

Amelioration of the Subject Condition Effects by Remnant Movement

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1. Introduction

(1) Subject Condition Effects as "Freezing Effects"

Takahashi (1994); Ishii (1997); Nunes and Uriagereka (2000); Stepanov (2001; 2007); Boeckx (2003; 2008); Gallego (2007); Gallego and Uriagereka (2007)

(2-3): *Internal/External Argument Contrast with the Subject Condition*

(2) Extraction from an External Argument

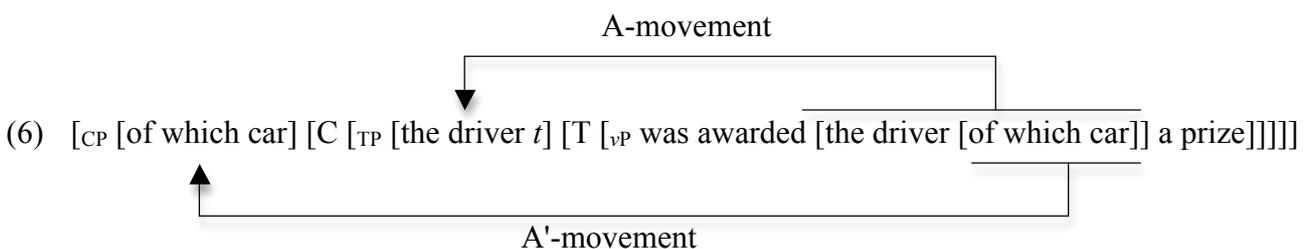
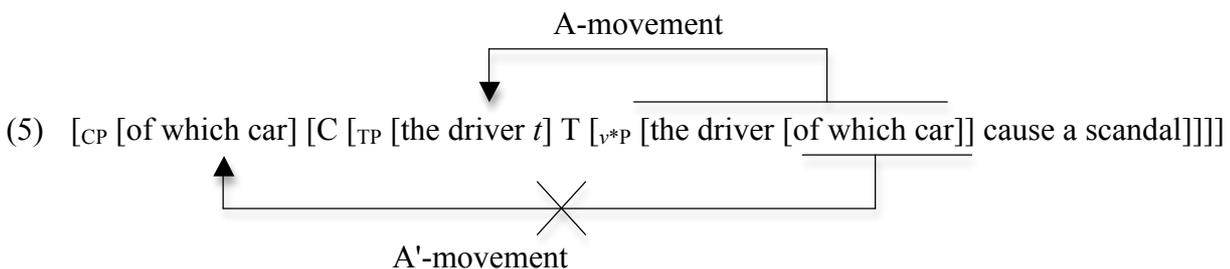
- a. *Of which car did [the driver *t*] cause a scandal?
- b. *Of which car did [the picture *t*] cause a scandal?

(3) Extraction from an Internal Argument

- a. Of which car was [the driver *t*] awarded a prize?
- b. Of which car was [the picture *t*] awarded a prize? (Chomsky 2008: 147)

(4) Chomsky's (2008) Probe Theory

- a. C and v*, but not T and V, are phase heads.
- b. Phase heads have both edge- and Agree-features. The edge-feature triggers "A'-movement" to the Spec of C or the Spec of v*, whereas the Agree feature, which is inherited by T or V, triggers "A-movement" to the Spec of T or the Spec of V.
- c. "A'-movement" and "A'-movement" proceed in parallel, *i.e.*, "A'-movement" does not target the head of an "A-chain" but its foot.



