Up to D[eb]ate on Raising and Control, Part 2: The Empirical Range of the Constructions and Research on their Acquisition

Susannah Kirby  
*University of British Columbia*

William D. Davies  
*University of Iowa*

Stanley William Dubinsky  
*University of South Carolina - Columbia, dubinsky@sc.edu*

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Abstract

This is the second part of a two-part article that reviews a number of the current debates regarding raising and control constructions. The issues addressed in this part include the spectrum of related raising (e.g. possessor raising, further raising) and control (partial, split, generic, super-equ) phenomena; cross-linguistic typology, including backward and copy constructions; and their acquisition in child language.

The spectrum of RandC phenomena

Current inquiry into RandC also includes analyses of less common constructions that are claimed to belong to each category. The raising class, beyond the standard RtoS and RtoO cases, may also include Raising out of tensed complements (referred to as Further Raising, Hyper-Raising, or Super-Raising) and Possessor Raising. The various distinctions made among control constructions include Obligatory Control (OC), Non-Obligatory Control (NOC), Partial Control (PC), Exhaustive Control (EC), Split Control, Arbitrary Control, and Super-Equi Constructions. This section will focus on some of the less familiar categories. Finally, the typology of RandC may include forms that differ in terms of which DP element is overt in the structure. Constructions in which the higher DP is overt are termed Forward Control, while those in which the lower DP is pronounced are called Backward Control.

Possessor Raising

Possessor-possessed relations expressed outside of the NP have also been characterized as possessor raising in languages like Kinyarwanda (Kimenyi 1980), Cebuano (Bell 1983), Malagasy (Perlmutter and Postal 1983), Japanese (Dubinsky 1985, 1997; Nakamura 1999), Choctaw (Davies 1986), Oneida (Baker 1988), Southern Tiwa (Allen et al. 1990), Tzotzil (Aissen 1990), and Hebrew (Landau 1999). In this phenomenon, first noticed as “possessor ascension” in the RG literature (e.g. Aissen 1979, Johnson and Postal 1980, Robinson 1980, Davies 1981, Bickford 1987, Gibson 1990; see also O’Connor 1996, Ura 1996), a NP bearing a grammatical relation in one clause is understood to be the possessor of another NP in that clause. For instance, in Japanese, a possessor DP would usually be marked with the genitive case marker –no, as in (1), but in possessor raising, the possessor DP may optionally bear the same case marker as the host (i.e. possessed) DP, which in (2) is nominative –ga (examples from Nakamura 1999).

(1) Mary-no kami-ga nagai
    Mary-GEN hair-NOM long-be

    ‘Mary’s hair is long’
(2) Mary-ga kami-ga nagai
    Mary-NOM hair-NOM long-be

‘same meaning as (1)’

In the Kinyarwanda example in (3) (from Davies 1997), the possessor ábáána ‘children’ precedes the possessed nominal, ibíryo ‘food’, there is no possessive marking on ábáána, and the applicative suffix -ir occurs on the verb. The possessor is the direct object of the clause.

(3) Ingurube z-a-ri-ir-uye ábáána ibíryo.
    pigs they-PST-eat-APP-ASP children food

‘The pigs ate the children’s food.’

In (4), the possessor occurs as the subject of the passive structure, providing additional evidence that it has raised out of the possessed DP structure.

(4) Abáána ba-a-ri-ir-iw-e ibíryo n’ingurube.
    children they-PRES-eat-APP-PASS-ASP food by.pigs

‘The children were eaten (their) food by the pigs.’

_Raising out of tensed complements_

Another type of raising involves non-local movement out of tensed clauses; such constructions have alternately been termed Further-Raising, Hyper-Raising, and Super-Raising.¹ Such non-local movement, represented in (5) and first considered by Chomsky (1981), is reminiscent of the Super-Equi construction (described below), and is illicit in English.

(5) *Johni seems that it is likely ti to win

In the Galician Further-Raising example in (6), a subject raises to the specifier of a phi-complete head and then undergoes further A-movement. Further-Raising is claimed to exist in several other Romance languages, including Spanish, European Portuguese, Catalan, and Italian (Fernández-Salgueiro 2008).

