

## CF, “The Operation Move” I: 4.4.1 to 4.4.3 (pp. 249-261)

### Movement and Economy

NC first discusses the general case of movement: A category  $\Sigma$  has the terms  $K$  and  $\alpha$ , and  $\alpha$  raises to  $K$ , either by substitution or by adjunction.

$K$  can be identical with  $\Sigma$  (as each category is a term of itself), or something dominated by  $\Sigma$ . Raising  $\alpha$  to  $K$  will replace  $K$  by  $L = \{\gamma, \{\alpha, K\}\}$ .

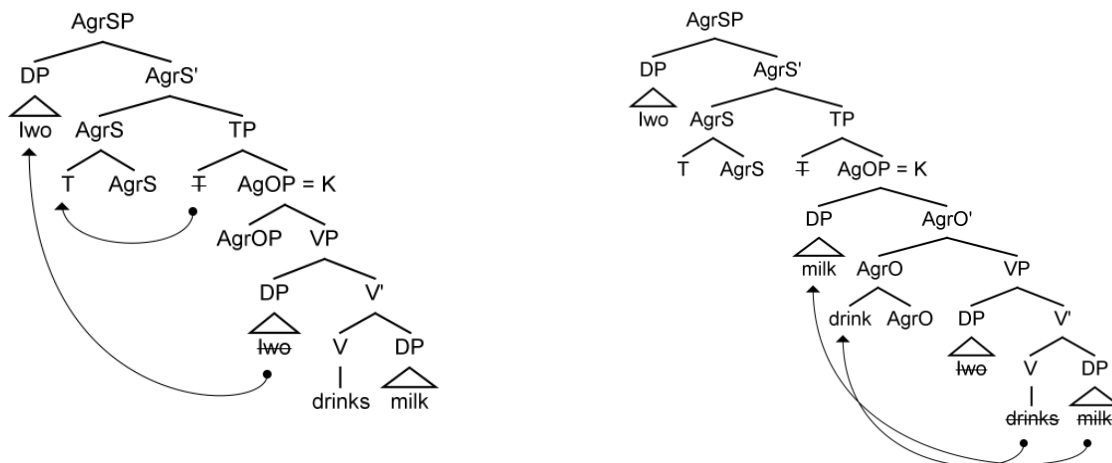
As the assumption we’ve been discussing over and over is that  $K$  should project, the label of the new structure should thus be either  $K$  or derived from it,  $\gamma = K$  or  $\gamma = \langle K, K \rangle$ , for the cases of substitution and adjunction respectively. Here Chomsky uses the notation  $\gamma = H(K)$  or  $\gamma = \langle H(K), H(K) \rangle$ , where  $H(K)$  is the head of  $K$ .

That’s the “standard convention” (250) NC hopes to establish. The hope is also that nothing beyond replacing  $K$  by  $L$  happens when  $\alpha$  is raised to  $K$ .

Move also forms a chain  $CH = (\alpha, t(\alpha))$ , where the latter term is of course meant to be a copy.  $CH$  must meet conditions like c-command, Last Resort, and the like.

As mentioned,  $K$  can be identical with  $\Sigma$  or “a proper substructure” (250). The example NC gives for this is a normal English IP. Targeting  $\text{Agr}_S\text{P}$ , the subject raises from Spec VP and creates a Spec  $\text{Agr}_S$  position by substitution as  $\text{Agr}_S\text{P}$  projects. This is the case where  $K = \Sigma$ .

The object, however, raises to  $\text{Agr}_O\text{P}$ , which is a proper substructure of  $\text{Agr}_S\text{P}$ . This is the process called *covert* raising. It violates EC as the syntactic object is not extended at the root but rather, inside.



On the left hand, we see overt movement of both  $T$  to  $\text{Agr}_S$  and  $\text{DP}$  to Spec  $\text{Agr}_S$ , and on the right, we see covert movement of both  $V$  to  $\text{Agr}_O$  and  $\text{DP}$  to Spec  $\text{Agr}_O$ . That is, we have examples of both adjunction and substitution. Both adjunction processes are not at the root, one of the substitution processes – the overt one – is. Note that to complete the derivation, the  $V$ - $\text{Agr}_O$  complex will have to move even further and adjoin to the  $T$ - $\text{Agr}_S$  complex. This will be another operation violating EC, as head adjunction does by definition.

NC next (251) asks how we can define a chain  $CH$ , and the natural answer is (1) by its members (identical in this case, since each link is a copy of the other), and (2) by the positions of the links in the tree, something that will already be familiar to the readers of Uriagereka

(1998). The position of each link can be defined very simply by identifying the link's sister. This is notationally very simple in the old X-bar system – the chain CH for our milk-drinking Iwo would be  $\langle \text{Agr}_S, V' \rangle$  – but is also doable in the unwieldy set-theoretic labeling system we've now been dealing with so often.