- (7) An element embedded in a lower phase already passed in the derivation is not accessible to a higher phase head. (Chomsky 2008: 147-8)
- (8) Edge Condition (Gallego and Uriagereka 2007: 55)
Syntactic objects in phase edges are internally frozen.
- (9) Against Chomsky's (2008) Analysis of the Subject Condition
Broekhuis (2006); Gallego (2007); Gallego and Uriagereka (2007); Boeckx (2008)
- (10-11): *No Internal/External Argument Contrast with Non-D-linked Wh-phrases*
- (10) a. ***Of whom** did [the driver *t*] cause a scandal?
b. ***Of whom** did [the picture *t*] cause a scandal?
- (11) a. ***Of whom** was [the driver *t*] awarded a prize?
b. ***Of whom** was [the picture *t*] awarded a prize?
- (12-15): *Extraction of a DP Wh-phrase*
- (12) a. (Among BMW, Ferrari, Honda, Porsche, and Toyota)
***Which racing car** did [the driver of *t*] cause an accident?
b. (Among the recent US presidents)
***Which president** did [the picture of *t*] cause a scandal?
- (13) a. (Among BMW, Ferrari, Honda, Porsche, and Toyota)
??**Which racing car** was [the driver of *t*] awarded an honorable prize?
b. (Among Mercury, Venus, Earth, Mars, Jupiter, and Saturn)
??**Which planet** was [a picture of *t*] taken by Bill?
- (14) a. ***What** did [the driver of *t*] cause an accident?
b. ***Who** did [a picture of *t*] cause a scandal?
- (15) a. ***What** was [the driver of *t*] awarded an honorable prize?
b. ***What** was [a picture of *t*] taken by Bill?
- (16) DP subextraction (subextraction without pied-piping of a preposition) is less acceptable than PP subextraction (subextraction with pied-piping).
(Ross 1967; Kuno 1973; Gallego 2007; Gallego and Uriagereka 2007; Boeckx 2008; Chomsky 2008)

Claims

1. A Remnant Movement Analysis of the Subject Condition Effects
2. No Crosslinguistic Variation between English and Japanese with the Subject Condition Effects

2. A Remnant Movement Analysis

2.1 Theoretical Assumptions

2.1.1 The Notion of Phase

(17) The Notion of Phase (Legate 2003; 2005)

Both transitive verbal phrases (v^*P) and unaccusative/passive verbal phrases (vPs) are phases.

2.1.2 The Phase Impenetrability Condition

(18) The Phase Impenetrability Condition (PIC) (adapted from Chomsky 2001: 13)

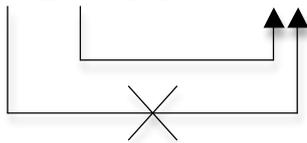
In $[_{ZP} Z \dots [_{HP} \alpha [_H H YP]]]$, where HP is a phase and ZP is the next phase, the domain of H is not accessible to operations at ZP, where phases are v^*P/vP and CP.

2.1.3 The Traditional Probe Theory

(19) The Traditional Probe Theory

- a. There is no feature inheritance mechanism; C has an edge-feature while T has an Agree-feature.
- b. Derivational steps are strictly cyclic; C and T do not probe "in parallel."

(20) $[_{CP} C [_{TP} T [_{v^*P/vP} v^*/v \beta]]]$



2.1.4 Restrictions on Remnant Movement

(21) There is a hierarchy of movement types which regulates the order of application of movement operations, including remnant movement. (Grewendorf 2003; Abels 2007a, b)

(22) A'-movement > A-movement

(23) Antisymmetric Ordering on Remnant Movement

Movement of type X can be followed by remnant movement of type Y unless Y is a lower type than X. (adapted from Abels 2007b)

(24) The Minimal Link Condition (MLC) (Chomsky 1995: 311)

H (K) attracts α only if there is no β , β is closer to H(K) than α , such that H(K) attracts β .

(25) a. A-movement -> Remnant A'-movement

It is known $[_{AP} \text{how likely } t_1 \text{ to win}]_2$ Oscar₁ is t_2].

b. A'-movement -> Remnant A-movement

*[A picture of t_1]₂ is known [which king₁ to have been sold t_2].

(Abels 2007a: 7)

(26) Müller's generalization: A'-movement -> Remnant A'-movement

*[Which book about t_1]₂ don't you know [who₁ to read t_2]?