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¹ While the terms Further-Raising, Hyper-Raising, and Super-Raising appear to refer to similar constructions, some authors use the labels to differentiate among subtypes. For instance, Lasnik and Boeckx (2006: 117) distinguish Super-Raising (“operations which move an element across a closer potential checker”; see also Salih 1985, Ouhalla 1994, Ura 1994, 1996) from Hyper-Raising (“an element appears to have done too much checking”), and Fernández-Salgueiro (2008) distinguishes Hyper-Raising (in which the matrix verb agrees with the moved DP) from Further-Raising (in which the matrix verb does not agree with the moved DP). See also Nunes (2008), Martins and Nunes (2009), and Zwart 1997, who argues such examples are cases of non-raising or topicalization.
Estes nenos parece que son moi listos
these kids seems that are very smart
‘These kids seem to be very smart.’

Although the matrix verb does not agree with the DP estes nenos ‘these kids,’ Fernández-Salgueiro argues from data about island and scope effects, as well as the preservation of idiomatic meanings, that such examples are in fact instances of A-movement, not topicalization or left-dislocation. He claims that Further-Raising is parametrically allowed when a moved DP values the phi-features on an embedded functional head but its own Case valuation is delayed due to deficiency of the embedded T; this allows the DP to undergo a second A-movement (specifically, to satisfy a higher EPP feature) without violating Last Resort.

It should be noted, however, that some such Further-Raising constructions may actually involve prolepsis, in which the overt DP is actually base-generated in its “raised” location; this alternative has also been suggested for cases previously identified as raising in languages such as Madurese (Davies 2005).

Raising vs. Control in Nominalizations

Skepticism towards traditional distinctions between raising and control has led naturally to questions about their cross-linguistic typology and distribution. For example, it has generally been assumed that control, but not raising, is possible in nominalizations (John’s promise to go/*John’s appearance to be happy; Chomsky 1970), and this fact constitutes a long-standing objection to control as movement. But Sichel (2007) presents evidence suggesting that raising in phrases headed by Hebrew nouns of modality/eventuality (e.g. ha-sikuyim ‘the chances’, ha-netiya ‘the tendency’) does exist, a fact which naturally opens the door for unification efforts. These raising nouns impose no selectional restrictions on genitive DP complements (e.g. the chances/tendency of…), and as a result, both expletives (7) and idiom chunks (9) may raise into this complement position from an embedded clause. This contrasts with control nouns like ha-nisayon ‘the attempt’ and ha-seruv ‘the refusal,’ which do impose restrictions on their DP complements and as a result do not allow expletives (8) or idiom chunks (10) in these positions.

(7)  [ha-sikuyim Sel (ze likrot)i [t; Se-bibi yibaxer]] hem tovim
the-chances of it to.happen t that-Bibi will.be.elected good
‘The chances of it happening that Bibi is elected are good.’

(8)  *[ha-nisayon Sel (ze likrot)i [t; Se-bibi yibaxer]]
the-attempt of it to.happen t that-Bibi will.be.elected
hifiti’a otanu
surprised us
The tendency of the ice to break in this kind of situation is known to all.

The refusal of the ice to break in this kind of situation is silly.

Sichel argues that possession is non-thematic, and that raising in nominals depends on a theta-Case split, in which nouns Case-mark their possessors without theta-marking them, leaving them active for movement. Raising nouns thus constitute the inverse of how raising is normally motivated: DPs are licensed to bear theta-roles at Merge, but may move to have their Case features checked or valued.

**Non-Obligatory Control (NOC)**

A good deal of current research delineates OC and NOC on the basis of properties of their silent (or absent) subjects. But there is little agreement over the nature of (and restrictions on) these embedded subjects in the several classes of control and control-like constructions. As mentioned, many accounts, including LFG, HPSG (e.g. Sag and Pollard 1991), and semantically-based accounts (e.g. Culicover and Jackendoff 2001, 2006) assume there to be no silent element in the complement. Traditionally, GB/P&P approaches, as well as Agree-based minimalist approaches (e.g. Landau), assume that PRO functions as an anaphor in OC and as a pronominal in NOC.

