

Obligatory Control Can't be Raising
or:
Where Hornstein (1999) got it wrong

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Background

In the history of generative grammar, almost any conceivable reduction of Obligatory Control (OC) has been proposed. People said that OC is a kind of...

- *Predication* (Williams 1980, Chierchia 1984, Dowty 1985, Clark 1990).
- *Anaphora* (Manzini 1983, Bouchard 1984, Koster 1984, Borer 1989).
- *Agreement* (Landau 2000, Tóth 2000).

It was just a matter of time, then, for the last option to be vigorously defended: OC is...

- *Movement* (Martin 1996, O'Neil 1997, Hornstein 1999, Manzini & Roussou 2000, Polinsky & Potsdam 2002)

There are various implementations of this idea. We will take to task the theory put forward in Hornstein (1999), because it is both extremely explicit and radical. We'll see that despite its superficial elegance and appeal, this theory is not a serious alternative to any of the traditional accounts of OC.

Hornstein's theory

- (1) GB/early minimalist accounts of OC invoke stipulations and redundant mechanisms:
 - a. An argument chain bears exactly one θ -role.
 - b. No movement to a θ -position.
 - c. No ("sideward") movement to a non-c-commanding position.
 - d. θ -roles are not checkable features.
 - e. The "null case" proposal (only control Infl assigns it, only PRO can bear it).
 - f. PRO and trace are distinct (i.e., PRO exists).
 - g. Raising and control are substantially different.
 - h. The "control module" exists, that is, there is a special component of grammar that is responsible for the choice of controller in OC and the interpretation of PRO.

Hornstein denies all this. Instead, he proposes the following picture:

- (2) a. θ -roles are features transferred from predicates to DPs.
- b. There is no limit on the number of θ -features a DP can accrue.
- c. There is no null case; the null subject of infinitives is caseless.
- d. Control is movement, subject to the Minimal Link Condition (MLC).
- e. There is no PRO; there is no "control module".

In short: **Control = Raising to a θ -position**

(3) Sample derivations (Hornstein's (45),(41))

- a. *Complement control*
Mary hopes to win.

[_{IP} Mary [_{VP} Mary v+hopes [_{IP} Mary to [_{VP} Mary v+win]]]]

Features checked by *Mary*: external θ -role of *win*, EPP-feature of *to*, external θ -role of *hope*, EPP-feature and nominative case of matrix I⁰.

- b. *Adjunct control*
John heard Mary without entering the room.

[_{IP} John [_I past [_{VP/VP} [_{VP} John [heard Mary]] [_{Adjunct} without
[_{IP} John [_{I'} ing [_{VP} John [_{VP} entering the room]]]]]]]]

Note: Raising of *John* from [_{Spec},-ing] to [_{Spec},*heard*] crosses an adjunct island. Hornstein claims that sideward movement is not island-sensitive (Nunes 1995).

(4) The standard view of control

- a. PRO exists, and it is distinct from NP-trace.
- b. Hence: Control involves two argument chains, raising involves one.
- c. The control module exists.

Note: (4) is an extremely minimal view of control, compatible with many views of PRO (anaphor, pronoun, A-bar variable) and of the control module (predication, lexical entailment, pragmatic inference, etc.). See, among others: Chomsky 1981, 1986, Bresnan

1982, Manzini 1983, Bouchard 1984, Koster 1984, Lebeaux 1984, Borer 1989, Clark 1990, Sag & Pollard 1991, Williams 1992, Petter 1998, Landau 2000.

Claim: Nothing more than (4) is needed in order to set up an alternative to Hornstein's theory, which is empirically superior. And I mean – *smashingly* superior.

Obligatory Control

(5) A conceptual issue: θ - roles or features?

Is (2a) a sensible alternative to (1d)? Whether or not one thinks θ -roles are empirically defensible, there is little doubt that they are theoretically intelligible. θ -roles are clearly *relations* between predicates and arguments. Whether a given DP is Theme or Experiencer is entirely context-dependent. By contrast, features like [+plural] are intrinsic and non-relational. If the feature [+Experiencer] does not reside intrinsically in the subject of *love*, how can it check its counterpart on that verb?

Furthermore, do we want to say that selectional violations crash the derivation just like any other feature mismatch? What then about the old asymmetry between (6a-b)?

