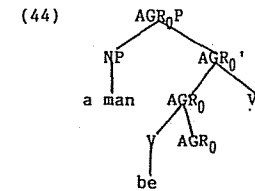
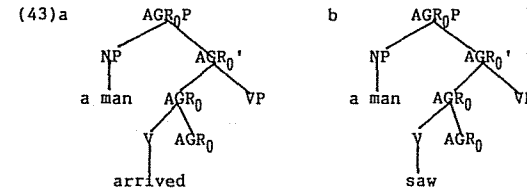
(40) Chomsky (1994) suggests, in line with Greed, that the complement of to in (34) has its  $\Phi$ -features checked by to, or by an agreement projection immediately above to, while someone in (38) must move to There to have its  $\Phi$ -features checked.

(41) The problem with that line of reasoning, though, is that Chomsky also argues that an agreement projection dominates the small clause complement of be in existential constructions, and that  $\Phi$ -features are checked in the specifier of that projection. So even if a DP needs to have its  $\Phi$ -features checked, those of someone already would be, short of moving all the way to There. There is, therefore, no 'greedy' motivation for the movement.

- (42) Two possible 'enlightened' motivations for the movement:
- (43)a There is an LF affix. A stranded affix is an ill-formed object.  
 b There is morphologically defective, lacking  $\Phi$ -features, so the  $\Phi$ -features of  $AGR_0$  will not be checked unless the associate moves to There.
- (44) What did John buy
- (45) Chomsky (1993) proposes that raising of a wh-operator to SPEC of CP is driven by the need for a morphological Q-feature to be checked. In a simple interrogative clause, C has this feature, as does the operator that raises to it.
- (46) Thus the operator raises to check its own feature, and in so doing, it satisfies the feature of the head it raises to. This is consistent with Greed.
- (47) Who bought what
- (48) Chomsky (1993) argues that, exactly along the lines of Chomsky (1973), the wh-phrases that are in situ overtly remain in situ at LF, and are interpreted in the appropriate Comp without movement to that Comp at any level of representation.
- (49) For the one wh that actually does move, we must identify a driving force, in particular, (under Greed) a morphological feature of that wh that must be checked.
- (50) Further, that feature must distinguish the wh that moves from the ones that do not, because if all had the feature, the unmoved ones would cause the derivation to crash.
- (51) Alternatively, if the feature is simply freely assigned to any wh-phrase, then there is no description of standard Superiority effects, as in (52):
- (52) \*What did who buy
- (53) I believe [John to [<sub>pp</sub> t own a house]]
- (54) There must be some strong feature of non-finite tense driving the overt movement to subject position. But the relevant feature is not a Case feature, since Case in ECM constructions is checked in the SPEC of a higher  $AGR_0$ .
- (55) Since there is, in general, also no agreement requirement of the subject that needs to be satisfied in SPEC of  $AGR_0$ , there is no apparent feature of the NP that needs to be satisfied. Yet Greed, unlike enlightened self interest, demands that there be one.
- (56) John is believed [t to be likely [t to be arrested t]
- (1) There is someone here
- (2) There is [<sub>q</sub> a strange man] in the garden
- (3) "In [(2)]  $\alpha$  is not in a proper position for Case checking; therefore it must raise at LF, adjoining to the LF affix there..."
- (4) \*There seems to [<sub>q</sub> a strange man] [that it is raining outside]
- (5) " $\alpha$  has its Case properties satisfied internal to the PP, so it is not permitted to raise, and we are left with a freestanding there."
- (6) "...raising of  $\alpha$  in [(4)] is blocked by the fact that its own requirements are satisfied without raising, even though such raising would arguably overcome inadequacies of the LF affix there."
- (7) A strange man is t in the garden
- (8) e is a strange man in the garden
- (9) If overt raising were not to apply in this instance, the PF representation would include the 'strong NP feature' of Tense. Given that a strong feature is not a legitimate PF object, the derivation is illegitimate; it 'crashes'.
- (10) Moving 'early' (i.e., overtly) solely to satisfy the morphological requirements of another item is permitted.
- (11) There is [<sub>q</sub> a strange man] in the garden
- (12) When Tense checks a feature, the strong NP feature of Tense disappears.
- (13) In (11), Tense must check the Case of there in overt syntax, or the derivation will crash at PF. Further, as an immediate result of this overt checking, the relevant feature of Tense disappears. But this means that the feature is no longer available to check the Case feature of [<sub>q</sub> a strange man] when that expression adjoins to there in the LF component.
- (14) The Case of the associate of there is independently licensed. Belletti (1988) calls this independent Case 'partitive'.
- (15) There is an LF affix.

