On the Feature Inheritance in Weak Phases

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0. Introduction

(1) Along with Transfer, all other operations apply at the [strong] phase level. IM [Internal Merge] should be driven only by [strong] phase heads. (Chomsky 2005: 9)

(2) [...] we take CP and vP to be phases. [...] there remains an important distinction between CP/v*P and others: call the former strong phases and the latter weak. (ibid. 2001: 12)

(3) Every child doesn’t seem to his father to be smart. (every > not), (not > every)

(Sauerland 2003: 310)

(4) a. Every child doesn’t seem to his father [TP every child to be smart]
b. Every child doesn’t every child seem to his father [every child to be smart].

(5) Goals
a. To show that the head of weak phases inherits the Agree- and Edge-features from a strong phase head.
   b. To demonstrates that A-movement proceeds thorough the edge of weak phases.

1. Previous Researches

1.1. Neg-Raising

(6) a. [TP not ∑ [every child doesn’t seem to his father [every child to be smart]]] (every > not)
b. [TP not ∑ [every child doesn’t seem to his father [every child to be smart]]] (not > every)

(7) a. Every student mustn’t get an A. At most a third of them get one. (not > every)
b. Every student usually doesn’t follow. In fact, half of them usually don’t follow. (not > every)

(8) a. Jan mustn’t get an A. #In fact, he could get an A or a B. *(not > must)
b. Tom usually doesn’t follow. #In fact, half the time he doesn’t follow. *(not > usually)

(ibid: 309)

(9) This analysis wrongly predicts that negation takes scope over must and usually. Therefore, the ambiguity in (3) indicates that the derivation in (4b) is correct.

1.2. Quantifier Raising

(10) Every child doesn’t [TP every child [TP every child to every child to be smart]].

A

A'

Weake Crossover

(11) Intermediate positions of successive cyclic A’-movement do not induce binding effects or have other A-position properties. (Chomsky 2005: 16)

1 This interpretation requires a special intonation with a rise on every and a fall on doesn’t, and is most natural if the sentence is followed by a clarifying continuation like In fact, half of them aren’t smart.
(12) a. Two women seemed to two women be dancing with every senator. (*every > two)
b. QR is impossible out of a raising infinitival. (Sauerland 2003: 312)

(13) a. Inverse scope interpretation is derived by total reconstruction to a position to Spec vP.2
b. A-movement across vP can proceed through an intermediate vP-adjoined A-position where apparently no feature checking takes place. (ibid.)

(14) IM (Internal Merge) should be driven only by phase heads (C, v*).

(15) a. Why the head of the weak phase, namely v, can drive Internal Merge?
b. Why the edge of vp, where no feature checking takes place, is counted as an A-position?

2. Feature Inheritance

(16) It seems to be T that is the locus of the φ-features that are involved in the Nominative-agreement system, and raising of the external argument subject or unaccusative/passive object to SPEC-T.

(Chomsky 2005: 9)

(17) T manifests φ-features and tense if and only if it is selected by C. These features are inherited from C, the phase head. (ibid.)

(18) A as well as A’-movement must be triggered by probes in C.
a. The Edge-feature (EF) in C attracts the wh-phrase to the edge of C.
b. The Agree-feature in C, inherited by T, raises the DP to T. (ibid.)

(19) a. who saw John
b. C [T [who [v* [see John]]]]
c. who3 [C [who2 [T [who1 v* [see John]]]]] A’-chain = (who0, who3) A-chains = (who0, who2), (who1)

(20) EF can be inherited from the phase head along with the Agree-feature. [...] by some kind of feature spread, this extends to all T’s in the phase. (Chomsky 2005: 22)

2 Lasnik (2003) notices that the following example is ambiguous and claims that A-movement reconstruction is impossible.

(i) Every coin is 3% likely to land heads. (every > 3% likely), *(3% likely > every) (Lasnik 2003: 121)

Parka and Park (2002) points out, however, that raising including likely behaves in the same manner with control constructions when it attaches with an adverb, as shown in (ii) ~ (iv).

(ii) a. There is likely to be a riot.
b. Advantage is likely to be taken of John. (Park and Park 2002: 236)

(iii) a. *How likely to be a riot is there?
b. *How likely to be taken of John is advantage? (Park and Park 2002: 236)

(iv) a. *There hopes to be a dog in the barn.
b. *The shit hopes to have hit the fan. (Hornstein 2001: 25)

(v) a. A unicorn is likely to be apprehended. = It is likely that a unicorn will be apprehended.
b. A unicorn is eager to arrive. = It is eager that a unicorn will arrive. (Park and Park 2002: 237)

Based on this observation, they argue that the unambiguity in (i) merely shows that the inverse-scope reading is not allowed in control constructions.
(21) Uninterpretable features of C must be inherited by an element selected by C [...] but it cannot be \( v^* \), which already has features.\(^3\) (ibid. 2006: 15)

(22) Proposal □ Unaccusative/passive \( v \) inherits Agree- and Edge-features from C.