More recently, the MTC approach has taken the null subject in OC constructions to be NP-trace (i.e. the unpronounced copy of movement) and indistinguishable from the null subject of raising complements. For NOC, the MTC approach posits *pro* as the null subject of the controlled clause (Fujii 2006, Boeckx and Hornstein 2007).

In motivating this distinction between OC and NOC null subjects, Boeckx and Hornstein argue that the distribution of NOC null subjects may be related to properties of the grammatical parser, which “prefers” movement to pronominalization, and thus restricts the appearance of *pro* to the NOC cases, wherein movement is not possible.

The NOC-*pro* proposal has met with some resistance however. Landau (2007) identifies a number of its problems, including the fact that the account incorrectly predicts weak crossover violations, and misclassifies infinitival *wh*-complements (*Mark asked what to do*) as involving NOC. Others have proposed modifications to the *pro* account. For instance, Barrie (2007) proposes a syntactic distinction between OC/NOC in line with the MTC (i.e. that OC, but not NOC, involves movement), but presents the distinction as one that distinguishes types of complement clauses and is determined by both semantic selection and pragmatic meaning.
NOC, as represented in *wh*-infinitivals, may occur with desiderative (11a) and interrogative (11b) control predicates, but not with implicative (12a), aspectual (12b), factive (12c), or propositional (12d) control predicates, while OC appears in the alternate configuration.

(11)  
  a. Peter knows *(when) to arrive by  
  b. Susan wondered *(where) to eat

(12)  
  a. John managed (*how) to eat a coconut  
  b. Mary began (*when) to write a novel  
  c. Alices hates/likes (*where) to eat  
  d. Bill claimed (*how many languages) to be fluent (*in)  

Instead of “arbitrary” reference for PRO (PROarb), which is often posited for NOC cases, Barrie argues for “generic” control involving pro\text{gen}.

**Split Control**

Split Control is a particular subtype of control constructions that has presented a challenge to a variety of analyses. Split Control, as shown in (13), involves a null controlled subject that takes multiple matrix arguments as its antecedents.

(13) Marki proposed to Mollyk PROi+k to drive together.

Split Control constructions have ordinarily been considered a type of NOC construction (Williams 1980, Hornstein 1999). These have presented a challenge to the MTC, as it is unclear how a single chain tail could be linked to two raised (i.e. moved) DPs.

But this obstacle is not unique to movement approaches; the phenomenon has been problematic for all theories of control (Landau 2007), since the current syntactic and semantic approaches assume that the choice of controller is determined by links to a particular single grammatical role (subject or object)

Moreover, the classification of Split Control as NOC has been questioned. Rooryck (2007) argues that reducing Split Control to NOC wrongly predicts that variable control verbs should be able to pick antecedents beyond the immediately subordinate clause (*Eva_k said that Kim_i offered Sue_j PRO_{i+j+k} to leave*). He proposes a semantic account in which PRO can select possible controllers from among the arguments included in the subevent described by the matrix verb.

**Partial Control**

Partial Control (PC) is another subclass of control construction and contrasts with Exhaustive Control (EC). In EC, all the controllers are overt, while in PC, the overt controllers are a proper subset of the individuals denoted by PRO (see especially Landau 2004). In (14), for instance, the matrix subject Molly is singular, while the controlled PRO anteceded by Molly is plural and includes Molly as one of its referents.

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(14) Molly prefers PRO to meet at 7.