- (16) The LF will crash unless the associate of there adjoins to it. Plausibly, this would suffice to drive the LF movement at issue in much the same way that the strong NP feature of Tense drives overt subject standard raising. In the former instance, without movement, we would be left with an illegitimate LF object. In the latter instance, we would be left with an illegitimate PF object.
- (17) 'Enlightened self interest': movement is motivated by morphological requirements, but the requirements need not be limited to those of the moved item; the target can be the beneficiary.
- (18) \*There seems to [<sub>q</sub> a strange man] [that it is raining outside]
- (19) Even Greed would not explain the impossibility of a version of (18) with to replaced by TO, where TO, analogous to Chomsky's HIT considered in the discussion of Greed, is like to, but lacking a Case feature.
- (20) \*There is likely [that John is tall]
- (21) There must be an affix on an NP with partitive Case.
- (22) \*There strikes John/someone that Mary is intelligent
- (23) a I want there to be someone here at 6:00  
b \*I want there someone here at 6:00
- (24) a Someone is likely to be here  
b There is likely to be someone here  
c \*There is likely someone to be here
- (25) There is likely [someone to be [t here]]
- (26) I believe [someone to be [t here]]
- (27) Chomsky suggests that a structure such as (25) is blocked by Procrastinate.
- (28) [<sub>Y</sub> to be [<sub>Q</sub> someone here]
- (29) Someone laughed
- (30) [<sub>Yp</sub> someone [<sub>Yi</sub> laughed]]
- (31) Someone arrived
- (32) There arrived someone [with someone in its initial position as complement of arrived]
- (33) \*There someone laughed [with someone in its initial position as SPEC of VP]

- (34) È stato messo un libro sul tavolo  
has been put a book on the table
- (35) \*È stato messo il libro sul tavolo  
has been put the book on the table
- (36) Ho sempre considerato [<sub>SC</sub> Gianni intelligente]  
I have always considered Gianni intelligent]
- (37) \*Sono considerati [alcuni studenti intelligenti]  
are considered some students intelligent
- (38) Partitive is an inherent Case.
- (39) There will be [a man available]
- (40) While be might have the Case licensing feature, it does not  $\theta$ -mark a man.
- (41) According to Chomsky (1986), inherent Case is distinguished from structural Case in several respects.
- (42) a First, it is assigned at D-structure (vs. S-structure for structural Case).  
b Next, its standard configuration is the head-complement relation between assigner and assignee.  
c Finally, the Case assigner must also assign a  $\theta$ -role to the Case assignee.



- (45) Be here is a 'light verb'. It has no  $\theta$ -roles of its own to assign.

- (46) Given that be has the partitive Case feature, and given that it is a light verb, the possibility arises that the passive verb does not itself license partitive Case. Rather, analogous to (44), the complex of be and the passive verb in  $AGR_0$  licenses partitive Case in the SPEC of  $AGR_0$ .
- (47) \*Sono considerati [alcuni studenti intelligenti]  
are considered some students intelligent
- (48) Now the specific failure of licensing is due to the distance between sono, the possessor of the partitive Case feature, and intelligenti, the  $\theta$ -marker of alcuni studenti.
- (49) \*There has been put a book on the table
- (50) There has been a book put on the table
- (51) There has been [a book put t on the table]
- (52) There has-been [e put a book on the table]
- (53) There is a functional head with a strong NP feature driving the overt movement of a book in (50). The most plausible candidate for this functional head is the passive morpheme, which I take to head the small clause complement of 'be'.
- (54) The fact that the Italian (34) is good suggests, all else equal, that the NP feature of the passive functional head in that language is weak.
- (55) \*È stato un libro messo sul tavolo  
has been a book put on the table
- (56)a \*[e] era del pane sul tavolo  
was some bread on the table
- (57) There is likely to be a building demolished
- (58) There is a building likely to be demolished
- (59) There is a solution
- (60) How<sub>i</sub> is there likely to be [a building demolished t<sub>i</sub>]
- (61) ?\*How<sub>i</sub> is there a building likely to be [demolished t<sub>i</sub>]

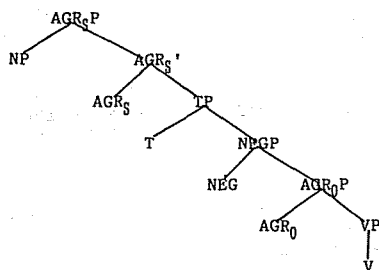
## I. English vs. English; English vs. French

- (1) A traditional description of the verb system in terms of 'head movement':
- S is the maximal projection of the inflectional morpheme Infl (= C of Syntactic Structures).
  - Infl takes VP as its complement.
  - When the head of VP is have or be it raises to Infl, the next head up. (not is a modifier of VP?)
  - Otherwise Infl lowers to V (under a condition of adjacency?).
  - Otherwise do adjoins to Infl.
- (2) The 'stranded affix' filter: A morphologically realized affix must be a syntactic dependent of a morphologically realized category, at surface structure. (Lasnik (1981))
- (3) (2) eliminates much of the strict rule ordering and arbitrary obligatory marking of Syntactic Structures, but does not guarantee that do-support is a 'last resort', operating only when there is no other way to avoid a stranded affix.
- (4) A syntactic version of the 'Elsewhere Condition' of Kiparsky (1973): If transformations T and T' are both applicable to a P-marker P, and if the set of structures meeting the structural description of T is a proper subset of the set of structures meeting the structural description of T', then T' may not apply. (Lasnik (1981))
- (5) The SDs of verb raising and affix hopping mention Infl and (aux) V, while that of do-support mentions only Infl.
- (6) Alternative: UG principles are applied wherever possible, with language-particular rules used only to "save" a D-structure representation yielding no output. Verb raising and affix hopping are universal; do-support is language-particular. (Chomsky (1991))
- (7)a \*John likes not Mary  
b Jean (n')aime pas Marie
- (8) In French, all verbs are capable of raising, not just have and be. Unlike the situation in English, affix hopping and do-support are never needed. (Emonds (1978))
- (9) 'Infl' is not one head; it consists of (at least) Tense and Agr, each heading its own projection.