(23) A-movement (Raising Constructions)

\[
\begin{array}{c}
[\text{C} \quad \ddots \quad [\text{DP T} \quad \ddots \quad [\text{DP T} \quad \ddots \quad [\text{DP T} \ldots \text{DP}]])]
\end{array}
\]

(24) a. A-movement is driven by features inherited from a strong phase head to T or \( v \).
   b. A’-movement is driven by Edge-features of a strong phase head.

(25) Passive
   a. [At which of the parties that he\(_1\) Mary\(_2\) to] was every man\(_1\) \( \sqrt{\text{introduced}} \) to her\(_2\) *?
   b. *[At which of the parties that he\(_1\) invited Mary\(_2\) to] was she\(_1\) * introduced to every man\(_2\) *? (Legate 2003: 507)

(26) Unaccusative\(^4\)
   a. [At which conference where he\(_1\) mispronounced the invited speaker\(_2\)’s name] did every organizer\(_1\)’s embarrassment \( \sqrt{\text{escape}} \) her\(_2\) *?
   b. *[At which conference where he\(_1\) mispronounced the invited speaker’s name\(_2\)] did it\(_2\) * escape every\(_1\) organizer entirely *? (ibid: 508)

(27) a. [...] successive-cyclic \( wh \)-movement proceeds through passive [and unaccusative] VPs, as well as transitive \( v \)Ps. (ibid.)
   b. [...] unaccusative and passive VPs are [strong] phases as well. (ibid: 506)

   a. It contradicts with Chomsky’s argument that unaccusative/passive \( v \)P is not a strong phase. (cf. (2)).
   b. It is inconsistent with Chomsky’s argument that the intermediate positions of successive cyclic A’-movement do not induce binding effects or have other A-position properties. (cf. (11))

(29) Following the proposal in (22), we do not need to assume that unaccusative/passive \( v \)P. The unaccusative/passive \( v \) inherits features from C and therefore, its specifier is counted as an A-position.

(30) Summary
   a. The weak phase head \( v \) inherits the Agree- and Edge-features from the strong phase head C.
   b. A-movement proceeds through the edge of \( v \)P.

3. Weak CP Phase

(31) a. *Sam, who I know \( _{\text{CPI}} \) when you said you saw \( t \), is a famous linguist.
   b. Sam, who I know \( _{\text{CPI}} \) when to try to see \( t \), is a famous linguist.\(^5\)

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3 The underline is added by the speaker.
4 The verb escape in (266a-b) is an unaccusative with two internal arguments, meaning ‘forget.’
(32) Japanese
a. *karera 1-o [[otagai1-no sensei]- ga [Mary- ga t1 hihansita to] itta] (koto).
   they-ACC each other-GEN teacher-NOM Mary-NOM criticized that said fact
   “Them, each other's teachers said that Mary criticized.”

b. ?[karera 1-o [John-ga [[otagai 1-no sensei]-ni 2 [t2 t1 homeru yooni tanonda]]] (koto).
   they-ACC John-NOM each other-GEN teachers-DAT praise to asked fact
   “Them, John asked each other’s teachers to praise.”

c. [karera 1-o [John-ga [[otagai 1-no sensei]-ni t1 syookaisita]]] (koto).
   they-ACC John-NOM each other-GEN teachers-DAT introduced fact
   “Them, John introduced to each other’s teachers.” (Aoshima, 2001: 44-45)

(33) Slovenian
a. *Janeza 1 je njegov1 oče rekel, [da se boji t1].
   J-GEN AUX his father said COMP REFL fear
   "Janeza, his father said that he fears."

b. Janeza1 je njegov1 oče sklenil [poslati t1 v semenišče].
   J-ACC AUX his father decided send-INF to theological-seminary
   "Janeza, his father decided to send to the theological seminary." (Marušič, 2003: 2-3)

(34) Control infinitivals not introduced by an overt complementizer must be IPs. (Bošković, 1996: 301)

(35) a. *John said [Peter left] and [that Bill kissed Mary].
   (Radford 1997: 149)

b. John expected [to write a novel] but [that it would be a critical disaster].
   (Bošković, 1996: 133)

(36) Only identical categories can be conjoined, idiomatically. (Radford 1988: 76)

(37) a. What he suspected was [that Bill saw Monument Valley].
    (Koster and May, 1982: 132)

b. *What he suspected that was [Bill saw Monument Valley].

(38) a. What he wanted was [for Bill to visit Monument Valley].
    (Koster and May, 1982: 132)

b. What he wanted was [to visit Monument Valley].

(39) a. Control clauses project CP irrespective whether it is introduced by an overt complementizer or not.
    b. Syntactically different behavior between the finite and control clauses cannot be attributed to the difference in the categories they project.

