

Infinitival Complementation 1: Control

So far we have looked more or less exclusively at finite clauses. We now turn our attention to infinitival clauses.

We will look at the following three cases:

- (1) a. Control : the subject of the infinitival is a null pronoun called PRO:
David tried [PRO to dance].
[PRO to dance with David] is fun.
- b. Raising: the subject of the infinitival moves to a higher subject position:
Makoto_i appears [_i to be happy].
Joey_i seems [_i to be exhausted].
- c. ECM : the subject of the infinitival is an overt NP:
I believe [Angela to be innocent].
Minjoo wants [him to stay].

1 PRO and Control

- (2) a. Dave tried [to write a paper about causatives].
b. Junko decided [to visit UMass in December].
c. Bernhard plans [to teach a seminar in the Fall].

- The embedding predicate is a two place predicate - someone who tries/decides/plans something and something that is tried/decided/planned.

- The infinitival clause typically cannot have an overt subject.

- (3) a. *Dave tried [Dave to write a paper about causatives].
b. *Junko decided [Junko to visit UMass in December].
c. *Bernhard plans [Bernhard to teach a seminar in the Fall].

PRO is typically taken to be in complementary distribution with overt pronouns and *pro*.
Potential Counterexample: predicates like *want*

1.1 Some motivation for PRO

Given our assumptions about θ -roles and the EPP, we need to assume that there is a null subject in the infinitival clauses under discussion. What could this subject be?

- An important theoretical consideration:

- (4) θ -criterion: An argument DP must receive a θ -role, and may receive *only one* θ -role.

The *only one θ -role* requirement rules out movement and hence DP-traces/copies of DPs in the infinitival subject in the infinitival subject position.

pro could be a possibility (see Borer (1989)), but *pro* as generally conceptualized can only appear in positions where it can get case and where overt DPs may also appear.

If we keep to the *only one θ -role* part of the θ -criterion, we need to postulate a new kind of entity - a null pronoun, called PRO, which can satisfy the EPP requirement, receive a θ -role, and which does not need case.

- (5) Some null DPs:
 - a. DP-trace/copies of DPs that we do not pronounce: products of movement
 - b. *pro* - a null pronoun that (i) alternates with overt pronouns/ (ii) needs case
 - c. PRO - a null pronoun that (i) does not alternate with overt pronouns/ (ii) does not need case
- (6) a. Junko_i decided [PRO_i to visit UMass in December].
b. Fred_i promised Alex [PRO_i to finish his paper by Monday].
c. Fred persuaded Alex_i [PRO_i to finish her paper by Monday].

(The co-indexing indicates what DP controls the PRO. If the proposal that this relationship is essentially a semantic one is correct, then these indices do not need to be represented in the syntax.)

- (7) PRO can only be the subject of a non-finite clause.
 - a. *Pam believes PRO solved the problem.
 - b. *Sarah saw PRO.
 - c. *Sarah saw pictures of PRO.

Potential Counterexample: finite control in Persian (Darzi (2008))

As always, once we postulate a null entity we have to make sure that it appears only where we want it to appear. Here are some major proposals.

- (8) Case Resistance (Bouchard (1984))
 - a. PRO is case-resistant.
 - b. PRO is in complementary distribution with overt pronouns and *pro* because the latter need to be assigned (or check) a Case.
- (9) PRO Theorem (Chomsky (1981))
 - a. PRO is [+anaphoric,+pronominal].
 - b. The only way for it to survive is to not have a governing category i.e. not have a governor.
 - c. Non-finite T⁰ is not a governor.

- d. Case-licensing positions are always governed, hence PRO cannot appear there.
- (10) Null Case (Chomsky and Lasnik (1993), Martin (2001))
- a. PRO has null case, a special case that only it can bear.
 - b. Non finite T^0 licenses Null Case.
 - i. Naomi tried to solve the problem.
 - ii. It was difficult for Naomi to solve the problem.
 - iii. Naomi believes *(her) to have solved the problem.
 - iv. *It seems to Naomi to have solved the problem.
 - v. She seems to Kim to have solved the problem.
- Martin (2001)'s refinement: raising T^0 does not license case, control T^0 licenses Null Case.

These approaches all share a premise, namely that PRO either does not have Case or the Case that it has is unique to PRO. However, in every case where we can test this premise, it has turned out to be false: see Sigurdsson (1991) for Icelandic, Cecchetto and Oniga (2004) for Latin and Italian, and Landau (2004) and Landau (2006) for a theory that constrains the distribution of PRO given that PRO has normal case.