- (10)a English Agr, because not morphologically rich, is 'opaque' to  $\theta$ -role transmission. Thus, if a verb with  $\theta$ -roles to assign were to raise, it would be unable to assign them, resulting in a violation of the  $\theta$ -criterion.  
 b French Agr, because morphologically rich, is 'transparent' to  $\theta$ -role transmission. (Pollock (1989))

## II. Economy of Derivation

- (11) Raising is preferred to lowering, because lowering will leave an unbound trace that will have to be remedied by re-raising in LF. (Chomsky (1991))
- (12)a \*John not writes books  
 b John does not write books
- (13) Why isn't (12)a, with overt affix lowering followed by LF re-raising, preferred over (12)b, with language particular last resort do-support?
- (14)



- (15) The Head Movement Constraint (reduced to an ECP antecedent government requirement) prevents the LF re-raising needed in the derivation of (12)a. The intervening head NEG cannot be crossed.
- (16) But then why is overt raising possible in French, and, in the case of have and be, in English as well?
- (17)a If AGR moves, its trace can be deleted, since it plays no role in LF.  
 b If V moves, its trace cannot be deleted.  
 c Deletion of an element leaves a category lacking features, [e].  
 d Adjunction to [e] is not permitted. (Chomsky (1991))
- (18)a When V overtly raises (French), (7)b, it first adjoins to AGR<sub>0</sub>, creating [AGR<sub>0</sub> V AGR<sub>0</sub>];  
 b Next, AGR<sub>0</sub> raises to T, crossing NEG, thus leaving a trace that is marked [-Y], indicating a violation of the ECP. That trace is an AGR;  
 c Eventually, in accord with (17)a, the [-Y] trace is deleted, so there is no ECP violation (where ECP is, as in Lasnik and Saito (1984;1992), an LF filter: \*[-Y]).

2

E

- (19)a When V vainly attempts to covertly (re-)raise in LF (English), (12)a, AGR<sub>0</sub> has already lowered overtly to T, leaving an AGR trace (which deletes, leaving [e]), and creating a complex T,  
 b which has lowered to AGR<sub>0</sub>, leaving a T trace and creating a still more complex AGR,  
 c which has lowered to V, leaving an AGR trace (which deletes, leaving [e]), and creating a complex V.  
 d This complex V raises to the [e] left by the deletion of the AGR<sub>0</sub> trace, a movement that is, by (17)d, necessarily substitution, thus turning [e] into V.  
 e This element now raises across NEG to (the trace of) T, leaving behind a [-Y] trace which is, crucially, a V trace, hence non-deletable. The resulting LF is in violation of the ECP.

- (20) Note that (17)a, (18)c are inconsistent with a central economy condition of Chomsky (1991): Deletion is only permitted to turn an ill-formed LF object onto a well-formed LF object, where the relevant well-formed objects are Operator-variable pairs and 'uniform chains' (chains all of whose members are X's, are in A-positions, or are in A'-positions). This is precisely to prevent making a short licit head-, A-, or adjunct-movement, followed by a long illicit movement, with subsequent deletion of the offending trace. But exactly that is crucially being allowed here.

- (21) A related problem is that generally, an illicit movement results in some degradation (e.g., Subjacency effects), even if the offending trace is eventually eliminated. But the overt V-movement at issue here is fully grammatical.

## III. A Minimalist Approach

1.

(Chomsky (1993))

- (22)a Strong lexicalism: verbs are pulled from the lexicon fully inflected.  
 b There is thus no obvious need for affix hopping.  
 c Rather, the inflected V raises to Agr (and T) to 'check' the features it already has. This checking can, in principle, take place anywhere in a derivation on the path to LF.  
 d Once a feature of AGR has done its checking work, it disappears.
- (23) So what's the difference between French and English?
- (24)a In French, the V-features of AGR (i.e., those that check features of a V) are strong.  
 b In English, the V-features of AGR are weak.
- (25)a If V raises to AGR overtly, the V-features of AGR check the features of the V and disappear. If V delays raising until LF, the V-features of AGR survive into PF.  
 b V-features are not legitimate PF objects.  
 c Strong features are visible at PF; weak features are not. Surviving strong features cause the derivation to 'crash' at PF.