- (6) a. # Sincerity fears the boy.
b. * Children fears sincerity.

(7) Control across passive

Fact 1: Object control verbs can passivize.

- a. Mary₁ was persuaded t₁ [_{IP} t₁ to leave].

Fact 2: ECM verbs can passivize.

- b. John₁ was expected [_{IP} t₁ to [_{VP} t₁ win the game]].

Puzzle: Why can't subject control verbs passivize?

- c. * John₁ was hoped [_{IP} t₁ to [_{VP} t₁ win the game]].
[i.e., it was hoped that John would win the game]

(c) is structurally equivalent to (b): raising from a θ -position to a non- θ -position. Nothing in Hornstein (1999) blocks this option.

Hornstein (2000) (reply to Brody 1999): i) Control complements are CPs, ECM complements are IPs; ii) CPs blocks subject extraction, unless C incorporates to the matrix predicate; iii) passive verbs resist C-incorporation. "Evidence":

- d. John fervently believes (that) there's a man here.
- e. It's fervently believed ??(that) there's a man here.

Problems: i) The facts are dubious. There is no general prohibition against *that*-deletion under passives:

- f. I was told (that) Mary would come.

ii) The account is ad-hoc; what is the rationale behind the alleged dependence of C-incorporation on passive? iii) Most seriously – Hornstein's solution excludes not only (c) but also (a).

(8) Sideward Movement from Complements

Hornstein appeals to sideward movement in order to account for OC into adjuncts. Yet nothing in the mechanism of sideward movement itself dictates that it must take place from adjuncts. Why don't we find sideward movement from complements?

- a. * John's₁ friends prefer [t₁ to behave himself].
- b. * We urged John's₁ friends [t₁ to talk about himself].
- c. * John₁ persuaded friends of t₁ [t₁ to nominate himself].

Without a constraint to rule out (a-c), neither the claim "control is raising" nor the claim "sideward movement is possible" can be held to be "simpler" than their alternatives.

(9) Reflexive verbs

Movement from one θ -position to another may be clause-internal. Hornstein proposes to analyse reflexive verbs this way (a-b). The question immediately arises how to block this derivation in the much more typical case (c-d).

- a. Mary washed.
- b. [_{IP} Mary₁ [_{past} [_{VP} t₁ [_{wash} t₁]]]].
- c. Mary saw \neq Mary saw herself
- d. * [_{IP} Mary₁ [_{past} [_{VP} t₁ [_{saw} t₁]]]].

Hornstein: *see* obligatorily assigns accusative case, *wash* only optionally. Therefore, in (d) there are two case features (Nom. and Acc.), one of which remains unchecked.

Problems: i) If the case feature on *wash* is optional – why is the reflexive derivation *obligatory*? What rules out an interpretation with indefinite object drop (*Mary washed pro*)? ii) What's the independent criterion that determines whether the verbal case feature is obligatory or not? One can only imagine one such criterion – whether the verb allows indefinite object drop or not. Hence, Hornstein predicts:

- e. If a transitive verb allows object drop, it should license a reflexive reading.
(because its case feature is optional, and nothing rules out a derivation like (a)).

(e) is massively disconfirmed: *John ate/watched/cursed/taught/preached/drew/cleaned*. Many verbs allow (discourse-sensitive) object drop without being reflexive.

More generally: It is up to the lexicon, not syntax, to derive reflexive verbs. The class of these verbs is notoriously small and idiosyncratic (mostly referring to bodily actions), varying across languages (Reinhart 1997). The mechanism of movement from one θ -position to another is not only unsupported, but in fact undermined by reflexive verbs.

(10) Implicit control

The controller in OC may be implicit, that is, lexically saturated but syntactically unexpressed. Typically, we find implicit dative or agent (of passive) controllers. The phenomenon is well-documented, its scope being subject to lexical and parametric variation (see Kimball 1971, Bresnan 1982, Epstein 1984, Williams 1985, 1987, Manzini 1986, Rizzi 1986a, Brody & Manzini 1987, Roeper 1987, Lasnik 1988, Chierchia 1989, Clark 1990, Higginbotham 1999, Landau 2000).