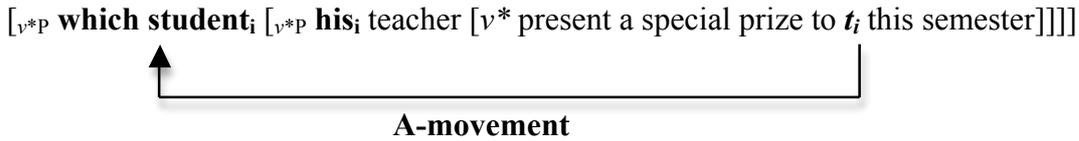
(cf. ??[Which book about Nixon]₂ don't you know [whether to read t_2]?)

2.1.5 Successive Cyclic Overt *Wh*-movement

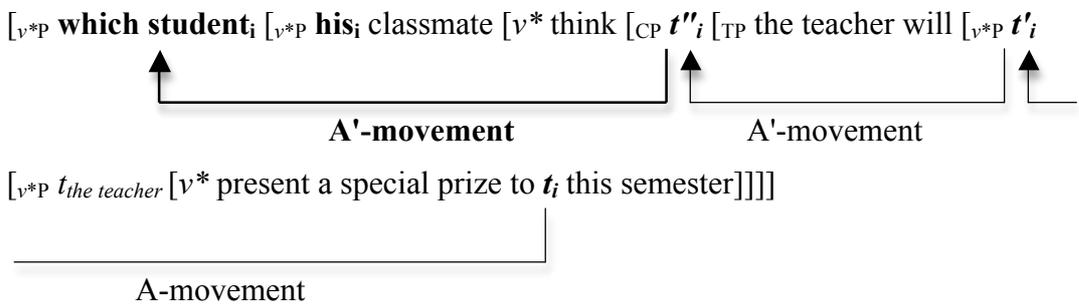
(27) D-linked *Wh*-phrases

- a. **Which student_i** do you think [that **his_i** teacher will present a special prize to **t_i** this semester]?
- b.*? **Which student_i** does **his_i** classmate think [that the teacher will present a special prize to **t_i** this semester]?
- (Ishii 2006: 159)

(28) The embedded *v**P structure of (27a)



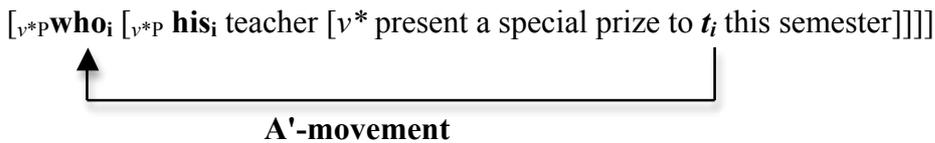
(29) The matrix *v**P structure of (27b)



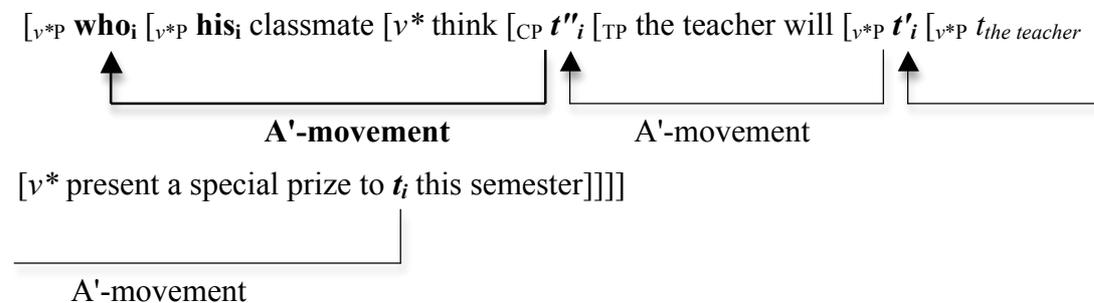
(30) Non-D-linked *Wh*-phrases

- a.*? **Who_i** do you think [that **his_i** teacher will present a special prize to **t_i** this semester]?
- b. *? **Who_i** does **his_i** classmate think [that the teacher will present a special prize to **t_i** this semester]?
- (Ishii 2006: 159)

(31) The embedded *v**P structure of (30a)



(32) The matrix *v**P structure of (30b)