3

E



- (26) This forces overt V-raising in French.
- (27) In English, delaying the raising until LF does not result in an ill-formed PF object, so such a derivation is possible. What makes it necessary is:
- (28) 'Procrastinate': Whenever possible, delay an operation until LF.
- (29) Why do have and be raise overtly?
- (30) Have and be are semantically vacuous, hence not visible to LF operations. Thus, if they have not raised overtly, they will not be able to raise at all. Their unchecked features will cause the LF to crash.
- (31) Questions about (30): (1) Should syntactic operations, even those in the LF component, care about purely semantic properties? (2) If English subjunctives have a V feature to be checked, have and be evidently can raise in LF (and, along with main verbs, do so across negation):
- (32)a I desire that John not leave  
b I desire that John not be here
- (33) The potential problem in (32) clearly arises in other languages, such as Swedish, where auxiliary verbs pattern exactly with main verbs in remaining in situ in embedded clauses:
- (34)a .... om hon inte ofte har sett honom  
whether she not often has seen him  
b \* om hon har inte ofte sett honom  
c \* Om hon inte har ofta sett honom
- (35) \*John not left
- (36) Chomsky (1993) does not discuss how to rule out (35). Note that (19) does not carry over to this framework (even if we wanted it too). This much is clear: it must be ruled out, but its derivation must not crash. If it crashed, it couldn't block (37), since Procrastinate only chooses among convergent derivations.
- (37) \*John left not
- ii.
- (38) At the core of 'economy' approaches, of which the 'minimalist' approach is one, is the concept of choosing the best among competing derivations. It has never been clear in general, however, what determines the relevant comparison set. Chomsky (1994) has suggested a highly principled answer: To begin a derivation, you choose from the lexicon all the items you will use, annotating each with a counter indicating how many times it will be used. Call this collection a 'numeration'. The comparison set includes all and only derivations from the same numeration. This has the positive effect that (39)a does not block (39)b (or vice versa), since the numerations differ with respect to there.
- (39)a There is someone here  
b Someone is here

- (40) In line with strong lexicalism, forms of do, just as much as there, are in the lexicon. Do, when it occurs, will then be part of a numeration. Derivations with and without do are not comparable. The 'last resort' nature of do-support cannot be directly captured. I note this problem here, but put it aside.

#### IV. Notes Towards a Hybrid Minimalist Account

- (41) Chomsky's lexicalist-minimalist account demands that AGR and T are just abstract features that check against features of fully inflected verbs which raise to them. The earlier accounts treated such Infl items as bound morphemes that had to become affixes on otherwise bare verbs. Can both possibilities coexist? (42) sketches such a possibility.
- (42)a French verbs are fully inflected in the lexicon (possibly correlating with the fact that there are no bare forms; even the infinitive has an ending).  
b Have and be are fully inflected in the lexicon (possibly correlating with the fact that they are highly suppletive, but see below).  
c All other English verbs are bare in the lexicon.
- (43) Infl is freely an affix or a set of abstract features.
- (44)a Finite featural Infl is strong in both French and English.  
b Affixal Infl must merge with a V, a PF process (distinct from head movement) demanding adjacency. (Halle and Marantz (1993)); Bobaljik (1993))
- (45)a ... Infl ... V ... OK. V will overtly raise.  
+F +F  
b ... Infl ... V ... OK. PF merger.  
Af bare  
c ... Infl ... V ... \* at LF. +F of I won't be checked.  
+F bare  
d ... Infl ... V ... \* at LF. +F of V won't be checked.  
Af +F (Maybe \* at PF also, if merger fails.)
- (46)a French Infl will thus always have to be featural.  
b English Infl will always have to be featural, when the verb is have or be.  
c English Infl will always have to be affixal with any other verb.
- (47)a \*John not left {Merger couldn't have taken place.}  
b \*John left not {Left isn't in the lexicon, so no feature could drive raising.}
- (48) Jean (n')aime pas Marie  
(49) John has not left

- (50) Why is raising allowed in (48), (49)? Here are 3 possibilities:
- (51) a NEG and V are heads of different sorts, rendering an even more relativized version of RM irrelevant.  
 b NEG is not a head, but a modifier. Note that its major role as a head had been to block (47)a, which is now irrelevant to the issue.  
 c {The most radical} There is no Head Movement Constraint. In any theory where movement is driven solely by the need for features to be satisfied, the standard HMC example is irrelevant: \*Read John will t the book won't be generated simply because no feature will drive the movement of read to Comp. It is only finite verbs that raise to Comp, clearly indicating that the crucial feature is Tense.
- (52) John slept, and Mary will too
- (53) a \*John slept, and Mary will slept too  
 b John slept, and Mary will sleep too
- (54) ?John was sleeping, and Mary will too
- (55) a \*John was sleeping, and Mary will sleeping too  
 b John was sleeping, and Mary will sleep too
- (56) John has slept, and Mary will too
- (57) a \*John has slept, and Mary will slept too  
 b John has slept, and Mary will sleep too
- (58) Hypothesis 1: Any form of a verb V can be 'deleted under identity' with any form of V (reminiscent of Fiengo and May's 'vehicle change').
- (59) \*John was here, and Mary will too
- (60) a \*John was here and Mary will was here too  
 b John was here and Mary will be here too
- (61) Could it be that a trace can't serve as (part of) an antecedent for deletion?
- (62) Linguistics, I like, and you should to
- (63) ?Someone will be in the office, won't there?
- (64) That this approach will fail is likely. Yes it is.
- (65) John will be here, and Mary will too
- (66) ?\*John has been here, and Mary will too
- (67) \*John was being obnoxious, and Mary will too
- (68) \*John was being obnoxious, and Mary has too
- (69) ?John should have left, but Mary shouldn't have left
- (70) \*John has left, but Mary shouldn't have left
- (71) John has a driver's license, but Mary shouldn't
- (72) ?\*John hasn't a driver's license, but Mary should