- a. John said/shouted (to the visitors) to return later.
- b. Il generale ha ordinato (ai soldati) di partire.
the general has ordered (to-the soldiers) to-leave
'The general ordered (to the soldiers) to leave'. [Italian; Rizzi 1986a]
- c. Gil himlic (le-Rina) lir'ot rofe.
Gil recommended (to Rina) to-see doctor
'Gil recommended (to-Rina) to see a doctor' [Hebrew]

(11) Hornstein is committed to the following conclusions:

- a. All controllers are syntactic (since they are raised).
⇒ implicit controller is *pro* or NP-trace.

- b. \Rightarrow Implicit reflexive control should be possible.
- c. John said to return later.
- d. [IP John₁ [VP t₁ said t₁ [IP t₁ to [VP t₁ return later]]]]
- e. John said to himself to return later.

In reality: Sentences like (c) never have interpretations like (e); implicit controllers behave like pronouns w.r.t. condition B, triggering disjointness (Williams 1985, Chomsky 1986, Brody & Manzini 1987).

(12) The Minimal Distance Principle (MDP)

The DP closest to PRO is the controller.
(Rosenbaum 1967, Bach 1979, Bach & Partee 1980, Larson 1991, Manzini & Roussou 2000).

- a. John₁ wanted [PRO₁ to leave].
- b. John₁ persuaded Mary₂ [PRO_{2/*1} to leave].
- c. John₁ promised Mary₂ [PRO_{1/*2} to leave].

Hornstein: i) The MDP is a correct markedness condition.
ii) The MDP follows from the Minimal Link Condition (MLC).

Problems:

i) In uncontroversial movement contexts, MLC violations are not "marked", but completely ungrammatical (e.g., **John seemed it was likely to win*). Why does it become a markedness condition only in the context of OC? ii) In fact, MDP "violations" are not marked, but form semantically coherent subclasses:

- a. *Commitments*
We₁ vowed to our leader [PRO₁ to be loyal].
Requests
- b. The prisoner₁ asked the guard [PRO₁ to smoke one more cigarette].
Proposals
- c. John₁ proposed to Mary [PRO₁ to help her with the arrangements].

In general, the choice of controller is sensitive to both lexical and pragmatic factors (speech acts, authority relations, etc.). The vast literature on this topic agrees that no purely syntactic account is tenable in this domain (Chomsky 1981, Manzini 1983, Koster 1984,

Comrie 1984, Melvold 1985, Farkas 1988, Sag & Pollard 1991, Petter 1998, Landau 2000, Wurmbrand 2001). Hornstein ignores all that literature.

All and all, a theory that does *not* derive the MDP is better off than one that does.

Non-obligatory control

(13) Delimiting NOC environments

Hornstein: NOC is the elsewhere case; whenever OC fails, NOC obtains.

OC fails whenever the infinitival subject cannot raise \Rightarrow island environments.

A *pro* subject is inserted as a last resort, explaining the pronominal properties of the infinitival subject in NOC. Hornstein discusses three environments:

- a. *Sentential subject*
It was believed that [*pro* shaving] was important.
- b. *Extraposition*
It is impossible [*pro* to win at roulette].
- c. *Wh-complements*
John told Sam [how *pro* to hold oneself erect at a royal ball].

(14) Claim: Hornstein's NOC category is both too restrictive and too permissive.

- a. Extraposition under psychological predicates falls under OC (Landau 2001):
 - i) * John₁ said that it disturbed Sue [PRO₁ to make a fool of himself in public].
(Grinder (1970))
- b. Contrary to common belief, *wh*-complements fall under OC (Landau 2000):
 - i. John said that Mary asked [how PRO to feed herself/*himself].
(Mohanar 1985)
 - ii. John₁ wondered [who PRO to introduce his₁ fiancée/*him₁ to].
 - iii. John₁ asked [how PRO to talk to Mary/*him₁ about oneself].

Note: This is particularly damaging to Hornstein's theory. Either he abandons the claim that NOC obtains in islands (losing his account for (13a,b)), or he denies the islandhood of *wh*-complements.