Landau (1999, 2004) notes that PC otherwise shows all the familiar diagnostics of OC, and argues that its existence renders the OC/NOC distinction too crude. He suggests that the two key questions are whether PC PRO is plural syntactically or only semantically, and what underlies the EC/PC split. Landau reasons that because collective predicates like *meet/gather* take syntactically singular subjects (e.g. *committee, couple*), PC PRO is only semantically plural. Moreover, the basis of the EC/PC split relies crucially on tense: PC infinitival complements carry an independent tense feature, while EC infinitival complements have no tense at all. If the complement clause carries an independent tense feature, then it is grammatical to have a tense mismatch between the matrix and complement clauses. This is seen in (15a) where the [+tense] infinitival complement has a temporal adverb *tomorrow* that disagrees with the matrix. This mismatch is not allowable in EC complements like (15b), since the latter have no independent tense feature (i.e. their tense depends on the tense of the matrix clause).

(15) a. Yesterday, John wondered how/hoped PRO to meet tomorrow.
    b. *Yesterday, John managed/began PRO to meet tomorrow.

Landau notes that EC complements are selected by implicative (*dare, manage*), aspectual (*begin, stop*), and modal predicates (*need, must*), and PC complements are selected by desiderative (*want, prefer*), interrogative (*wonder, ask*), factive (*hate, regret*), and propositional (*believe, imagine*) predicates.

Madigan (2005) proposes a different answer to the plurality of PC PRO. Consonant with observations in the literature that the properties of OC PRO mirror those of reflexive anaphors (Manzini 1983, Bouchard 1984, Martin 1996), Madigan (2005) claims that Korean *caki*, a long-distance reflexive, is actually an overt form of PRO when it appears in OC contexts. He uses *caki* to argue that PC PRO is syntactically plural, and notes that this fact would be impossible for the MTC to accommodate, since it requires a movement chain to bear more than one number feature. However, Lee (2009) provides evidence substantially weakening the claim that *caki* is actually a form of PRO. Her data indicate that *caki* and PRO have different properties in OC constructions, including their distributions, syntactic/semantic restrictions on possible controllers/antecedents, and interpretive possibilities. She suggests that PRO’s distribution in Korean overlaps more closely with that of an overt personal pronoun, and thus argues that the controlled element is indeed *pro*.

Rodrigues (2007) proposes a different solution to the PC puzzle, one which also incorporates a “controlled” *pro*. As an alternative to the Agree-based approach, she devises an MTC-compatible analysis which suggests that PC involves a complex DP formed by adjunction of the overt matrix controller to an embedded *pro*, as in the Portuguese example in (16). The overt DP begins in the complement but moves to check the theta role of the matrix verb, stranding *pro* in the embedded clause (16b).
(16) a. A vítima quer encontrar bêbada
the victim-FEM.SG want-3SG meet-INF drunk-FEM.SG
‘The victim wants to meet drunk’

b. [TP A vítima [T [VP t₁ [v quer ] [TP t₂ [T ] [VP [DP pro-t₃] [v encontrar] [v bêbada]]]]]]

This analysis also accounts for Spanish “inverse” PC structures, in which the controller denotes a superset of the set denoted by the floating DP. In (17), the (pro-dropped) controller ‘we’ antecedes a controlled nominal ‘the linguists among us’, such that the controllee is a subset of the referent of ‘we’.

(17) a. no sabemos si firmar los linguïstas la carta
not know-1PL whether sign-INF the linguists the letter
‘We don’t know whether the linguists among us should sign the letter.’

b. [TP [T [VP pro₁ [V no sabemos] [CP [C si] [TP t₂ [T ] [VP [VP [v firmar] [DP los linguïstas-t₄]]] [DP la carta]]]]]]

Here, the controller pro starts the derivation as the complement of the floated DP in the lower clause, but moves out of the phi-incomplete complement to the matrix for spell-out.

Super-Equi(valent NP-Deletion)

Another subclass of control constructions, known as “Super-Equi” (Grinder 1970), includes constructions like (18), in which the controller is separated from the controllee by an intervening tensed clause, such that the controller does not appear in the clause immediately dominating the PRO infinitive or gerund (Landau 2001).

(18) a. Mary thought that it helped John [PRO to speak her mind].


A main issue at stake with respect to Super-Equi is accounting for the paradigm in (19) (see also Landau 2001). Grinder’s observation is that a local controller, if available, is obligatory in extraposition (19b) but optional in intraposition (19a).