2.2 A Proposal

- (33) a. ***Of which car** did [the driver **t**] cause a scandal? (=2a)
- b. **Of which car** was [the driver **t**] awarded a prize? (=3a)

2.2.1 No Subextraction Derivations

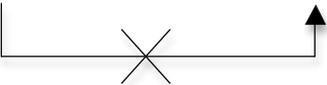
(34) Subextraction Derivation of (33a)

- a. [TP T [_{v*P} the driver of which car v* [cause [a scandal]]]]

- b. [TP [the driver of which car] T [_{v*P} t v* [cause [a scandal]]]]
- c. [CP C [TP [the driver of which car] T [_{v*P} t v* [cause [a scandal]]]]]


(35) Subextraction Derivation of (33b)

- a. [TP T [_{vP} v [awarded the driver of which car a prize]]]

- b. [TP [the driver of which car] T [_{vP} v [awarded t a prize]]]
- c. [CP C [TP [the driver of which car] T [_{vP} v [awarded t a prize]]]


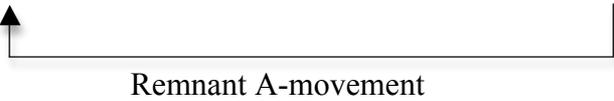
(36) The Inactivity Condition (Chomsky 2008: 150; see also Chomsky (2000; 2001; 2008); see also Boeckx 2003; 2008; Gallego 2007; Gallego and Uriagereka 2007)

An A-chain becomes invisible to further computation when its uninterpretable features are valued.

2.2.2 Remnant Movement Derivations

(37) Remnant Movement Derivation of (33b): A-movement -> Remnant A-movement

- a. [_{vP} of which car₁ [v-was awarded [[the driver *t_I*] a prize]]]

- b. [TP [the driver *t_I*]₂ [T [_{vP} of which car₁ [v-was awarded [*t₂*] a prize]]]]]

- c. [CP of which car₁ [C [TP [the driver *t_I*]₂ [T [_{vP} *t'_I* [v-was awarded [*t₂*] a prize]]]]]]]

(38) Remnant Movement Derivation of (33a)

- [_{v*P} the driver of which car [v* [cause a scandal]]]


(39) *Of whom was [the driver *t*] awarded a prize? (= (11a))

(40) Remnant Movement Derivation of *(39): A'-movement -> Remnant A-movement

a. [_{VP} **of whom**₁ [_{vP}-was awarded [[the driver of *t*_I] a prize]]]



A'-movement

b. [_{TP} [**the driver** *t*_I]₂ [T [_{VP} of whom₁ [_{vP}-was awarded [*t*₂ a prize]]]]]



Remnant A-movement

(* by the antisymmetric ordering on remnant movement (23))

c. [_{CP} **of whom**₁ [C [_{TP} [**the driver** *t*_I]₂ [T [_{VP} *t*_I' [_{vP}-was awarded [*t*₂ a prize]]]]]]]]]

3. Consequences

3.1 Raising and ECM Constructions

(41-44): *Raising Construction*

(41) a. **Of which car** is [the driver *t*] likely to cause a scandal? (Chomsky 2008: 153)

b. **Of which car** does [the driver *t*] seem to have caused a scandal?

(42) a. (Among BMW, Ferrari, Honda, Porsche, and Toyota)

?? **Which car** is [the driver of *t*] likely to cause a scandal?

b. (Among BMW, Ferrari, Honda, Porsche, and Toyota)

?? **Which car** does [the driver of *t*] seem to have caused a scandal?

(43) a. ***Of whom** is [the picture *t*] likely to cause a scandal?

b. ***Of whom** does [the picture *t*] seem to have caused a scandal?

(44) a. ***Who** is [the picture of *t*] likely to cause a scandal?

b. ***Who** does [the picture of *t*] seem to have caused a scandal?

(45-48): *ECM Construction*

(45) a. **Of which car** did they believe [[the driver *t*] to have caused a scandal]?

b. **Of which car** did they believe [[the picture *t*] to have caused a scandal]?