(40) a. The control CP complement is not a strong phase but a weak phase.
    b. DP can receive an additional θ-role on its course of A-movement driven by a strong phase head.
    c. Obligatory control constructions are derived by A-movement driven by features inherited from a strong phase head.

5 The examples in (31) are adopted from Frampton (1990: 69).
(41) a. Object Control Constructions\(^6\)

\[
\begin{array}{c}
[\text{CP} \text{C} [\text{TP} \text{John} \downarrow \theta] \downarrow \theta \downarrow \theta [\text{VP} \text{Mary} \downarrow \theta] \downarrow \theta [\text{C} \text{C} \text{TP} \text{Mary} \downarrow \theta] \downarrow \theta \downarrow \theta ]]]]]
\end{array}
\]

b. Subject Control Constructions

\[
\begin{array}{c}
[\text{CP} \text{C} [\text{TP} \text{John} \downarrow \theta] \downarrow \theta [\text{VP} \text{Mary} \downarrow \theta] \downarrow \theta [\text{C} \text{C} \text{TP} \text{John} \downarrow \theta] \downarrow \theta \downarrow \theta ]]]]]
\end{array}
\]

(42) Hornstein (1999) □ Obligatory Control Constructions are derived by movement to receive a \(\theta\)-role.

a. John persuaded Mary to leave.

\[
[\text{TP} \text{John} [\text{VP} \text{Mary} [\text{C} \text{C} \text{TP} \text{John} [\text{VP} \text{Mary} \text{leave}]]]]]]
\]

It is not a strong phase head but V that drives movement.

(43) a. Æg skipaði hann að vera góður/góðan.

I asked him-ACC Comp be-INF good-masc.sg.NOM/ACC

“I asked him to be good.”

b. Æg lofaði honum að vera góður/*góðum/*góðan.

I promised him-DAT Comp be-INF good-masc.sg.NOM/*DAT/*ACC

“I promised him to be good.” (Anderson, 1990: 263)

(44) a. \(\text{[CP} \text{C} [\text{TP} \text{I} \downarrow \theta] \downarrow \theta [\text{VP} \text{him} [\text{C} \text{C} \text{TP} \text{be him good}]]]]]]
\]

b. \(\text{[CP} \text{C} [\text{TP} \text{I} \downarrow \theta] \downarrow \theta [\text{VP} \text{him} [\text{C} \text{C} \text{TP} \text{be I good}]]]]]]
\]

(45) a. Accusative agreement □ The element in control CP complement is visible from \(\nu^*\) in the matrix clause.

b. Nominative agreement □ The weak phase head C do not lack all \(\phi\)-features but has a gender- and number features.

c. The object in subject control constructions is assigned inherent Case from V. □ The V in subject control constructions has some \(\phi\)-feature.\(^7\)

d. A-movement does not move through the specifier of the head which has some \(\phi\)-feature since this type of heads cannot inherit features from the strong phase head.

(46) [PRO] is the sole NP that can bear null Case. [...] the infinitival element (with null agreement) and the head of ING of gerundive nominals check null Case [...]. (Chomsky and Lasnik 1993: 561)

\(^6\) The strong phase head C is represented as \(\text{C^*}\) and the weak phase head C is expressed as C in the following discussion.

\(^7\) See (Hornstein 2001) for the claim that the object of promise-type verbs is assigned dative Case and is not a direct argument. See Lasnik (1999) and Chomsky (2000) for the argument that inherent Case is assigned under the local relation with V.
(47) a. I persuaded the men (all) to (all) resign.
   b. The men (all) promised me (*all) to (all) resign. (Baltin 1995: 222)

(48) a. \[ \langle C^* \langle T [I \langle v [X \langle \text{the men} X \rangle \rangle \rangle \langle v \langle \text{CP} C \langle T [I \langle v [X \langle \text{the men} X \rangle \rangle \rangle \langle v \rangle \rangle \rangle \rangle \rangle \rangle \rangle \rangle \rangle \rangle \rangle \]
   b. \[ \langle C^* \langle T [I \langle v [X \langle \text{the men} X \rangle \rangle \rangle \langle v \langle \text{CP} C \langle T [I \langle v [X \langle \text{the men} X \rangle \rangle \rangle \langle v \rangle \rangle \rangle \rangle \rangle \rangle \rangle \rangle \rangle \rangle \rangle \rangle \]

(49) The floating quantifier in front of to-infinitives does not remain in Spec TP in the control CP complement but stays in Spec VP in the matrix clause.

4. Conclusion

(50) a. The weak phase head which completely lacks \(\phi\)-features inherits Agree- and Edge-features from the strong phase head and its specifier becomes an intermediate position of an A-movement.
   b. Control CP complement is a weak phase.
   c. Obligatory control constructions are derived by A-movement driven by features inherited from the strong phase head.

Selected References

Marušić, F. 2003. CP under Control. ms. Stony Brook University, New York, NY.