(19) a. John said that making a fool of himself/herself in public disturbed Mary.

b. John said that it disturbed Mary to make a fool of herself/*himself in public.

Landau (2001) makes the generalization that in situ infinitives (but not extraposed/intraposed ones) fall under OC, and must have a clausemate (i.e. local) controller, while displaced infinitives, which are NOC constructions, may optionally allow non-local/long-distance control. He argues that these patterns relate to a theory of OC which crucially relies on containment of the infinitive and controller within the same VP-shell.
Forward, Backward, and Copy

Several other constructions complete the typology of RandC. Various structures in languages have been identified as instances of so-called “backward” control (or “Counter-Equii”; Kuroda 1965, 1978; Harada 1973; Farrell 1995). These evince all the hallmarks of control, with the exception that the overt nominal surfaces in the complement rather than the matrix clause. Backward Control has been suggested for Tsez and Malagasy (Polinsky and Potsdam 2002, 2003), Brazilian Portuguese (Farrell 1995, Rodrigues 2004, 2007), Japanese (Kuroda 1965, 1978; Fujii 2006), and Romanian (Albiou 2007), among others. An example from Tsez is given in (20).

(20) čorpa kid-b, b-od-a y-oqsi
    soup.III.ABS girl.ERG III-make-INF II-began
    ‘The girl began to make soup.’

In (20), the embedded subject kid ‘girl’ is in a control relationship with the null subject of the matrix clause. Kid determines the agreement marker y- on the matrix predicate oqsi ‘began’ despite the fact that it is clearly a dependent of the embedded clause, as it occurs between the embedded object čorpa ‘soup’ and the infinitival oda ‘make,’ which agrees with the absolutive object. It has been suggested that the MTC can provide a straightforward account for Backward Control by assuming it to be a result of preferential pronunciation of the lower copy in the chain (Boeckx and Hornstein 2006).

Taken with current minimalist assumptions about the compositional nature of movement, the MTC also predicts the existence of Backward Raising, as well as copy RandC. Polinsky and Potsdam (2002, 2003, 2006) present empirical evidence supporting these predictions, though the backward and copy cases are significantly less common. They note that Copy Control has been claimed only for Assamese, San Lucas Quiaviní Zapotec (see also Boeckx, Hornstein, and Nunes 2008), and Tongan. In the Assamese Copy Control examples below, the controller ram ‘Ram’ is the subject of the adjunct clause, but the controlled subject in the matrix clause can neither be omitted (21) nor be non-coreferential (22).

(21) [ram-e dukh kor-i] *(tar) bhagar log-il
      ram-ERG sorrow do-INF he.GEN exhausted feel-PAST
      ‘Having made himself sad, Ram felt exhausted.’

(22) *[ram-e dukh kor-i] Prçxad-çr bhagar log-il
      ram-ERG sorrow do-INF he.GEN/Prakhad.GEN exhausted feel-PAST
      ‘Ram made himself sad, and Prakhad felt exhausted.’

Copy Raising (noted earlier by Rogers 1974, Joseph 1976, Frantz 1979[1981], Perlmutter and Soames 1979, Johnson and Postal 1980) has been claimed to exist in a variety of languages including Hebrew, Xhosa, Tagalog, and Modern Greek, as well as English and Swedish (Potsdam and Runner 2001, Asudeh and Toivonen 2007, Landau 2009). The process of Copy
Raising is thought to relate “unraised” sentences like (23a) with their copy-raised counterparts like (23b). These contrast with the usual raised forms as in (23c).

(23) a. It seems/sounds/looks like Richard is in trouble.
    b. Richard seems/sounds/looks like he is in trouble.
    c. Richard seems/sounds/looks to be in trouble.

The question then comes down to why a language would opt for forward versus backward versus copy structures. Suggested answers have covered the spectrum of possible reasons, from the morpho-syntactic (e.g. language-specific economy: Fujii 2006; morphological fusion allowing PF-linearization: Boeckx, Hornstein, and Nunes 2008) to the conceptual-semantic (Farrell 1995) and semantic-pragmatic (Albiou 2007).