- c. Initial adjuncts fall under NOC, contrary to Hornstein's prediction:

- i. [After PRO_{arb} pitching the tents], darkness fell quickly. (Kawasaki 1993)
- ii. Mary₁ was baffled. [Even after PRO₁ revealing her innermost feelings], John remained untouched.
- iii. Mary₁ lost track of John₂ because, [PRO_{1,2} having been angry at each other], he had gone one way and she the other. (Bresnan 1982)

Hornstein explains the OC effect with right-edge adjuncts by sideward movement (see (3b)), which is movement to a non-c-commanding position. Since the local matrix DP – if there is one – does not c-command PRO in (c-i,ii,iii), sideward movement should be possible, and NOC, being a last resort option, should be blocked. It follows that Hornstein cannot explain the control contrast between right- and left-edge adjuncts.

(15) The Interpretation of PRO in NOC

Hornstein: The null subject in NOC is a pronoun (i.e., *pro*).

In reality: That's false. The null subject is a *logophor* (parallel to *picture-anaphora*). (Kuno 1975, Lebeaux 1984, Williams 1992, Landau 2001)

The antecedence conditions on logophors are stricter than those of pronouns, making the distinction empirically testable:

- a. [PRO₁ having just arrived in town], the main hotel seemed to Bill₁ to be the best place to stay.
- b. * [PRO₁ having just arrived in town], the main hotel collapsed on Bill₁. (Williams 1992)
- c. [his₁/*PRO₁ having shaved already] shows that Mary arrived more than 5 minutes after John₁ did. (Lebeaux 1984)
- d. John sued Mary₁ for divorce because it was no longer possible [for her₁/*PRO₁ to support him]. (Kuno 1975)
- e. John's₁ wife thought that [for him₁/*PRO₁ to indulge himself in drinking] is inappropriate.

In principle, Hornstein could argue that a silent logophor, rather than a silent pronoun, is inserted when NP-movement is blocked. But this would remove the alleged analogy to (silent) resumptive pronouns as a last resort in islands to A-bar movement (Hornstein 1999, fn. 42).

"Side benefits"

(16) De se Interpretation

Scenario: "The unfortunate" is a war hero who suffers from amnesia and remembers nothing of his wartime experiences. Suppose this person sees a TV program describing his own exploits, and is impressed with the courage exhibited by that person, who he does not know is himself. The unfortunate comes to believe that this hero will get a medal. Under this scenario, (a) is true but (b) is false:

- a. The unfortunate expects that he will get a medal. *de se or de re*
- b. The unfortunate expects to get a medal. *only de se*

Hornstein: The control chain in (c) creates a "complex monadic predicate", as in (d). This explains *de se* readings.

- c. John₁ [_{VP} t₁ hopes [_{IP} t₁ to [_{VP} t₁ leave]]].
- d. $\lambda x.x$ hopes x leave

Reply: No, it does not. The λ -abstract in (d) simply represents variable binding, but variable binding cannot distinguish *de se* from *de re* readings (Chierchia 1990, Higginbotham 1992). Thus, (d) is also part of the interpretation of (e), but unlike (c), (e) does support a *de re* reading.

- e. Everyone₁ hopes that he₁ will leave. *de se or de re*

(17) Wanna-Contraction

- a. Who do you want PRO to / wanna see t_{wh}?
- b. John's going t_{NP} to / gonna leave.
- c. * Who do you want t_{wh} to / *wanna vanish?

Hornstein: PRO in (a) is like caseless NP-trace in (b) and unlike *wh*-trace in (c) w.r.t. licensing *wanna*-contraction.

Reply: *wanna*-contraction cannot be keyed to lack of case because there is ample crosslinguistic evidence that PRO *does* bear case (case concord in Russian, Icelandic, Hungarian, Greek, Romanian). But you know what – suppose Hornstein is right: The raising analysis of OC accounts for the highly idiosyncratic, language-specific construction of *wanna*-contraction (maybe PRO lacks case only in English). What follows from that? Very little.

Raising vs. Control

Rosenbaum's (1967) discovery that raising and control constructions are fundamentally distinct, although superficially similar, has been a major achievement of generative grammar. Throughout the years, it has yielded a host of empirical contrasts. Hornstein's analysis trivializes the distinction (a chain with one or two θ -positions), and addresses none of these contrasts (except one). This complete disregard for well-known facts is perhaps the most disturbing feature of Hornstein's paper.

