On the Feature Inheritance in Weak Phases

Osaka University

Yumiko Ishikawa

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$_1$ doesn't seem to his$_1$ father to be smart.   (every > not), (not > every)[1]

(Sauerland 2003 310)

(4)   a.   Every child$_1$ **doesn't** seem to **his$_1$ father** [$_{TP}$ ~~every child$_1$~~ to be smart]
       b.   Every child$_1$ **doesn't** ~~every child$_1$~~ seem to **his$_1$ father** [~~every child$_1$~~ 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.   [$_{\sum P}$ ~~not~~ $\sum$ [**every** child does**n't** seem to his father [~~every child~~ to be smart]]]   (every > not)
       b.   [$_{\sum P}$ **not** $\sum$ [**every** child does~~n'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.
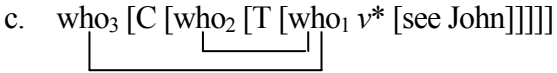
1.2. Quantifier Raising

(10)   Every child$_1$ **doesn't** [$_{vP}$ ~~every child$_1$~~ [$_{vP}$ seem to **his$_1$ father** [$_{TP}$ ~~every child$_1$~~ to ~~every child$_1$~~ be smart]]].
        A   A'   Weak Crossover   A

(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$_1$ seemed to each other$_1$ to ~~two women$_1$~~ 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*).   (=(1))

(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. who$_3$ [C [who$_2$ [T [who$_1$ v* [see John]]]]]   A'-chain = (who$_1$, who$_3$)
                                                              A-chains = (who$_1$, who$_2$), (who$_1$)

(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.
  (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*,
     <u>which already has features</u>.[3]   (*ibid*. 2006: 15)

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

(23) A-movement (Raising Constructions)

[C   [DP T   [~~DP~~ v [DP T [...~~DP~~...]]]]]
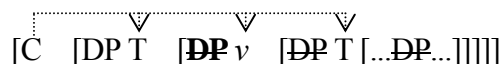
(24) a.   A-movement is driven by features inherited from a strong phase head to T or v.
      b.   A'-movement is driven by Edge-features of a strong phase head.

(25) Passive
      a.   [At which of the parties that he$_1$ Mary$_2$ to] was every man$_1$ $\sqrt{}$ 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 $\sqrt{}$ 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 vPs.   (*ibid*.)
      b.   [...] unaccusative and passive VPs are [strong] phases as well.   (*ibid*: 506)

(28) Problems for Legate (2003)
      a.   It contradicts with Chomsky's argument that unaccusative/passive vP 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 vP. 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 vP.

3.   Weak CP Phase

(31) a.   *Sam, who I know [$_{CP1}$ when you said you saw t], is a famous linguist.
      b.   Sam, who I know [$_{CP1}$ when to try to see t], is a famous linguist.[5]

---

[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 [[otagai$_1$-no   sensei]- ga   [Mary- ga t_1 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$_2$ [t_2 t_1 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$_i$-o [John-ga   [[otagai$_i$-no   sensei]-ni t_i 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   njegov$_1$ oče rekel, [da   se   boji t_1] .
       J-GEN AUX his   father said COMP REFL fear
       "Janeza, his father said that he fears."

    b.   Janeza$_1$ je   njegov$_1$ oče sklenil [poslati t_1 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].
     b.   *What he suspected that was [Bill saw Monument Valley].   (Koster and May, 1982: 132)
     c.   *What the terrorists believe is [they will hijack an airplane].   (Boskovic 1996: 282)

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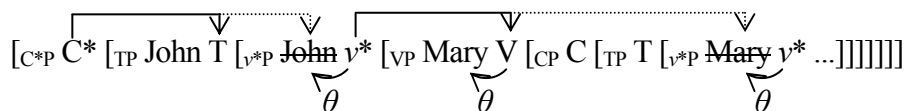   b.   What he wanted was [to visit Monument Valley].   (Koster and May, 1982: 132)

(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]

[$_{C*P}$ C* [$_{TP}$ John T [$_{v*P}$ ~~John~~ v* [$_{VP}$ Mary V [$_{CP}$ C [$_{TP}$ T [$_{v*P}$ ~~Mary~~ v* ...]]]]]]]]

θ θ θ

   b.   Subject Control Constructions

[$_{C*P}$ C* [$_{TP}$ John T [$_{vP}$ ~~John~~ v [$_{VP}$ (Mary) V [$_{CP}$ C [$_{TP}$ T [$_{v*P}$ ~~John~~ v* ...]]]]]]]]

θ θ

(42) Hornstein (1999)   Obligatory Control Constructions are derived by movement to receive a θ-role.
   a.   John persuaded Mary to leave.
   b.   [$_{TP}$ John T [$_{v*P}$ John persuade+v*[θ] [$_{VP}$ Mary V[θ] [$_{CP}$ C [$_{TP}$ to [$_{vP}$ ~~Mary~~ leave]]]]]]].