Amidst the fervor of new theories and cross-linguistic documentation (especially of non-Indo-European languages and non-canonical phenomena), the facts may not be entirely clear, and caution should be taken not to overidentify these constructions. Some purported cases of RandC have since turned out to be “imposters”; examples may include raising in Madurese (Davies 2005) and Greek (Kotzoglou and Papangeli 2007), Backward Raising in Greek (Polinsky and Potsdam 2006), control in Brazilian Portuguese and Finnish (Modesto 2007), some instances of Japanese control and raising (Dubinsky and Hamano 2006; but see Yoon 2007, who argues for a true raising analysis for Japanese and Korean RtoO constructions), and Copy Raising in English and Swedish (Asudeh and Toivonen 2007, Landau 2009). Instead, some cases originally argued to be instances of Further-Raising and Copy Raising may be better analyzed as prolepsis, in which the overt DP is actually base-generated in its “raised” location (see also Higgins 1981, Ingría 1981, Saito 1985, Oka 1988, Song 1994, Potsdam and Runner 2001, Kotzoglou 2002).

On the other hand, the RandC literature, which has significant roots in English, is sure to benefit from the challenges presented by varied phenomena in other languages. In the same way, the study of adult grammars can also be decisively informed by data on RandC in child language, the topic to which we turn in the final section.

**Raising and Control in Acquisition**

Though they have been central in the exploration of adult grammars, RandC are comparatively understudied in first language acquisition. But the acquisition of these structures is a vital area of research, since data from child patterns of use and learning bear crucially on current debates about the syntactic status of RandC.

In contrast to raising, the acquisition of control has been fairly well documented. The general consensus is that object control is essentially mastered around age 3;0 \(^2\) (for discussion, see Hirsch and Wexler 2007, Kirby 2009), but some aspects of control are acquisitionally delayed. C. Chomsky (1969) argued that while children have knowledge of the Minimal Distance Principle (MDP), which suggests that the first c-commanding DP above PRO should serve as its controller (Rosenbaum 1967), they are slow to learn the exceptions to this rule (e.g. subject

\(^2\) Ages are presented in the format “years;months.”
control for promise), only reaching adultlike competence between ages 5 and 10. Three major hypotheses have attempted to explain delays in the adultlike acquisition of control.

McDaniel, Cairns, and Hsu (1991; Cairns, McDaniel, Hsu, and Rapp 1994) propose that developmental changes in control are linked to changes in the structural representation of embedded complements. Consistent with assumptions of continuity in acquisition (e.g. Pinker 1984), children’s grammars always contain PRO and the rules governing its interpretation, but children initially coordinate embedded clauses instead of subordinating them. Thus, a sentence like *Ernie tells Bert to eat cookies* would correspond to (24), in which no DP c-commands PRO. In consequence, reference is arbitrary, allowing the child to pick a controller internal or external to the sentence.

(24)

\[
\begin{array}{c}
S \\
| \hspace{2cm} | \\
\downarrow \hspace{2cm} \downarrow \\
S \hspace{2cm} S \\
| \hspace{1cm} \hspace{1cm} | \\
\downarrow \hspace{1cm} \downarrow \\
NP \hspace{1cm} VP \hspace{1cm} NP \hspace{1cm} VP \\
| \hspace{1cm} \hspace{1cm} \hspace{1cm} | \\
\downarrow \hspace{1cm} \downarrow \hspace{1cm} \downarrow \\
Bert \hspace{1cm} tells \hspace{1cm} Ernie \hspace{1cm} PRO \hspace{1cm} to \hspace{1cm} eat \hspace{1cm} cookies
\end{array}
\]

In contrast, Wexler (1992; Broihier and Wexler 1995) claims that PRO is unavailable to very young children. He hypothesizes that certain linguistic structures and elements, including PRO, are akin to secondary sexual characteristics in that they are subject to UG-constrained linguistic maturation. Before this, children assign a nominalization structure to complements, so that a sentence like *The children enjoyed [PRO singing the songs]* is represented as *The children enjoyed [the singing of the songs]*. Since nominalizations involve no control, children are free to interpret the “subject” of the embedded clause as any sentence-internal or -external referent. The maturation approach is thus similar to the structure-changing approach in that both assume the earliest “control” structures to actually involve arbitrary assertion of co-reference.