(18) What Hornstein does explain: expletive & idiom chunks

- a. The shit seems to have hit the fan.
- b. * The shit expects to hit the fan.
- c. There seems/*expects to be a man in the garden.

Hornstein: Expletives/idiom chunks cannot check the external θ -roles of the matrix verb. We should also grant him an account of May's (1985) observation:

- d. Someone from NY is likely to win the lottery. *ambiguous*
- e. Someone from NY is eager to win the lottery. *unambiguous*

All θ -roles must be expressed at LF (only the higher copy bears both θ -features).

(19) Complementizers

Raising complements are IPs, control complements are CPs. Hence:

A universal generalization

Control complements may be introduced by complementizers;
Raising complements are never introduced by complementizers.

Hebrew (Landau 2002)

- a. Rina xadla (me-)le'acben et Gil.
Rina stopped (from-)to-irritate acc. Gil
'Rina stopped irritating Gil'
- b. Ha-muzika ha-ro'ešet xadla (*me-)le'acben et Gil.
the-music the-noisy stopped (*from-)to-irritate acc. Gil
'The loud music stopped irritating Gil'

A puzzle for Hornstein: Why should the presence of an external θ -feature on the matrix verb license a CP projection in the complement? The two facts seem completely unrelated. The standard view makes sense of this contrast: NP-movement cannot cross a CP-boundary (without violating the ban on improper movement). Furthermore, recent studies (Rizzi 1997, Roussou 2001, Landau, in progress) link the licensing of PRO to C.

(20) Unaccusative Properties

Raising predicates are unaccusative, control predicates are (usually) not. While Hornstein's theory can, in principle, explain contrasts in the matrix position (by reference to its thematic/nonthematic status), it cannot explain contrasts in the embedded position. Two such contrasts are reviewed below.

a. *'En'-cliticization* (Ruwet 1972)

Raising verbs permit *en*-cliticization – a diagnostic of NP-movement in French - of the partitive complement of their surface subject on the *embedded* verb, whereas control verbs do not.

- i. Le directeur du département semble être accepté.
the head of-the department seems to-be accepted
'The head of the department seems to be accepted'
- ii. Le directeur semble [**ec** *en* être acceptée].
- iii. Le directeur du département espère être accepté.
the head of-the department hopes to-be accepted
'The head of the department hopes to be accepted'
- iv. * Le directeur espère [**ec** *en* être accepté].

Explanation: **ec** in (ii) is a copy of the passivized-and-raised subject, which contains the *en*-copy as a subconstituent. **ec** in (iv) is PRO, with no internal structure. If **ec** in (iv) is also a copy, as Hornstein argues, the explanation is lost.

b. *'Si'-reflexivization* (Rizzi 1986b)

NP-movement cannot skip a position coindexed with the moved NP:
*[NP₁... si₁...t₁], where t₁ is the trace of NP₁ and si₁ is a reflexive clitic. This unaccusative test for Italian disapproves NP-movement in raising but not in control:

- i. * I due candidati_i *si*_i risultavano [t_i poter vicere].
the two candidates to-each-other appeared to-be-able to-win
(‘The two candidates appeared to each other to be able to win’)

- ii. I due concorrenti_i *si*_i sono promessi [di PRO_i essere leali].
the two competitors to-each-other were promised to-be loyal
(‘The two competitors promised to each other to be loyal’)

The problem for Hornstein: If (i) violates the MLC, so should (ii). Notice that the problem persists whether *si* is taken to spell out the goal or the agent argument. Nor is it an artifact of Rizzi's assumption that chains contain a single θ -role (an assumption rejected by Hornstein); rather, it is a consequence of the claim that OC creates a chain, subject to the MLC.

