

How Well Features Match: On the Disappearance of Superiority Effects

Miki Obata (University of Michigan)

As discussed in Chomsky (1973), if two wh-phrases exist in a sentence, the movement operation has to apply to the higher one (the superiority effect) as exemplified in (1)-(2). However, in (3)-(4), either of the wh-phrases can move to [Spec,CP] as discussed in Bošković (1997). The superiority effect disappears in these cases. The aim of this presentation is to give consideration to the absence of superiority effects in the minimalism framework by Chomsky (2000) or later, especially focusing on how to calculate relations between elements to which the operation Move (Internal Merge) applies. In order to capture the contrast in (1)-(4), I propose that “how well features match” needs to be taken into account for the calculation besides closest c-command.

According to the probe-goal system proposed in Chomsky (2000), locality reduces to “closest c-command”. In (1)-(2), [+Q]C c-commands both wh-phrases and “who” c-commands “what” but not vice versa. That is, a probe [+Q]C c-commands a goal “who” more closely than “what”. That is why “who”, not “what”, has to move. However, (3)-(4) run counter to this approach. Given that an adjunct is attached to a higher position than an object, the system wrongly predicts that only “where” should move. Let us imagine the configuration in (5). Here, P c-commands G1 more closely than G2, but P matches G2 better than G1 in that P and G2 share both [α] and [β] but G1 only has [α]. Let us say that either G1 or G2 can move in this case with slight modifications of Chomsky’s probe-goal system. If G1 and G2 cannot be differentiated in terms of feature matching as in (6), only G1 can move based on closest c-command. Also, as shown in (7), if P matches G1 better than G2 and also c-commands G1 more closely than G2, only G1 can be attracted. According to Pesetsky and Torrego (2001), C⁰ has a Case-feature. Also, they assume the timing of feature deletion as in (8). Given that, (3)-(4) has the configuration in (9), which falls into (5). In (9), C c-commands “where” more closely than “what” while C matches “what” better than “where”. Note that a Case-feature on “what” is already valued but it remains undeleted until the end of the CP phase in accordance with (8). As a consequence of the assumption, C and “what” share two features, [Case] and [Q], but C and “where” share only [Q]. Therefore, either “where” or “what” can move to [Spec,CP]. In (1)-(2), on the other hand, only “who” can be attracted. (1)-(2) have the configuration in (10), which falls into (6). “Who” and “what” are not distinguished in terms of feature matching because both of them have the same features. Therefore, only “who” can be attracted based on closest c-command. The same discussion can be extended to (11)-(16). In (11), a PP “to whom” does not have [Case]. As illustrated in (12), closest c-command chooses “to whom” as an attractee, but feature matching chooses “what”. The configuration falls into (5), and either of the wh-phrases can move. In (13), “whom” and “what” both have [Case] and [Q] as in the configuration in (14), which falls into (6). Under Larson’s (1988) VP-shell analysis, only “whom” can move based on closest c-command. Also, (15) has the configuration in (16), which falls into (7). Therefore, only “who” can move. Furthermore, our system successfully rules in a sentence like (17), where “when” and “what” are in different clauses. Since [Case] on “what” is deleted at the end of the (embedded) CP phase, “what” loses [Case] by the time the next CP phase is introduced. That is, “what” and “when” have only [Q] as illustrated in (18), which falls into (6). They are not distinguished in terms of feature matching, so only “when” can move based on closest c-command.

Interestingly, the contrast discussed above is also observed in other constructions. As in (19), some kinds of verbs allow a PP to occur in the subject position, namely locative inversion. Suppose that T which allows locative inversion can choose a goal for [Case] and an attractee for [EPP] separately. In (20), T has two features: [Case] and [DP/PP], which requires DP or PP to occupy [Spec,TP]. A Case-feature on DP is valued by T. Then, T has to choose an attractee. Since (20) falls into (5), the system predicts that either PP or DP can be attracted. Also, an AdvP can appear in the subject position as in (20), which has the same configuration as (5). If two DPs are potential goals as in the case of (23)-(24), on the other hand, only the higher one, “I/me”, can be moved in accordance with (6). In addition, in (25), the system predicts that either an experiencer PP or a DP can move to [Spec,TP] (cf. McGinnis, 1998). However, an independent reason rules out (25b): unvalued [Case] on DP causes the crash of the derivation. Our version of the probe-goal system is supported across constructions and how well features match plays an

important role in locality of movement in addition to c-command. As a consequence of this approach, the proposed system implies that an adjunct should be located in a higher position than an object.