Finally, Cohen Sherman & Lust (1993) argue that adultlike knowledge of control hinges on the integration of a complex of lexical and syntactic properties, including the constrained distribution and interpretation of PRO, and the locality or minimality of the controller (i.e. the MDP). They suggest that children’s initial problems in interpretation lie not in particular lexical or syntactic shortcomings, but rather in the ability to integrate these developmentally independent components of control-relevant knowledge, a process which may simply take time. When lexical and syntactic knowledge conflict, as in the case of *promise* (which unlike most other transitive control verbs does not obey the MDP), children may take longer to achieve adultlike competence.
Subject control arises earlier in children’s spontaneous speech than object control. Goro (2004) found that children younger than 3;0 frequently produced subject control desiderative predicates (e.g. *Mark wants to go*), although they occasionally omitted the infinitival *to.*

Children’s acquisition of raising has been less widely investigated, and most of the experiments to date have examined subject raising (RtoS) rather than RtoO constructions. Hirsch and Wexler (2007) present production and comprehension data on the verb *seem,* suggesting that children do not acquire this verb until 7;0, at which point raising structures “mature” into their adultlike forms. Before this point, Hirsch and Wexler argue, children interpret *seem* as meaning something like ‘think.’

(25)  
Utterance: Bert seems to Ernie [t, to be wearing a hat].
Child’s interpretation: Bert thinks Ernie is wearing a hat.

Hirsch and Wexler propose that linguistically premature children may attempt to parse raising verbs like *seem* (as well as passives and unaccusatives) within a smaller syntactic structure (namely, vP) than the one in which mature children and adults parse them (CP). However, vPs containing these verbs are not syntactically complete, and therefore cannot be correctly interpreted. As a result, the authors predict that premature children will not understand constructions involving verbs traditionally labeled as raising verbs. In contrast, they do not predict trouble with control structures, even if the MTC is assumed.

However, other data indicates that Hirsch and Wexler’s proposal may not hold water. For instance, German-acquiring children as young as 1;8-2;9 spontaneously produce modal verbs (Clahsen, Penke, and Parodi 1993/1994). Since modals are widely accepted to be raising verbs (Wurmbrand 1999, 2001), this would indicate that RtoS is not a problem for children’s initial grammars, and that children who are, given their age, assumed to be linguistically premature are in fact able to comprehend and produce raising constructions in an adultlike way.

Also problematic for Hirsch and Wexler, Becker (2006, 2009) has amassed significant evidence that children ages 3-4 have no trouble with RtoS. In sentence judgments, children correctly judge raising structures with inanimate and expletives subjects (*the door seems to be purple; it seems to be raining*) as grammatical. In fact, children are sometimes even willing to coerce analogous control structures (*the door tries to be purple; *it’s trying to be raining*) into a raising analysis, incorrectly accepting them as grammatical. If children coerce control structures into a raising analysis, this would suggest that they somehow “prefer” raising to control; this is in direct opposition to Hirsch and Wexler’s proposal, which predicts that control structures should be preferable to raising structures, since the latter are thought to be subject to linguistic maturation.

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3 The issue of subject vs. object control is confounded with sentence length, since transitive control verbs contain an extra DP as compared to intransitive control verbs (*Mark wants [Molly] to go*). As a result, the appearance of subject control in early speech may be linked to limitations on children’s utterance length, rather than any process or principle in the grammar.

4 Young children may have a “yes” bias; as a result, Becker’s results could be an artifact of experimental design.
Becker’s finding is also surprising, given the Subset Principle. This principle proceeds from the assumption that because children do not receive negative evidence in the input, they should initially posit the most restrictive grammar, and then change it when faced with (positive) evidence which that grammar cannot accommodate. Because control verbs are more restrictive in their subcategorization and selectional requirements than raising verbs, the Subset Principle predicts that children should initially assume a control analysis of a novel verb in an ambiguous frame (Molly gorp to read novels), since this assumption can be countered with positive evidence (e.g. co-occurrence with expletive subjects or inanimate objects).