On 252 NC goes on to discuss ellipsis as a special case of “copy intonation,” referring back to the first chapter of MP. This is one of the cases of “delete  $\alpha$ ,” something we haven't discussed frequently so far. The idea is that in

(1) John said that he was looking for a cat and so did Bill [say that he was looking for a cat]

the bracketed element is deleted pre-SO, but marked before as subject to parallel interpretation. If the deleted part is assigned the same numeration markings – indices? – as the pronounced part, both will be strictly identical and can be interpreted as a *chain CH*. That's approximately what I have understood here, since I find the terminology – which part is a copy of which – exceedingly opaque. To enhance our understanding, we should turn to pp. 125-6 of the Chomsky/Lasnik text reprinted as the first chapter of the book.

NC then returns to the conditions that must be satisfied by CH, c-command being one of them, which excludes downward movement. So we have as CH requirement (1) *Movement is always raising*. Beyond that we have (2) *CH is uniform with regard to phrase structure status*, i.e., the links must all be either maximal, minimal, or neither. And finally, there is (3) *Move must meet the Last Resort condition*. (3) simply means that Move is driven by morphological requirements, i.e., feature checking. As a proviso, NC adds that *what's true for Move need not be true for Delete*, which in principle might violate all the requirements (whatever that means). *These conditions are seen as defining Move*; that is, they can't be violated, and no derivation that does enter the reference set of converging derivations to be compared for optimal satisfaction of economy conditions.

P. 254 discusses the Extension Condition and notes what I've already tried to include in the discussion above: *Overt Move of XP satisfies EC while covert Move typically does not*; the only example for covert Move satisfying EC that immediately springs to (at least my) mind would be covert wh-movement where the wh-element is covertly displaced to Spec C, extending the root thereby. Covert movement and hence violation of EC will be preferred if the principle Procrastinate dictates so: If you can wait, you must wait, or to come back to our example above, while Iwo could not wait to drink his milk, driven by a strong feature to do so, his milk could wait to be drunk by him, moving into (and creating) the object position Spec Agr<sub>O</sub> only covertly.

It is not for nothing that I have qualified the bold-printed statement in the previous paragraph by the phrase “of XP”: *Overt head (X<sub>0</sub>) movement NEVER satisfies EC*, by definition, just as covert head movement does not; that this is deemed only a “minor qualification” by NC is a bit curious.

One attempt to derive these conclusions from deeper principles is to associate movement processes with the LCA. But I can't say I have understood the way this is supposed to work. The work to check out would be the one quoted on 254, by Kawashima & Kitahara and by Epstein.

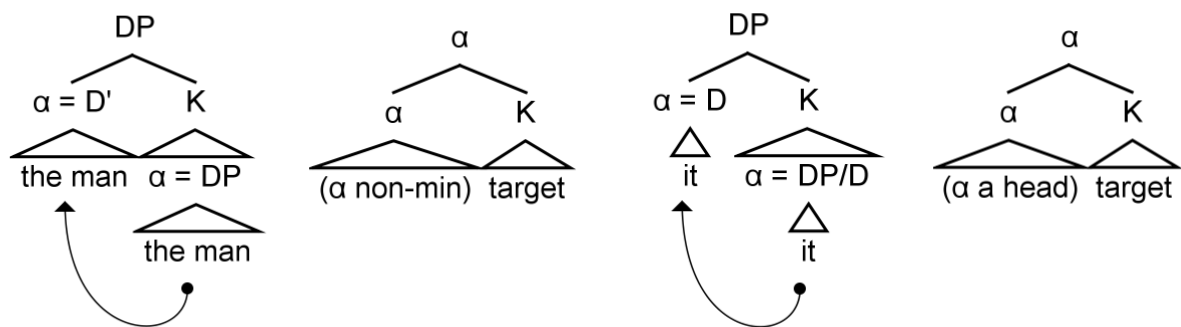
Concluding this section NC raises the question whether in a configuration such as T-Agr<sub>S</sub> or V-Agr<sub>O</sub>, only T and V alone assign case or whether this is done jointly, i.e., also by the Agr heads that host them. In the vein of trying to keep it simple, his conclusion is that only T and V assign/check case, namely, nominative and accusative respectively.

The last paragraph, we would have to read really carefully. In it, NC prepares what is actually done only in section 4.10.1, namely getting rid of Agr. I don't understand the argumentation at all; perhaps you do.