- (1) a. Who bought what?
 b. *What did who buy?
- (2) a. I wonder who bought what.
 b. *I wonder what who bought.
- (3) a. Where/when did you buy what?
 b. What did you buy where/when?
- (4) a. I wonder where/when you bought what.
 b. I wonder what you bought where/when.
- (5) $P_{[\alpha][\beta]} > G1_{[\alpha]} > G2_{[\alpha][\beta]}$ (6) $P_{[\alpha]} > G1_{[\alpha]} > G2_{[\alpha]}$ (7) $P_{[\alpha][\beta]} > G1_{[\alpha][\beta]} > G2_{[\alpha]}$

(8) At the end of the CP phase, uninterpretable features are deleted if they are valued (P&T 2004:15).

(9) $C_{[Case][+Q]} > where_{[uQ]} > what_{[Case][uQ]}$. (10) $C_{[Case][+Q]} > who_{[Case][uQ]} > what_{[Case][uQ]}$

- (11) a. What did you give to who(m)?
 b. (To) who(m) did you give what?
- (12) $C_{[Case][+Q]} > to\ whom_{[uQ]} > what_{[Case][uQ]}$
- (13) a. Who(m) did you give what?
 b. *What did you give who(m)? (Barss and Lasnik, 1986)
- (14) $C_{[Case][+Q]} > whom_{[Case][uQ]} > what_{[Case][uQ]}$
- (15) a. Who bought a book where?
 b. *Where did who buy a book?
- (16) $C_{[Case][+Q]} > who_{[Case][uQ]} > where_{[uQ]}$
- (17) He reported yesterday that I broke the glass.
 a. When did he report _ that I broke what?
 b. *What did he report when that I broke _?
- (18) $C_{[Case][+Q]} > when_{[uQ]} > what_{[---][uQ]}$
- (19) a. Down the hill rolled the baby carriage.
 b. The baby carriage rolled down the hill.
- (20) $T_{[Case][D(P)/P(P)]} > down\ the\ hill_{[P]} > the\ baby\ carriage_{[Case][D]}$
- (21) a. Three days later came another message.
 b. Another message came three days later. (Coopmans, 1989)
- (22) $T_{[Case][D/Adv.]} > three\ days\ later_{[Adv.]} > another\ message_{[Case][D]}$
- (23) They gave me a book.
 a. I was given a book.
 b. *A book was given me.
- (24) $T_{[Case][D/P]} > I/me_{[Case][D]} > a\ book_{[Case][D]}$
- (25) a. The children seem to Mary [_ to be studying].
 b. *To Mary seems _ [the children to be studying]. (McGinnis, 1998)
- (26) $T_{[Case][D(P)/P(P)]} > to\ Mary_{[P]} > the\ children_{[Case][D]}$

Selected References

Barss, A. and H. Lasnik (1986) A note on anaphora and double objects. LI 17. Bošković, Z. (1997) On certain violations on the superiority condition, AgrO, and economy of derivation. JL 33. Chomsky, N. (1973) Conditions on transformations. In *A festschrift for Morris Halle*. Holt, Rinehart and Winston. Chomsky, N. (2000) Minimalist Inquiries: The Framework. In *Step by Step* MIT Press. Coopmans, P. (1989) Where stylistic and syntactic processes meet: locative inversion in English. *Language* 65. Larson, R. (1988) On the double object constructions. LI 19. McGinnis, M. (1998) Locality in A-movement. MIT dissertation. Pesetsky, D, and E. Torrego.(2001)T-to-C Movement: Causes and Consequences. In *Ken Hale: A Life in Language*. MIT Press. Pesetsky, D, and E. Torrego.(2004)The Syntax of Valuation and the Interpretability of Features. Ms., MIT and UMass.