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

(43) a.   Èg skipaði hann   að   vera   góður/góðan.
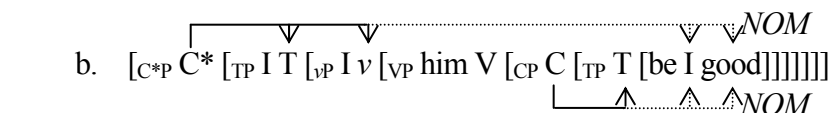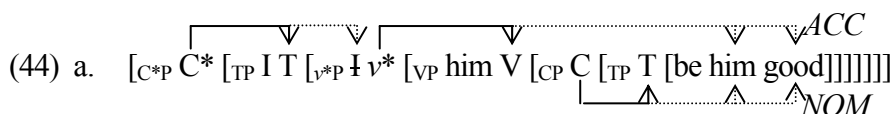   *I   asked   him-ACC Comp be-INF good-masc.sg.NOM/ACC*
           "I asked him to be good."
   b.   Èg lofaði   honum að   vera   góður/*góðum/*góðan.
           *I   promised him-DAT Comp be-INF good-masc.sg.NOM/*DAT/*ACC*
           "I promised him to be good."   (Anderson, 1990: 263)

(44) a.   [$_{C*P}$ C* [$_{TP}$ I T [$_{v*P}$ ~~I~~ v* [$_{VP}$ him V [$_{CP}$ C [$_{TP}$ T [be him good]]]]]]]] *ACC*
           NOM

   b.   [$_{C*P}$ C* [$_{TP}$ I T [$_{vP}$ I v [$_{VP}$ him V [$_{CP}$ C [$_{TP}$ T [be I good]]]]]]]] *NOM*
           NOM

(45) a.   Accusative agreement   The element in control CP complement is visible from v* in the matrix clause.
   b.   Nominative agreement   The weak phase head C do not lack all φ-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 φ-feature.[7]
   d.   A-movement does not move through the specifier of the head which has some φ-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 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. [$_{C*P}$ C* [$_{TP}$ I T [$_{v*P}$ I̶ v* [$_{XP}$ the men X [$_{VP}$ ~~the men~~ V [$_{CP}$ C [$_{TP}$ T [$_{v*P}$ ~~the men~~ v*]]]]]]]]]

     b. [$_{C*P}$ C* [$_{TP}$ the men T [$_{vP}$ ~~the men~~ v [$_{YP}$ me X [$_{VP}$ me V [$_{CP}$ C [$_{TP}$ T [$_{v*P}$ ~~the men~~ v*]]]]]]]]]

(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 φ-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

Anderson, S. 1990. "The Grammar of Icelandic Verbs in–ST," in Maling, J. and A. Zaenen. eds., *Syntax and Semantics* 24: *Modern Icelandic Syntax*, 235-273. Academic Press, San Diego, Calif.

Aoshima, S. 2001. *Mono-clausality in Japanese Obligatory Control Constructions,* ms., Department of Linguistics, University of Maryland, College Park, Md.

Baltin, M. 1995. "Floating Quantifiers, PRO, and Predication," *Linguistic Inquiry* 26, 199-248.

Bošković, Ž. 1996. "Selection of Infinitival Complements," *Natural Language and Linguistic Theory* 14, 269-304.

Chomsky, N. 2000. "Minimalist Inquiry: The Framework," in R. Martin, D. Michaels, and J. Uriagereka eds., *Step by Step: Essays on Minimalist Syntax in Honor of Howard Lasnik*. 89-156. MIT press, Cambridge, Mass.

Chomsky, N. 2001. "Derivation by Phase," in M. Kenstowicz ed., *Ken Hale: A Life in Language*. MIT press, Cambridge, Mass.

Chomsky, N. 2005. *On Phases*. ms., MIT. Cambridge, Mass.

Chomsky, N. 2006. *Approaching UG from below*. ms., MIT. Cambridge, Mass.

Chomsky, N. and H. Lasnik. 1993. "The Theory of Principles and Parameters," in Jacobs, J., A. von Stechow, W. Sternefeld and T. Vennemann, eds., *Syntax: An International Handbook of Contemporary Research*. Walter de Gruyter, Berlin.

Frampton, J. 1990. "Parasitic Gaps and the Theory of WH-Chains," *Linguistic Inquiry* 21, 49-77.

Hornstein, N. 1999. "Movement and Control," *Linguistic Inquiry* 30, 69-96.

Hornstein, N. 2001. *Move! A Minimalist Theory of Construal*. Blackwell. Cambridge, Mass.

Koster, J., and R. May. 1982. "On the Constituency of Infinitives," *Language* 58, 116-143.

Lasnik, H. 1999. *Minimalist Analysis*. Blackwell, Oxford.

Lasnik, H. 2003. *Minimalist Investigations in Linguistic Theory*. Routledge, London.

Legate, J. A. 2003. "Some Interface Properties of the Phase," *Linguistic Inquiry* 34, 506-516.

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

Park, J.-U., and M.-K., Park. 2002. "Scope Reconstruction in A-movement and Negation," *Studies in Generative Grammar* 12, 227-264.

Pesetsky, D., and E. Torrego. 2004. "Tense, Case, and the Nature of Syntactic Categories," in Guéron, J. and J. Lecarme, eds., *The Syntax of Time,* 495-537. Cambridge, Mass.: MIT Press.

Radford, 1988. *Transformational Grammar: A First Course*. Cambridge University Press, Cambridge, Mass.

Radford, 1997. *Syntactic Theory and the Structure of English*. Cambridge University Press. Cambridge, Mass.

Sauerland, U. 2003. "Intermediate Adjunction with A-movement," *Linguistic Inquiry* 34, 308-313.