## Projection of Target

This section once again deals with the question of which element projects when  $\alpha$  raises to K. As an example, NC once more takes the sentence “The man saw it,” with the DP “the man” raising to form Spec Agr<sub>S</sub> and the DP “it” raising to become Spec Agr<sub>O</sub>. For the moment, we are only looking at substitution, turning to adjunction later.

The DP “the man” is a maximal phrase, whereas the DP “it” is both minimal and maximal. As the DP “the man” raises to Agr<sub>S</sub>P, conforming to EC, its status as XP changes, and it becomes a D’ or intermediate projection, with Agr<sub>S</sub>P as its specifier. As the minimal and maximal element “it” moves and projects, it loses its maximal status because it projects and becomes minimal only: a bare head. K is its sister, and as the sisters of bare heads are complement, K is now the complement of the newly formed DP.



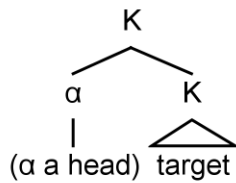
This is certainly in violation of uniformity in the case of the complex DP, DP becoming D’; it is less clear in the case of DP/D becoming simply D. But NC doesn’t mention the uniformity condition only later and rather tries to derive the inadmissibility of these structures from going through three different versions of the interpretation of Last Resort:

- $\alpha$  can target K only if a feature of  $\alpha$  is checked thereby
- $\alpha$  can target K only if a feature of either  $\alpha$  or K is checked thereby
- $\alpha$  can target K only if this is a necessary step to checking a feature of  $\alpha$  later

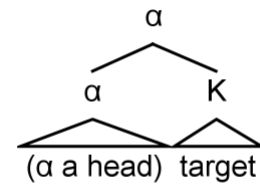
As the configuration head-complement is not assumed to be a checking configuration, no checking of any feature of either  $\alpha$  or K can take place in the case of a head such as “it” raising to K and projecting, which means that this case is excluded under Last Resort versions a) and b). As for c), if the position “sister of K” is accessible to the moved element, any position where actual checking might take place is also accessible, and it would be superfluous, hence barred, to use the position as an intermediary landing site.

Later on, NC wants to do away with c) anyway on “principled grounds.” But as it may, in the other case, movement of a genuinely maximal category XP, that XP becomes an X’ after movement and is thus no longer available for further movement, hence no further step is even possible and the movement is disallowed under c).

What about a) and b)? There are two lines of argument, one being the uniformity condition UC, which is now mentioned (258). Not following the text of NC closely since once again I find it pretty opaque, I repeat that raising XP to K creates an obvious UC violation. That actually already closes the matter of whether of the moved element  $\alpha$  or the target K projects: Only K can project. But NC proceeds to look into the various scenarios involving movement chains, including the scenario already dispensed with where  $\alpha$  is a bare head and assuming once more that either  $\alpha$  or K can project.



So let us see what happens for  $\alpha$  a head: “If K projects, the  $\alpha$  is maximal and its trace is not, violating the uniformity condition.” That much seems clear and undisputable.



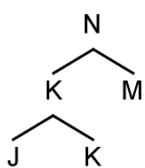
More troubling to me is the next sentence, “If  $\alpha$  projects, the uniformity condition is satisfied, but K is the complement of  $\alpha$ , and the operation is barred under case (21a) [on p. 257: “ $\alpha$  is the head and K is the complement”].” As mentioned above, I think an argument could be made that here, too, the chain violates UC. “Barred under case (21a)” presumably means barred *because* this is a head-complement relation. That the interpretation of the DP “the man” as projecting is “ruled out ... by case (21b) for DP not simply a D” presumably means “ruled out” by the arguments given so far.

The arguments given so far extend to all cases where only heads of complex phrases move to target an XP. That is not possible, regardless of whether  $\alpha$  or K projects.

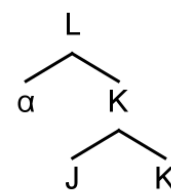
The other line of argument against having an XP raise and project rests on considerations concerning the checking domain. If  $\alpha$  raises and projects in this case, K will be its specifier and thus in the checking domain of its head, but not vice versa. Is this relevant for establishing the checking relation?

To find out, NC refers to the asymmetric character of operations involving Case and agreement. V and T check Case on the DP, not the other way round, and the  $\phi$  features of the head are determined by the DP, not the head it stands in relation with. Case is said to be an “intrinsic feature” of V and T, and  $\phi$  features are said to be properties of DP. How this translates into the argument (259) that “it is H (K) that must check the features of  $\alpha$ , while H ( $\alpha$ ) cannot check the features of K,” I understand only for Case; since DP is not even in the checking domain of K and everything inside it, neither T nor V (adjoined to their respective Agr) can assign Case to it. How this translates to the  $\phi$  features, which are said to reside in DP, not in V or T, i.e., in  $\alpha$ , not in K, I do not know.