- (73) Hypothesis 2: Any form of a verb V other than be or 'auxiliary' have can be 'deleted under identity' with any form of V. A form of be or auxiliary have can only be deleted under identity with the very same form.
- (74) Is this difference related to (degree of) suppletion?
- (75) John went, and Mary will too
- (76) \*John was being obnoxious, and Mary will too
- (77) The paradigm of go is highly suppletive, yet apparent deletion under incomplete identity is allowed. Progressive form of all verbs, including be, is completely regular, yet such deletion is disallowed.
- (78) \*John slept, and Mary was too
- (79) John slept, and Mary was sleeping too
- (80) \*John will sleep. Mary is now.
- (81) John will sleep. Mary is sleeping now.
- (82) Hypothesis 3: A form of a verb V can only be deleted under identity with the very same form. Forms of be and auxiliary have are introduced into syntactic structures already fully inflected. Forms of 'main' verbs are created out of lexically introduced bare forms and independent affixes.
- (83) John Infl sleep, and Mary will sleep too
- (84) John was ing sleep, and Mary will sleep too
- (85) John has en sleep, and Mary will sleep too
- (86) John Infl sleep, and Mary was ing sleep too
- (87) a John is not foolish  
 b \*Be not foolish  
 c Be foolish
- (88) a The Imperative morpheme (generated in the position of Tense) is strictly affixal, hence there will never be raising to it (just merger with it)  
 b OR Imp is freely affixal or featural, and be and auxiliary have lack imperative forms in the lexicon.
- (89) a \*Not leave {Lack of adjacency blocks merger}  
 b \*Not be foolish
- (90) Leave. I don't want to.
- (91) Mary left. I don't want to.
- (92) Be quiet. I don't want to.
- (93) Mary is quiet. \*I don't want to.

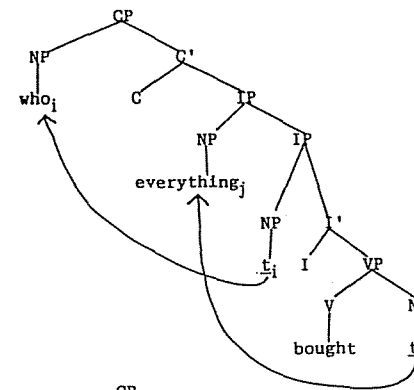
## (1) Quantifier Raising issues:

(i) Extreme minimalist concerns, confirmed to some extent by our investigation of the LF theory of Case, implicate LF as the level of representation responsible for Binding phenomena. Yet QR does not generally 'repair' apparent S-structure violations.  
 (ii) Wh-movement can plausibly be argued to be morphologically driven. A feature in COMP (overt in many languages) needs to be 'discharged', and the corresponding feature on the wh-phrase needs to be 'checked'. There is no clear evidence for such a state of affairs with quantifiers.

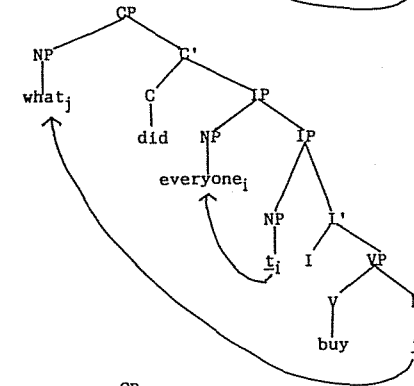
## (2) But what of the well-known strong arguments for QR?

- (3) Quantifier scope is limited to the clause containing the quantifier. This argues for a movement transformation (constrained by Subjacency).  
 (4) Quantifier scope is not limited to the clause containing the quantifier. This argues for a movement transformation.  
 (5) Neither of these is a particularly compelling argument, and, obviously, they can't both be correct.  
 (6) The scope of a nominative quantifier is limited to the clause containing that quantifier.  
 (7) The scope of a nominative quantifier is limited to the clause containing that quantifier.  
 (8) See (5) above.  
 (9) WH - quantifier scope relations are properly accounted for (only) by QR.  
 (10) What did everyone buy (ambiguous)  
 (11) Who bought everything (unambiguous)  
 (12) Who saw everyone (unambiguous)

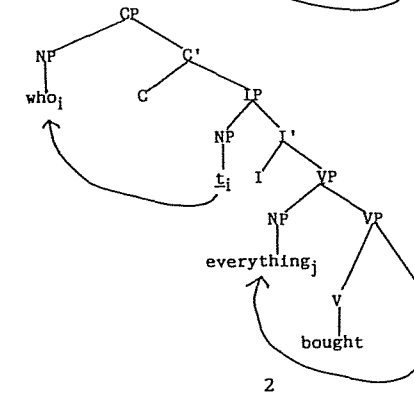
(13)