(Chomsky 2008: 153)

(46) a. (Among BMW, Ferrari, Honda, Porsche, and Toyota)

?? **Which car** did they believe [[the driver of *t*] to have caused a scandal]?

b. (Among the recent US presidents)

?? **Which president** did they believe [[the picture of *t*] to have caused a scandal]?

(47) a. ***Of whom** did they believe [[the driver *t*] to have caused a scandal]?

b. ***Of whom** did they believe [[the picture *t*] to have caused a scandal]?

(48) a. ***Who(m)** did they believe [[the driver of *t*] to have caused a scandal]?

b. ***Who(m)** did they believe [[the picture of *t*] to have caused a scandal]?

(49) Remnant Movement Derivation of (41a): A-movement -> Remnant A-movement

a. [_{vP} **of which car**₁ [_{v-be likely} [_{TP} [the driver *t*₁]₂ to [_{v*P} *t*₂ cause a scandal]]]]]



A-movement

b. [_{TP} [**the driver** *t*₁]₂ [T [_{vP} of which car₁ [_{v-be likely} [_{TP} *t*'₂ to [_{v*P} *t*₂ cause a scandal]]]]]]]



Remnant A-movement

c. [_{CP} **of which car**₁ [C [_{TP} [the driver *t*₁]₂ [T [_{vP} *t*'₁ [_{v-be likely} [_{TP} *t*'₂ to [_{v*P} *t*₂ cause a scandal]]]]]]]]]

(50) Remnant Movement Derivation of *(43a): A'-movement -> Remnant A-movement

a. [_{vP} **of whom**₁ [_{v-be likely} [[the picture *t*₁]₂ to [_{v*P} *t*₂ cause a scandal]]]]]



A'-movement

b. [_{TP} [**the picture** *t*₁]₂ [T [_{vP} of whom₁ [_{v-be likely} [_{TP} *t*'₂ to [_{v*P} *t*₂ cause a scandal]]]]]]]



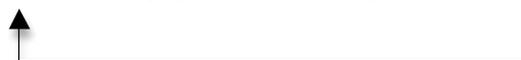
Remnant A-movement

(* by the antisymmetric ordering on remnant movement (23))

c. [_{CP} **of whom**₁ [C [_{TP} [the picture *t*₁]₂ [T [_{vP} *t*'₁ [_{v-be likely} [_{TP} *t*'₂ to [_{v*P} *t*₂ cause a scandal]]]]]]]]]

(51) Remnant Movement Derivation of (45a): A-movement -> Remnant A-movement

a. [_{v*P} **of which car**₁ [they [_{v* believe} [_{TP} [the driver *t*₁]₂ to [_{v*P} *t*₂ have caused



A-movement

a scandal]]]]]

b. [_{v*P} [**the driver** *t*₁]₂ [of which car₁ [they [_{v* believe} [_{TP} *t*'₂ to [_{v*P} *t*₂ have



Remnant A-movement

caused a scandal]]]]]]]

c. [_{CP} **of which car**₁ [C [_{TP} they [T-believe [_{v*P} [the driver *t*₁]₂ [*t*'₁ [_{v*} [_{TP} *t*'₂ to [_{v*P} *t*₂ have caused a scandal]]]]]]]]]]]

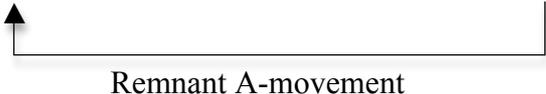
(52) Remnant Movement Derivation of *(47a): A'-movement -> Remnant A-movement

a. [_{v*P} **of whom**₁ [they [_{v* believe} [_{TP} [the driver *t*₁]₂ to [_{v*P} *t*₂ have caused a scandal]]]]]



A'-movement

b. [_{v*P} [**the driver** *t*_I]₂ [of whom₁ [they [_{v*} believe [_{TP} *t*'₂ to [_{v*P} *t*₂ have



Remnant A-movement

caused a scandal]]]]]]

(* by the antisymmetric ordering on remnant movement (23))

c. [_{CP} **of whom**₁ [C [_{TP} they [T-believe [_{v*P} [the driver *t*_I]₂ [*t*'_I [_{v*} [_{TP} *t*'₂ to [_{v*P} *t*₂ have

caused a scandal]]]]]]]]]]

3.2 Sentential Subjects

(53) a. ***Which teacher** was [that the principal would fire *t*]₂ expected by the reporters?

b. ***Who** was [that the principal would fire *t*] expected by the reporters?

(54) Remnant Movement Derivations of *(53): A'-movement -> Remnant A-movement

a. [_{vP} **which teacher**₁/**who**₁ [_v-was expected [_{CP} *t*'_I [that principal would fire *t*_I]]



A'-movement A'-movement

by the reporters]]

b. [_{TP} [_{CP} **the principal would fire** *t*_I]₂ [T [_{vP} **which teacher**₁/**who**₁ [_v-was expected *t*₂]]



Remnant A-movement

by the reporters]]]]

(* by the antisymmetric ordering on remnant movement)

c. [_{CP} **which teacher**₁/**who**₁ [C [_{TP} [_{CP} that the principal would fire *t*_I]₂ [T [_{vP} *t*'_I [_v-was expected *t*₂] by the reporters]]]]]]

4. Supposed Crosslinguistic Variations with the Subject Condition Effects

(55) No Subject Condition Effects in Japanese (Saito and Fukui 1998: 463; see also Kayne 1984; Saito 1985; 1992; Lasnik and Saito 1992; Takahashi 1994; Fukui 1995; Ishii 1997)

?**Nani-o** [John-ga [[Mary-ga *t* katta] koto]-ga mondai-da to] omotteru] no
 what-Acc John-Nom Mary-Nom bought fact-Acc problem-is that think Q
 Lit. 'What, John thinks that [the fact that Mary bought *t*] is a problem.'

Cf. *Scrambling out of the Object* (Saito and Fukui 1998: 463)

(56)?**Nani-o** [John-ga [[Mary-ga *t* katta] koto]-o mondai-ni siteiru] no
 what-Acc John-Nom Mary-Nom bought fact-Acc problem-into making Q
 Lit. 'What, John is making an issue out of [the fact that Mary bought *t*].'

(57) Subject Condition Effects in Japanese

- a. ?***Nani-o** [John-ga [[Mary-ga *t* katta] koto]-ga Bill-o okoraseta to]
what-Acc John-Nom Mary-Nom bought fact-Nom Bill-Acc made-angry that
omotteiru] no
think Q
Lit. 'What, John thinks that [the fact that Mary bought *t*] made Bill angry.'
- b. ?***Dare-ni** [John-ga [[Mary-ga *t* atta] koto]-ga Bill-o kanasimaseta to]
who-Dat John-Nom Mary-Nom met fact-Nom Bill-Acc made-sad that
omotteiru] no
think Q
Lit. 'Who, John thinks that [the fact that Mary met *t*] made Bill sad.'

Short-distance scrambling licenses a reciprocal anaphor:

- (58) a. [Karera-ga [otagai -no sensei] -o hihansita] (koto)
they-Nom **each other**-Gen teacher-ACC criticized (fact)
'They criticized [each other's teachers]'
- b. ?*[[**Otagai**-no sensei]-ga **karera**-o hihansita] (koto)
each other-Gen teacher-Nom **they**-Acc criticized (fact)
'[Each other's teachers] criticized them.'
- c. ?[**Karera**-o_i [[**otagai**-no sensei]-ga *t_i* hihansita]] (koto)
they-Acc **each other**-Gen teacher-Nom criticized (fact)
'Them_i, [each other's teachers] criticized *t_i*.' (Saito 2003: 485)

Long-distance scrambling does not license a reciprocal anaphor within a matrix subject:

- (59) a. *[[**Otagai**-no sensei]-ga [Tanaka-ga **karera**-o hihansita to] itta] (koto)
each other-Gen teacher-Nom Tanaka-Nom **they**-Acc criticized that said (fact)
'[Each other's teachers] said that Tanaka criticized them.'
- b. *[[**Karera**-o_i [[**otagai**-no sensei]-ga [Tanaka-ga *t_i* hihansita to] itta]] (koto)
they-Acc each other-Gen teacher-Nom Tanaka-Nom criticized that said (fact)
Lit. 'Them_i, [each other's teachers] said that Tanaka criticized *t_i*.' (Saito 2003: 485-6)

Short-distance scrambling licenses variable binding:

- (60) a. ?*[**Sono**_i tyosya]-ga **dono hon-ni-mo**_i keti-o tuketa
its_i author-Nom **which book-to-even**_i gave-criticism
'[Its author] criticized every book.'
- b. [**Dono hon-ni-mo**_i [[**sono**_i tyosya]-ga *t_i* keti-o tuketa]]
which book-to-even_i **its**_i author-Nom gave-criticism
'Every book_i, [its_i author criticized *t_i*].' (Saito 2003: 485)

Long-distance scrambling does not license a bound variable within a matrix subject:

(61)?***[Dono hon-ni-mo_i [[sono_i tyosya]-ga [Hanako-ga t_i keti-o tuketa] to] itta]**

which book-to-even_i its_i author-Nom Hanako-Nom gave-criticism that said

'Every book_i, its author said that Hanako criticized t_i .' (Saito 2003: 486)

(62-63): *Long-distance scrambling licenses a reciprocal anaphor within a matrix indirect object.*

(62) a. * [John-ga [**otagai-no sensei**]-ni [PRO **karera-o** homeru yooni] itta] (koto)
John-Nom **each other-Gen** teacher-Dat **they-Acc** praise to told (fact)

Lit. 'John told [each other's teachers] to praise them.'

b. [**Karera-o_i** [John-ga [**otagai-no sensei**]-ni [PRO t_i homeru yooni] itta] (koto)
they-Acc John-Nom **each other-Gen** teacher-Dat praise to told (fact)

Lit. 'Them_i, John told [each other's teachers] to praise t_i .'

(63) a. * [John-ga [**otagai-no sensei**]-ni [Mary-ga **karera-o** hihansiteiru to]
John-Nom **each other-Gen** teacher-Dat Mary-Nom **they-Acc** criticize that
tugeguti sita]] (koto)

told (fact)

Lit. 'John told to [each other's teachers] that Mary is criticizing them.'

b. ? [**Karera-o_i** [John-ga [**otagai-no sensei**]-ni [Mary-ga t_i hihansiteiru to]
they-Acc John-Nom **each other-Gen** teacher-Dat Mary-Nom criticize that
tugeguti sita]] (koto)

told (fact)

Lit. 'Them_i, John told to [each other's teachers] that Mary is criticizing t_i .'

(64-65): *Long-distance scrambling licenses a bound variable within a matrix indirect object.*

(64) a. * [[John-ga [**sono_i tyosya**]-ni [PRO **dono hon-ni-mo_i** keti-o tukeru yooni] itta
John-Nom **its_i author-Dat** **which book-to-even_i** gave-criticism to told

'John told to its author to criticize every book.'

b. [**Dono hon-ni-mo_i** [John-ga [**sono_i tyosya**]-ni [PRO t_i keti-o tukeru yooni] itta
which book-to-even_i John-Nom **its_i author-Dat** gave-criticism to told

'Every book_i, John told to its author to criticize t_i .'

(65) a. * [John-ga [**sono_i tyosya**]-ni [Mary-ga **dono hon-ni-mo_i** keti-o tuketa] to] itta
John-Nom **its_i author-Dat** Mary-Nom **which book-to-even_i** gave-criticism that said

'John told to its author said that Hanako criticized every book.'

b. [**Dono hon-ni-mo_i** [John-ga [**sono_i tyosya**]-ni [Mary-ga t_i keti-o tuketa] to] itta
which book-to-even_i John-Nom **its_i author-Dat** Mary-Nom gave-criticism that said

'Every book_i, John told to its author said that Hanako criticized t_i .'

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