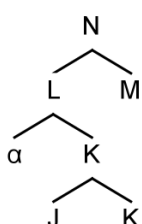
At any rate, Chomsky decides that UC alone should be enough to take care of the question which element projects.



What then follows is a real motherfucker. We now (259) have a hypothetical structure {H (K), {K, M}} projected from K. K is presumed to be the head, possibly with something (in my tree J) adjoined to it, and M the complement.



Now  $\alpha$  raises (by necessity out of M) and projects to form  $L = \{H(\alpha), \{\alpha, K\}\}$ , a structure in which the complement M is ignored. The next step is that L replaces K in N, according to NC forming  $N' = \{H(K), \{L, M\}\}$  thereby. This is of course an impossible syntactic object since neither of the constituents L and M projects, but my question would be why H (K) is considered the head? Probably since it is H (K) and not H ( $\alpha$ ) that has selected/projected the complement M. If L replaces K in the structure N, yielding  $N'$ , this becomes completely obscured.

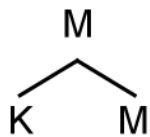


A classic of sloppy formulation is this: “The argument extends directly to adjunction of  $\alpha$  to K, so that the label of L is  $\langle H(\alpha), H(\alpha) \rangle$ ” (260). If the result is an element with the label  $\langle H(\alpha), H(\alpha) \rangle$ , even though  $\alpha$  has *raised to* K, what actually happens is that *K adjoins the  $\alpha$* , and not the other way round.

Be that as it may, regardless of whether K becomes a complement, specifier, or adjunct of  $\alpha$ , its complement relation to M is lost, M now being either a specifier or an adjunct of  $\alpha$  in the syntactic configuration even though it is supposed to be projected by K.

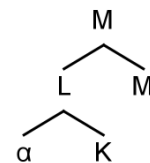
For a summary of much of the preceding, I refer you to paragraph 2 on p. 260.

Finally “adjunction of  $\alpha$  to K” – presumably, actually again the other way round – in an adjunction structure  $L = [K, M]$  is considered, with all the elements involved either all XP or all X.



Adjunction of YP to XP is said to be dubious for reasons I do not know; therefore attention is restricted to one case only where all elements are  $X_0$  and M determines the label of the structure:  $\{ \langle H(M), H(M) \rangle, \{K, M\} \}$ . K is allowed to adjoin to M, openly or covertly depending on affix feature strength only if M requires K as an affix; then the structure to the left is legitimate.

If  $\alpha$  raises to K and projects, forming  $N = \{ \langle H(\alpha), H(\alpha) \rangle, \{K, \alpha\} \}$ , the new object replaces K in L, forming the object seen to the right, which is legitimate since no selectional/projectional restrictions are violated. All the same, the derivation crashes, since M now has the affix L instead of K, as demanded by its affix feature.



Summarizing this section, NC comments

There are, then, fairly solid grounds for assuming that the target of movement projects, whether the operation is substitution or adjunction, overt or covert (260).

### Last Resort: Some Problems

One sub-variety of variant c) of Last Resort (LR): “ $\alpha$  can target K only if this is a necessary step to checking a feature of  $\alpha$  later” is given here; as far as I can determine, the meaning is exactly the same. It’s basically a weakened form of Greed, extending it to cases where the feature of  $\alpha$  is not checked immediately by the movement in question, but only later on.

As the needs of  $\alpha$ ,  $\alpha = \text{“John”}$  are already satisfied by raising it to Spec Agr<sub>S</sub> in the embedded sentence, sentences such as [John seems [that ~~John~~ is intelligent]] (overt raising) and [There seems [that ~~John~~ is intelligent]] (covert raising) are correctly excluded.

Under condition b) “ $\alpha$  can target K only if a feature of either  $\alpha$  or K is checked thereby,” however, they are legitimate, since features of the targeted matrix structure would be satisfied in both cases if  $\alpha$  moved.

Seen from there, it seems that the *loose version of Greed* c) is better than the version Howard Lasnik has called “*Enlightened Greed*,” b), according to which  $\alpha$  may satisfy its own needs, but also the needs of its target, which would be an enlightened thing to do just in case that no other element can check the feature of K, causing the whole derivation to crash and thereby causing the final destruction not only of K, but also of  $\alpha$ . On the other hand, it is not clear that there are cases where weakened Greed is relevant.

So the question arises *how LR should eventually be formulated*. Or rather, NC adds at the beginning of the next section, whether this is really the exclusive locus of the problem sketched here: The problems might “*not arise if the theory of movement is properly formulated*” (261-2). To mention just one possibility, the reason for the “freezing” of the DP “John” in the Spec position of the embedded sentence might simply be that it can enter into a checking relation only once.