(14)



(15)



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F



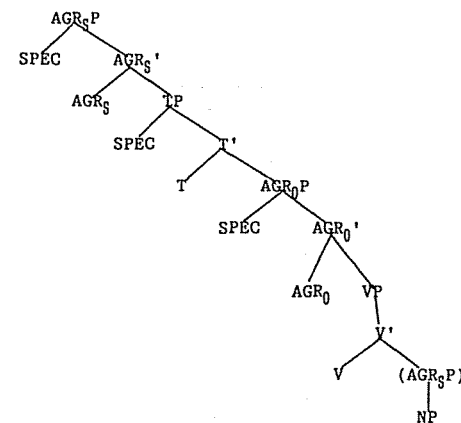
- (18) ?\*Dulles suspected Philby, and Angleton did  
 (19) Dulles suspected Philby, and Angleton did not  
 (20) Dulles suspected Philby, and Angleton did as well
- (21)a ?John believed everyone you did \_\_\_ to be a genius  
 b \*John believed (that) everyone you did \_\_\_ was a genius
- (22) The subject of a finite clause is incapable of hosting an ACD site.  
 Larson and May (1990)
- (23)a ?I expect everyone you do \_\_\_ to visit Mary  
 b \*I expect (that) everyone you do \_\_\_ will visit Mary
- (24)a ?I find everyone you do \_\_\_ to be qualified  
 b \*I find (that) everyone you do \_\_\_ is qualified
- (25)a ?I predicted no one you did \_\_\_ to be a liar  
 \*I predicted (that) no one you did \_\_\_ has been a liar
- (26) I expect that everyone you expect will visit Mary will visit Mary
- (27) The configurations in the (b) examples permit ellipsis that is not antecedent contained:
- (28) John expects that everyone Bill invites will visit Mary, and I expect that everyone you do [invite] will visit Mary
- (29) Larson and May (1990): "whereas quantified subjects can be given scope out of infinitives, this is not generally possible with tensed complements." "...whereas [(30)a] permits a wide-scope reading for everyone vis-à-vis someone and believe, according to which for each person x there is someone who believes x is a genius, [(30)b] permits only a narrow-scope reading for everyone, according to which there is some person who believes genius to be a universal characteristic":
- (30)a Someone believes everyone to be a genius  
 b Someone believes (that) everyone is a genius
- (31) Everyone can raise out of its clause in (30)a, but not in (30)b. Similarly, everyone you did can raise out of its clause in (21)a, but not in (21)b, with the consequence that the ACD regress will be resolvable in (21)a, but not in (21)b.
- (32) Williams (1986) similarly indicates that (33), which is quite similar to (30)b, lacks a broad scope reading for everyone:
- (33) Someone thinks everyone saw you at the rally
- (34) Interestingly, May (1988) sharply disagrees with Williams, calling the claimed lack of broad scope for everyone in (33) a "spurious datum", and reporting as a "standard observation" that a universal quantifier in this position can be understood as having broad scope. He goes on to state that "there does not seem to be any grammatical principle that can limit extraction from the complement subject position..."

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G

- (35) What did everyone buy for Max  
 (36) Who bought everything for Max  
 (37) Who do you think everyone saw at the rally

(38)



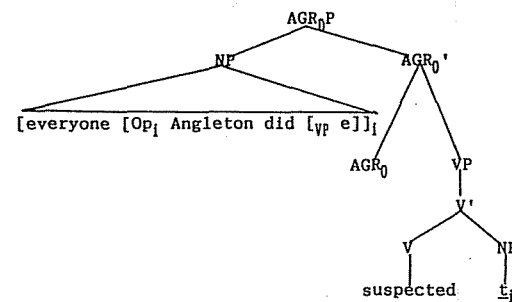
- (39) \*John believed (that) everyone you did \_\_\_ was a genius  
 (40) \*I expect (that) everyone you do \_\_\_ will visit Mary  
 (41) \*I find (that) everyone you do \_\_\_ is qualified  
 (42) \*I predicted (that) no one you did \_\_\_ has been a liar
- (43) Who thought that Fred read how many of the books that Bill did
- (44) = Who thought that Fred read how many of the books that Bill read  
 (45) ≠ Who thought that Fred read how many of the books that Bill thought he had read
- (46) Overt wh-movement does allow ACD resolution. (47) is rather awkward, but is surely far better than (43) on the reading comparable to that of (45):
- (47) How many of the books that Bill did did you think that Fred read
- (48) Similarly, overt extraction of a nominative wh-phrase permits ellipsis resolution, in contrast with the in situ nominative expressions considered above. Compare (42) above with (49):
- (49) Who that you did did Harry predict has been a liar