Becker (2009) suggests that children ages 3-4 are in a transitional stage of development, in which their lexical entries for control verbs are slightly more flexible than those of adults. She claims that the acquisition of raising and control as distinct verb classes depends on attention not to a single piece of “triggering data” in the input, but instead to a family of cues that distinguish raising from control structures (subject animacy, predicate eventivity) and raising from control verbs (expletive subjects, monoclausal frames). Becker (2006) predicts that these probabilistic cues, in combination with UG-specified assumptions (e.g. PRO/t, the Theta Criterion), should allow learners to tease apart raising and control, and her work with adults (2005) supports the notion that learners exploit exactly these input cues. For instance, in a “fill-in-the-blank” task with adults, Becker found that a frame like It ______ to be too foggy to drive safely (expletive subject, stative predicate) would be highly likely to elicit a raising verb from participants. In contrast, the frame The salesman ______ to make an irresistible offer (animate subject, eventive predicate) would be most likely to elicit a control verb.

In contrast with RtoS, RtoO constructions rarely appear in spontaneous production by children younger than 3 (Goro 2004), but work by Kirby (2009) indicates that children have productive control of RtoO verbs like want and need by age 4. Similar to data indicating that German children use modal verbs at a young age, and Becker’s finding that children may prefer raising structures to control, Kirby’s data suggest that Hirsch and Wexler are incorrect in their claim that raising is subject to maturation that is not complete until 7:0.

In a series of experiments, Kirby examined 4- and 5-year-olds’ comprehension of RandC structures. She notes that the MTC, which conflates RandC, should predict simultaneous acquisition, since both are subject to the same grammatical process: movement. If both RandC depend on movement, then children should be able to handle both (if movement is available in the grammar) or neither (if movement is unavailable).

However, while children had no trouble with active RandC utterances, 4-year-olds correctly comprehended passives embedded only under raising (not control) verbs. She notes that this pattern does not tend to support the MTC, but admits that the issue cannot be decided on these data alone, since RandC differ in the number of thematic roles which they assign, a point which is not debated by proponents of the MTC. Since thematic roles are assumed to carry some cost in terms of processing load (i.e. demands placed on working memory; Goodluck and Tavakolian 1982), control verbs, which assign more thematic roles, may simply represent a higher processing load than raising verbs, resulting in a comparative delay in the acquisition of control.
Kirby suggests that a fundamental issue in the acquisition of passives embedded under RtoO and object control verbs is whether the syntactic role of the embedded subject aligns with its semantic role. For instance, in the RtoO utterance *Molly wanted him to get kissed*, the DP *him* is both the semantic object of *kiss* and the syntactic object of *want* (as evidenced by its case-marking). In contrast, there is a syntax-semantics “mismatch” in object control utterances like *Molly asked him to get kissed*, in which the semantic object of *kiss* is a PRO which is passivized to embedded subject position. Due to their alignment, RtoO passives should be easier for children than the corresponding object control constructions.

RtoO may also be easier for children than object control, since the former allow for more discrete processing of CPs in a biclausal utterance. For instance, a RtoO sentence like *Molly wanted Mark to make dinner* could be interpreted by parsing the matrix CP frame as *Molly wants X*, and then proceeding to interpret the *X* represented by the embedded CP *Mark to make dinner*. As a result, the child need only keep one CP in working memory at a time, significantly lowering the processing load entailed in adultlike interpretation. However, this same kind of processing would not be available for an object control utterance like *Molly asked Mark to make dinner*, since the PRO subject of the embedded CP crucially relies on the matrix object for its interpretation. Thus, to correctly interpret the referent of the embedded subject, the child must be able to keep both CPs in working memory simultaneously. Due to their comparatively lower processing load, RtoO utterances may be acquired before object control utterances.

Given children’s comprehension of RandC and matrix passives, