Toward a Genuine Explanation for Control Phenomena

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1. Some Puzzles about Control Theory in LSJ/WCCFL Framework

1.1 Partial Control

(1) a. *John managed to meet at noon. (Exhaustive Control)
b. John arranged to meet at noon. (Partial Control)

(2) John arranged [PRO_{John+X} to win].

- "[(1)] have the sense of [(1a)], not the sense of [(1b)]. … The simplest assumption seems to be that [(1))] derive from [(3a)] by deletion of *for us*, something that happens in other circumstances."
- "There are lexical idiosyncrasies, *arrange* vs. *manage*, but the basic structure remains intact. No need to change the notion of copy, no special notion of partial control." (Chomsky 2020)

(3) a. John arranged/managed for us to meet at noon.
b. John arranged/managed to meet at noon.

- Problem I: systematic nature of EC/PC distinction

(4) *EC-predicates* (Implicative; Aspectual; Modal; Evaluative)
a. *Yesterday, John managed to solve the problem tomorrow.
b. *Yesterday, John was able to solve the problem tomorrow.
c. *Yesterday, it was smart of John to solve the problem tomorrow. (Landau 2013: 160)

(5) *PC-predicates* (Factive; Propositional; Desiderative; Interrogative)
a. Yesterday, John hoped to solve the problem tomorrow.
b. Yesterday, John wondered how to solve the problem tomorrow.
c. Today, John regretted having solved the problem last week.
d. Today John claimed to have solved the problem last week. (Landau 2013: 160)

- Problem II: semantic plurality

(6) a. John wanted to eat lunch together.
b. *John wanted to see each other at 6.

(7) a. The committee ate together at 6.
b. *The committee saw each other at 6.

1.2 Split Control

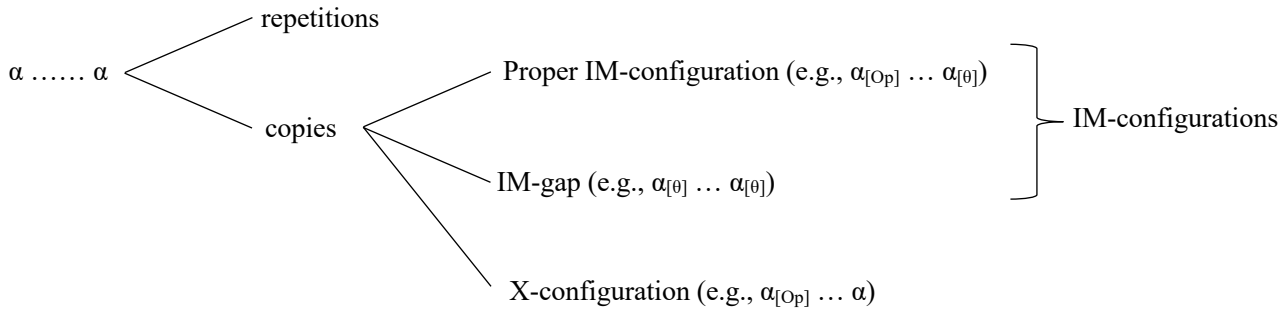
- How is split control accounted for in terms of copy formation?
- N.B. The controlled element is syntactically plural.

(8) a. John proposed to Mary [$PRO_{John+Mary}$ to meet each other at 6].
b. John asked Mary [whether $PRO_{John+Mary}$ to get themselves a new car].
c. John discussed with Mary [which club $PRO_{John+Mary}$ to become members of]. (Landau 2013: 172)

2. Partial Control

2.1 X-configurations

(9)



(10) [CP *Who*[Op] is [TP *who*[Case]/[arg] criticized *who*[θ]]]?

(11) *Proper IM configurations*
- a. α[Case] … α[θ]
- b. α[Op] … α[Case]

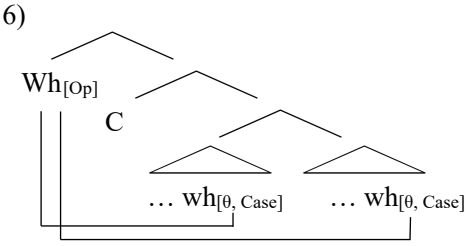
(12) Which boy did John meet *t* and Mary like *t*? (identity/*non-identity reading)
(Ishii and Goto 2020: 6)

(13) Where did Mary vacation *t* and Bill decide to live *t*? (identity/non-identity reading)
(Munn 1999: 421)

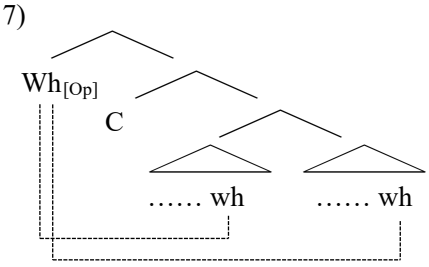
(14) Tell me what John was thinking today and Mary was thinking yesterday. (identity/non-identity reading)
(Ishii and Goto, p.c.)

(15) *Ishii and Goto's Generalization*
ATB movement of an element X with [+θ-role, +Case] has only identity reading; ATB movement of an element X with [+θ-role, -Case], [-θ-role, +Case], or [-θ-role, -Case] has either identity or non-identity reading
(adapted from Ishii and Goto 2020: 9)

(16)



(17)



- Without stipulation, nothing makes sure that the two lower copies have an identical variable.
- X-configurations provides no clue to identifying these copies. So, suppose that copy relations are transitive (i.e., aRb & bRc → aRc) only if they are IM-configurations.

(18) *Where*$_{[Op]}$ did [Mary vacation *where*$_{[-\theta]}$] and [Bill decide to live *where*$_{[-\theta]}$]?
a. Wh λx. John meet x and Wh λx. Mary like x (identity reading)
b. Wh λx. John meet x and Wh λy. Mary like y (non-identity reading)

(19) *Which boy*$_{[Op]}$ did [John meet *which boy*$_{[+\theta]}$] and [Mary like *which boy*$_{[+\theta]}$]
a. Wh λx. John meet x and λx. Mary like x (identity reading)
b. *Wh λx John meet x and λy. Mary like y (non-identity reading)

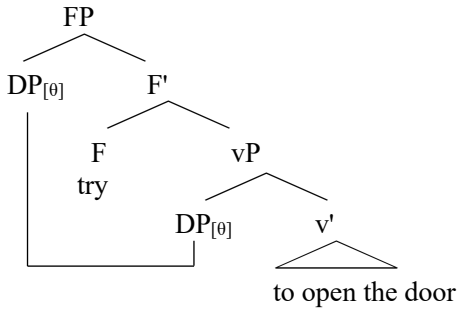
(20) *Trace Conversion* (Fox 2002, 2003)
a. Variable Insertion: (Det) Pred→ (Det) [Pred λz (z = x)]
b. Determiner Replacement: (Det) Pred→ the [Pred λz (z = x)] (Fox 2003: 111)

2.2 Deriving EC/PC Distinction

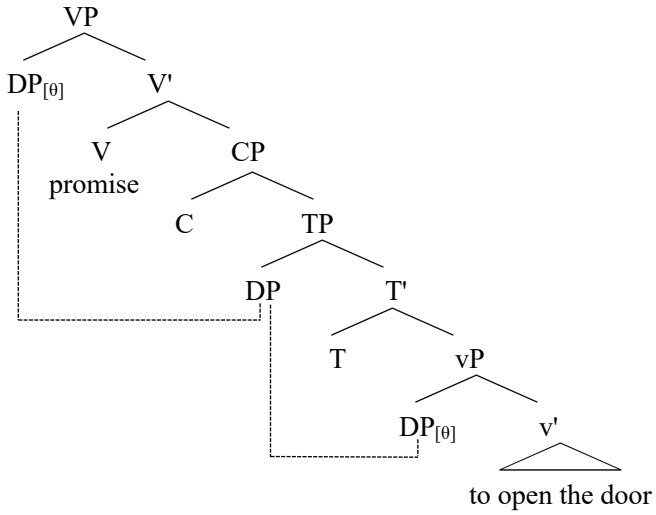
- EC complements are vP, whereas PC complements are CP (Grano 2013).

(21) a. The boy tried to open the door.
b. The boy promised to open the door.

(22)



(23)



(24) a. *The boy*$_{[Case]}$ T *the boy*$_{[\theta]}$ tried [$_{vP}$ *the boy*$_{[\theta]}$ to open the door]
b. The boy λx. x tried [x to win]

(25) a. *The boy*$_{[Case]}$ T *the boy*$_{[\theta]}$ promised [$_{CP}$ *the boy* T *the boy*$_{[\theta]}$ to open the door]
b. *The boy λx. x promised [y win]
c. The boy λx. x promised [x+α win]

(26) a. *The rank and file were eager to gather during the strike, but the organizer didn't dare to gather then.
b. The rank and file were eager to gather during the strike, but the organizer didn't dare to.
(Bowers 2008; Landau 2013: 164)

(27) a. *The rank and file* $_{[Case]}$ T *the rank and file* $_{[\theta]}$ eager [$_{CP}$ *the rank and file* [$_{TP}$ T [$_{vP}$ *the rank and file* $_{[\theta]}$ to gather during the strike]]]
b. *The organizer* T *the organizer* dare [$_{vP}$ *e*]

(28) a. *The rank and file* $_{[Case]}$ λx. x eager [$_{CP}$ C [$_{TP}$ T [$_{vP}$ x+α gather during the strike]]]
b. *The organizer* λx. x *the organizer* didn't dare [$_{vP}$ *e*]
→ *The organizer* λx. x *the organizer* didn't dare [$_{vP}$ x+α gather during the strike]

3. Split Control

- Fujii 2006, 2010 proposes an MTC-account for split control.

(29) John proposed to t_{John}+Mary [$t_{John+Mary}$ to meet each other at 6].

- Problem (I) by Landau 2013: It invokes unorthodox operations such as breaking up conjunctions in the syntax
- Problem (II): It does not explain the asymmetry between control and raising.

(30) John proposed/*committed/*seemed to Mary [to help each other at 6]. (Landau 2013: 174)

- We solve these problems with Fujii's intuition intact.
- *John* and *Mary* are introduced as a sequence. There is no operation to break up a conjunction.
- The asymmetry between control and raising is essentially reduced to the distinction between IM-configurations and IM-gaps.

(31) John$_{[\theta]}$ proposed to Mary$_{[\theta]}$ [<John, Mary>$_{[\theta]}$ to meet each other at 6].

(32) John$_{[Case]}$ seemed to Mary$_{[\theta]}$ [<John, Mary>$_{[\theta]}$ to help each other at 6].

- Sample Derivations

(33) *Control*
a. [$_{TP}$ {John, Mary} T {John, Mary}$_{[\theta]}$ to meet each other at 6].
b. [$_{CP}$ C [$_{TP}$ <John, Mary> T <John, Mary>$_{[\theta]}$ to meet each other at 6]].
c. [$_{CP}$ C [$_{TP}$ John$_{[Case]}$ T John$_{[\theta]}$ proposed to Mary$_{[\theta, Case]}$ [$_{CP}$ C [$_{TP}$ <John, Mary> to <John, Mary>$_{[\theta]}$ meet each other at 6]]].

(34) *Raising*
a. [$_{TP}$ T {John, Mary}$_{[\theta]}$ meet each other at 6].
b. [$_{CP}$ C [$_{TP}$ T <John, Mary>$_{[\theta]}$ meet each other at 6]].
c. *[$_{CP}$ C [$_{TP}$ John$_{[Case]}$ T seemed to Mary$_{[\theta, Case]}$ [$_{CP}$ C [$_{TP}$ T <John, Mary>$_{[\theta]}$ meet each other at 6]]]].

4. Conclusion

- Partial control is accounted for in terms of variable insertion conditioned by duality of semantics.
- Split control is accounted for in terms of Form Sequence.
- The proposed analyses are in accordance with the SMT. If they are on the right track, control theory is reduced to optimally designed operations that yield expressions accessed by language-external systems.

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