1.2 Control as Raising

Control and Raising are generally taken to involve different modules of the grammar - control theory and movement, respectively.

Control Theory, however, remains poorly understood and there has been an active line of work originating in Hornstein (1999), which tries to derive Control via movement. To derive Control via movement, the *only one θ -role* part of the θ -criterion must be given up.

Note that deriving Control via Movement is not the same thing as saying that Raising and Control are the same. There is no denying that there are many many properties on which control constructions differ from raising constructions.

Landau (2003) suggests that since control constructions are very different from raising constructions, we want to keep the derivation of the two distinct. In their reply to Landau (2003), Boeckx and Hornstein (2004) point out that there are in fact certain parallels between control and raising and claim that the non-parallels can be derived from independent differences between raising and control.

1.3 Different Kinds of Control

Control construction can be subdivided along several dimensions. Some of these subclasses seem more amenable to a movement analysis than others.

1.3.1 Subject vs. Object Control

(11) Ditransitive control predicates:

- a. subject control: Fred promised Alex to finish his paper by Monday.
- b. object control: Fred persuaded Alex to finish her paper by Monday.

There are many object control predicates but very few subject control predicates. This has led some researchers to propose a **Minimal Distance Principle**, which forces object control (cf. Rosenbaum (1967)). MDP-violating subject control is taken to involve a special structure where the Minimal Distance Principle is in fact respected (cf. Larson (1991)).

The conclusion (most?) other researchers have reached is that while the availability of a control relationship is a property of the syntax, the exact identity of the controller (subject vs. object) follows from the semantics of the embedding predicate (cf. Dowty (1985), Culicover and Jackendoff (2001), Jackendoff and Culicover (2003) among others). The intuition expressed by Dowty is that there could not be a verb that had the same meaning as *promise*, but which was object control (and vice versa). Facts from acquisition add an additional twist to this discussion - MDP violating subject control verbs like *promise* seem to be acquired much later (see Boeckx and Hornstein (2003)).

1.3.2 Obligatory, Arbitrary, and Optional Control

Most of the cases of control seen so far involve obligatory control i.e. the subject of the infinitival clause can only be interpreted as dependent on an argument of the embedding predicate for its interpretation.

(12) Obligatory Control:

- a. Infinitival (non-*wh*)-Complements:
 - i. Angela tried [to disinvite him].
 - ii. Fred promised Alex [to finish his paper by Monday].
 - iii. Fred persuaded Alex [to finish her paper by Monday].
- b. Infinitival Adjuncts:
 - i. Andre read Rushdie's article about Coetzee [to make a presentation in his class].
 - ii. Roumi went to Tromsø [to talk to Sylvia].

Not all instances of control are obligatory - in some cases the PRO seems to lack an obvious controller¹ and takes on a generic/arbitrary interpretation - these cases are referred to as PRO_{arb}. Arbitrary control is diagnosed by its ability to bind *oneself* and the availability of a paraphrase that involves the pronoun *one*.

(13) Arbitrary Control:

- a. - unique argument of embedding predicate:
 - i. [PRO_{arb} to walk along Paradise Pond in the Fall] is fun.
 - ii. [PRO_{arb} to behave oneself in public] is important.

¹But see Epstein (1984) and Bhatt and Izvorski (1997) who argue that even in these cases, there is an implicit controller.

- iii. It is not allowed [PRO_{arb} to perjure oneself].
- b. - part of a *wh*-CP:
 - i. Minjoo knows [how PRO_{arb} to behave oneself in public].
 - ii. Tim wonders [how PRO_{arb} to protect oneself from creditors].

In some cases, such as when the infinitival clause is embedded in a *wh*-CP, arbitrary control is not the only option:

- (14) optional control:
- a. Minjoo_i knows [how PRO_i to behave herself in public].
 - b. Tim_i wonders [how PRO_i to protect himself from creditors].

For obvious reasons, these cases are referred to as involving optional control.

Landau (2000)/Landau (2003) makes a further distinction noting that the PRO subject of initial adjuncts can be interpreted as non-arbitrary and yet not controlled by the matrix subject.