(21) Case Concord

Floating quantifiers in Icelandic agree in case with their local subject, including quirky subjects. Sigurdsson (1991) shows that PRO is no exception (notice that case is *not* transmitted from the controller):

- a. Strákarnir vonast til [að PRO vanta ekki alla í skólann].
the boys.NOM hope for to PRO.ACC lack not all.ACC in the school
(‘The boys hope not to be all absent from school’)

- b. Strákarnir vonast til [að PRO leiðast ekki öllum í skóla].
the boys.NOM hope for to PRO.DAT bored not all.DAT in school
(‘The boys hope not to be all bored in school’)

- c. Strákarnir vonast til [að PRO verða allra getið í ræðninne].
the boys.NOM hope for to PRO.GEN be all.GEN mentioned in the-speech
(‘The boys hope to be all mentioned in the speech’)

Strikingly, no case mismatch is observed in raising constructions: The quirky case determined by the embedded predicate shows up on the matrix subject (O’Neil 1997: 109, attributed to H. Thráinsson):

- d. Strákarna virðast [t vanta ekki alla í skólann].
the boys.ACC seem to-lack not all.ACC in the school
(‘The boys seem not to be all absent from school’)

- e. Strákunum virðast [t lei ðast ekki öllum í skóla].
the boys.DAT seem to-be-bored not all.DAT in school
'The boys seem not to be all bored in school'
- f. Strákanna virðast [t verða allra getið í ræðnnie].
the boys.GEN seem to-be all.GEN mentioned in the-speech
'The boys seem to be all mentioned in the speech'

Upshot: This is a compelling argument against the idea that "control=raising". The contrast clearly indicates that two A-chains are involved in (a-c) but only one in (d-f). To accommodate these facts, Hornstein would have to stipulate that i) A-chains can be doubly case-marked, and ii) That option is licensed only when the head of the chain is θ -marked. (i) has indeed been proposed in the past (see Yoon 1997, Bejar & Massam 1999), but only as a parametric option, and never with the qualification in (ii).

(22) Partial Control

In Landau (2000) I discuss a neglected property of control complements, namely the fact that the reference of PRO need not be exhausted by the reference of the controller. Such cases are perfectly natural when the speaker has some salient group in mind:

(We thought that...)

- a. The chair₁ preferred [PRO₁₊ to gather at 6].
- b. Bil₁ regretted [PRO₁₊ meeting without a concrete agenda].
- c. Mary₁ wondered [whether PRO₁₊ to apply together for the grant].

Fact: Most control verbs allow partial control, but most control *tokens* do not reveal this.

The problem for Hornstein: There is no partial raising! The notion is theoretically incoherent (raise only a chunk of the reference?) and empirically unattested:

(We thought that...)

- d. * The chair appeared to be gathering once a week.

Implication: The existence of partial control destroys Hornstein's "argument from simplicity". If OC does not reduce completely to raising, then a theory with both NP-trace and PRO is the simplest one permitted by the facts of natural language.

(23) Metonymical shift (adapted from Postal 2002)

Shifting from a metonym to its “reference” is constrained when they are linked by pronominal or anaphoric coreference. Some shifts are possible, others are not:

- a. John is not parked on 26th St. (*John*=John’s car)
- b. John₁ hoped he₁ is not parked on 26th St. (*he*=John’s car)
- c. John₁ didn’t intend PRO₁ to be parked on 26th St. (PRO=John’s car)

- d. Microsoft went up. (*Microsoft*=Microsoft’s stock’s price)
- e. * Microsoft₁ claimed that it₁ would go up. (*it*=Microsoft’s stock’s price)
- f. * Microsoft₁ plans PRO₁ to go up. (PRO=Microsoft’s stock’s price)

Although the nature of these semantic constraints is obscure, they are clearly characteristic of pronominal/anaphoric coreference. Consider also:

- g. Poulain is tastier than baguettes.
- h. * Poulain₁ said that he₁ is tastier than baguettes.
- i. * Poulain₁ aspired PRO₁ to be tastier than baguettes.

Raising constructions are not subject to these constraints:

- j. Microsoft₁ seems/is likely t₁ to have gone up.
- k. Poulain₁ seems/is likely t₁ to be tastier than baguettes.

If OC reduces to raising, then the contrast between (f,i) and (j,k) is mysterious.

Conclusion

- On a conservative count, there are 16 empirical arguments against assimilating OC to raising and in favor of keeping them apart.
- On the other hand, there is not a single compelling empirical argument (*wanna*-contraction notwithstanding) in favor of assimilating OC to raising.
- Given this state of affairs, Hornstein’s repeated appeals to conceptual considerations – more simplicity, less redundancy, etc. – are premature. Occam’s razor only decides between empirically comparable theories.
- Until further notice, PRO exists.