3

G

- (50) The fact that ACD regresses cannot be resolved by *wh* in situ supports either Baltin's position that ACD must be resolved at S-structure or Chomsky's position that there is no LF *wh*-movement.
- (51) ?Dulles suspected Philby, who Angleton did not  
 (52) ?Dulles suspected Philby, who Angleton did as well
- (53) Philby, who Angleton suspected, is likely [<sub>t</sub> to defect]
- (54) ?Dulles spoke to Philby, who Angleton did not  
 (55) ?Dulles spoke to Philby, who Angleton did as well
- (56) Hornstein (1993): Indirect objects raise at LF to SPEC of AGR<sub>0</sub>. All other PPs are outside the VP to begin with, so they don't cause a regress in the first place.
- (57) a Dulles suspected Philby, who Angleton suspected as well  
 b Dulles spoke to Philby, who Angleton spoke to as well
- (58) a ?Dulles talked about Philby, who Angleton did not  
 b ?Dulles talked about Philby, who Angleton did as well
- (59) #Dulles talked about Philby, who Angleton talked as well
- (60) Alternative: reanalysis, and raising of object of reanalyzed verb to SPEC of AGR<sub>0</sub>. This correctly predicts a correlation with pseudo-passive:
- (61) a Philby was spoken to  
 b Philby was talked about
- (62) a \*Mary stood near Susan, who Emily did not  
 b \*Mary stood near Susan, who Emily did as well  
 c \*Susan was stood near (by Mary)
- (63) (62)c shows that *stand near* cannot reanalyze. Plausibly, a consequence of this inability is that the Case of the object of *near* will not be licensed in SPEC of AGR<sub>0</sub>, but rather, internal to the PP (or perhaps in the SPEC of some functional projection just above the PP). The elided VP internal to that NP will thus not be able to escape the resolution regress.
- (64) The Case approach might require a sort of Vehicle Change. In (65), *t<sub>i</sub>* is the trace of movement to a Case-licensing position, hence, an A-trace, while its copy clearly must be a variable, or *Op<sub>i</sub>* will be vacuous.

(65)



- (66) Fiengo and May (1992) suggest that the kind of ACD we have been looking at (involving appositive relative clauses) involves 'pseudo-gapping', hence is not VP ellipsis at all.
- (67) Dulles suspected Philby, and Angleton did Burgess
- (68) a ?Dulles spoke to Philby, who Angleton did as well  
 b ??Dulles spoke to Philby, and Angleton did Burgess
- (69) a ?Dulles talked about Philby, who Angleton did as well  
 b ??Dulles talked about Philby, and Angleton did Burgess
- (70) a \*Mary stood near Susan, who Emily did as well  
 b \*Mary stood near Susan, and Emily did Harriet
- (71) Speculation 1: Apparent ACD can involve pseudo-gapping, and pseudo-gapping involves raising to SPEC of AGR<sub>0</sub> and VP ellipsis.
- (72) Consequence: In these constructions, the raising to SPEC of AGR<sub>0</sub> is overt (and the VP ellipsis at least can be deletion).
- (73) \*Dulles Philby<sub>i</sub> suspected *t<sub>i</sub>*
- (74) Speculation 2: (Roughly following Ura (1993) and Koizumi (1993)) Accusative NPs generally raise overtly to SPEC of AGR<sub>0</sub>, with V raising overtly to a higher position. As usual, both movements are driven by a strong feature.
- (75) Why then is pseudo-gapping good, given that the V hasn't raised?
- (76) Suppose the relevant strong feature is a feature of the V. And suppose, following Chomsky (1993) but contra Chomsky (1994), that an unchecked strong feature is an ill-formed PF object.
- (77) Prediction: Deletion of (a category containing) an item with an unchecked strong feature salvages the derivation.

- (78) The correlation seen above between reanalysis and ACD, which further motivated the Case approach, surprisingly breaks down when restrictive relative clauses are considered.
- (79) ?Mary stood near everyone Emily did
- (80) As noted by Hornstein (1993), and as I indicated earlier, the mechanism cannot be QR, since if QR can raise an entire quantificational expression, the minimalist goal of eliminating S-structure binding conditions in favor of LF ones cannot be attained.
- (81) A man arrived who was wearing a red hat  
 (82) \*John arrived who was wearing a red hat
- (83) I visited a man that  $\left\{ \begin{array}{l} \text{who} \\ \text{John} \\ \emptyset \end{array} \right\}$  mentioned recently
- (84) b I visited a man recently  $\left\{ \begin{array}{l} \text{who} \\ \text{that} \\ \text{?}^* \emptyset \end{array} \right\}$  John mentioned  
 c
- (85) ?I threw something away I had no further use for
- (86) Dulles suspected everyone Angleton did  
 (87) ?Mary stood near everyone Emily did  
 (88) ?Mary stood near a woman yesterday who was distributing leaflets
- (89) Mary [<sub>VP</sub> [<sub>VP</sub> stood near everyone] [<sub>CP</sub> Op [Emily did [<sub>VP</sub> e]]]]]
- (90) Mary [<sub>VP</sub> [<sub>VP</sub> stood near everyone] [<sub>CP</sub> Op [Emily (did) [<sub>VP</sub> stood near everyone]]]]]
- (91) everyone [<sub>IP</sub> Mary [<sub>VP</sub> [<sub>VP</sub> stood near t] [<sub>CP</sub> Op [Emily (did) [<sub>VP</sub> stood near t]]]]]]]
- (92) Mary wondered which pictures of himself Bill saw
- (93) Mary wondered [<sub>wh</sub>- which picture of himself] [Bill saw [<sub>wh</sub>- which picture of himself]]
- (94) Mary mentioned the pictures of himself that Bill saw
- (95) Mary mentioned the pictures of himself that Bill saw the pictures of himself
- (96) Dulles suspected everyone Angleton said Philby did  
 (97) ?\*Dulles suspected everyone Angleton wondered why Philby did  
 (98) Who did Angleton say Philby suspected  
 (99) ??Who did Angleton wonder why Philby suspected