- (15) Non-Obligatory Control (NOC)
- a. Mary_i was baffled. [Even after PRO_i revealing her innermost feelings], John remained untouched.
 - b. Mary_i lost track of John_j, because, [PRO_{i,j} having been angry at each other_{i,j}], he had gone one way and she another.
 - c. [Having PRO_i just arrived in town], the main hotel seemed to Bill_i to be the best place to stay.

He argues that the *wh*-infinitival cases of arbitrary control are really special cases of partial control and should not be mixed with cases of NOC like the above. In the *wh*-infinitival cases, even the arbitrary PRO must include the subject in its reference. True disjoint reference is not allowed.

- (16)
- a. John_i wondered [who PRO to introduce his_i fiancée/*him_i to].
 - b. John_i asked [how PRO to talk to Mary/*him_i about oneself].

1.3.3 Partial vs. Exhaustive Control

There is also a class of cases where the matrix predicate provides only part of the reference of the subject of the infinitival clause (see Landau (2000) for details).

- (17) Partial Control:
- We thought that
- a. He_i wanted [PRO_{i+} to meet in the lobby/do the dishes together].
 - b. The chair_i preferred [PRO_{i+} to gather at 6].
 - c. Bill_i regretted [PRO_{i+} meeting without a concrete agenda].
 - d. Mary_i wondered [whether PRO_{i+} to apply together].

Other predicates do not allow partial control.

- (18)
- a. *Bev_i began [PRO_{i+} to do the dishes together].
 - b. *The chair_i managed [PRO_{i+} to gather at 6].

1.3.4 Implicit Control

The controller of PRO can be an implicit argument - i.e. an argument that does not seem to be syntactically projected. Languages differ in the extent to which they allow for implicit arguments to control a PRO.²

(19) Unaccusative vs. Passives

- a. No implicit argument, No Control:
* The ship_i sank [PRO_i to collect the insurance].
- b. Implicit agent, Control:
The ship_i was sunk [PRO_i to collect the insurance].

(20) Implicit accusatives vs. Implicit datives:

- a. Implicit Accusatives:
This leads *(one_i) [PRO_i to draw the following conclusion].
- b. Implicit Datives:
John said/shouted (to the visitors_i) [PRO_i to return later].

(Unlike English, both are good in Italian. See Rizzi (1986).)

1.4 Some Properties of Control Constructions

(Setting aside cases of NOC. For that see Landau (2001))

- The controller can never be an expletive.

- (21) a. *There_i tried [PRO_i to annoy David].
b. *It_i hopes [PRO_i to win]. (with expletive *it*)

This is a definitional property of control.

- The PRO is always a subject.

- (22) a. He_i tried [PRO_i to annoy David].
b. *He_i tried [David to annoy PRO_i].
c. He_i tried [PRO_i to be annoyed at David].

- The controller of PRO needs to be an argument of the predicate to which the infinitival clause is attached.

- (23) a. He_i thinks [that I_j tried [PRO_{*i/j} to annoy David]].
b. He_i thinks [that I_j persuaded Mildred_k [PRO_{*i/*j/k} to leave]].

- (24) c-command (follows from argument requirement and the fact that the clausal complement is the innermost argument)
a. [His_i parents]_j tried [PRO_{*i/j} to annoy David].

²There is a generalization called Bach's Generalization according to which object controllers may not be omitted. Bach's Generalization holds as long we restrict ourselves to accusative object controllers. Dative object controllers may be implicit.

b. I_i persuaded [$Mildred_j$'s mother] $_k$ [$PRO_{*i/*j/k}$ to leave].

- PRO cannot be a real expletive.

- (25) a. [For Mary to dance] would be fun.
b. [PRO to dance] is fun.
c. [For there to be a party tonight] would be fun.
d. *[PRO_{expl} to be a party tonight] would be fun.
e. [For it to seem that Mary is a non-smoker], she will have to get new rugs.
f. *[PRO_{expl} to seem that Mary is a non-smoker], she will have to get new rugs.
- (26) (from Lasnik (1992):244)
a. [*(There) having been a robbery], there was an investigation.
b. There was a crime without [*(there) being a victim].
c. [PRO_i having witnessed the robbery], John $_i$ aided the investigators.
d. Harry $_i$ was a witness without [PRO_i being a victim].

But PRO can function as weather/pseudo-ambient *it*:

- (27) a. It can hail [without it snowing].
b. It can hail [without PRO_{it} snowing].

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