- (100) ?\*Dulles suspected everyone that Angleton believed the claim that Philby did
- (101) ??Who did Angleton believe the claim that Philby suspected
- (102) On May's analysis, there is no movement involved, either overt or covert. Rather, [suspected t] is simply copied into the null VP, in (100) and (101). Traces are freely generable in all CP-SPECS, and freely assigned indices and phi-features. These freely generated traces then remain at LF. When there is a 'match' at that level of representation, Subjacency is satisfied, and, one can assume, similarly for the ECP.
- (103) ??What<sub>i</sub> do you wonder [whether [John read t<sub>i</sub>]]]
- (104) \*Why<sub>i</sub> do you wonder [whether [John read the book t<sub>i</sub>]]]
- (105) ??What do you wonder whether John said Mary read
- (106) \*Why do you wonder whether John said Mary read the book
- (107) a Arguments: each element is in an A-position,  $\alpha_1$  Case-marked and  $\alpha_0$   $\theta$ -marked.  
 b Adjuncts: each element is in an A-bar-position.  
 c Lexical elements: each element is in an X'-position.  
 d Predicates (possibly predicate chains).  
 e Operator-variable constructions, each a chain ( $\alpha_1, \alpha_2$ ), where the operator  $\alpha_1$  is in an A-bar-position and the variable  $\alpha_2$  is in an A-position.
- (108) Intermediate traces of argument operator-variable chains must delete.
- (109) This problem disappears under the deletion analysis I have posited. There is overt movement, conforming to Subjacency, then deletion. (This recapitulates an old argument of Ross (1969), and a recent version of it due to Takahashi (in press).

- (1) The DA proved [two men to have been at the scene] during each other's trials
- (2) \*The DA proved [there to have been two men at the scene] during each other's trials
- (3) In (1), two men raises to SPEC of AGR<sub>0</sub> above prove, from which position it c-commands each other.
- (4) In (2), two men adjoins to there, and the complex raises to SPEC of AGR<sub>0</sub> above prove. It seems that in this instance, two men does not c-command each other.
- (5) The DA proved [Noone to be at the scene] during any of the trials
- (6) \*The DA proved [there to be two men at the scene] during any of the trials
- (7) Some linguists seem to have been given good job offers
- (8) There seem to have been some linguists given good job offers
- (9) Some linguists seem to each other to have been given good job offers
- (10) \*There seem to each other to have been some linguists given good job offers
- (11) No linguists seem to any philosophers to be available
- (12) \*There seem to any philosophers to be no linguists available
- (13) Tentative conclusion: (contra Chomsky and May) if X adjoins to Y, X does not c-command out of the complex.
- (14) But then how does the associate of there c-command its trace?
- (15) Very technical and unappealing answer: 2 different notions of c-command are involved.
- (16) Much more interesting, but probably impossibly problematic answer: A-movement doesn't leave a trace.
- (17) Two reasons for thinking this 2nd answer might be correct:
- (18) Unlike operator movement which necessarily creates a 2-membered object (perhaps thus justifying further traces to establish the connection), an A-moved argument is complete in itself.
- (19) If Chomsky is correct that there are no reconstruction effects with A-movement, this follows immediately from (16). It isn't clear how it follows for Chomsky, since reconstruction simply makes use of a copy, and a trace is a copy.

- (20) Do we need a trace to represent the  $\theta$ -relations of the moved argument? Not if  $\theta$ -roles (along with Case and  $\Phi$ -features) are features of an argument that are checked in the course of a derivation. The moved argument is itself a record of the history of its derivation.
- (21) Shortest move/relativized minimality effects involve a trace that remains at the level of LF. If A-movement doesn't leave a trace, how do we account for the ill-formedness of 'super-raising'?
- (22) Suppose<sup>3</sup> when a movement is too long, the chain is marked with \*. For A'-movement, there is a choice; either the moved item or its trace can be marked (and if the latter, sometimes it can delete, alleviating the ill-formedness). With A-movement, there is no choice, since there is, by hypothesis, no trace. The moved argument must be marked \*, and, of course, it can't delete.
- (23) Some remaining problems:
- (24)a Reconstruction effects with predicate fronting have been argued by Huang to implicate an A-trace in VP-internal subject position.  
b Criticize himself<sub>i/tj</sub> John<sub>j</sub> thinks Bill<sub>i</sub> will
- (25)a Proper binding effects with A-movement discussed by Lasnik and Saito (but rejected by Huang:  
b\*How likely t to be a riot is there  
c\*How likely t to be out of the bag is the cat



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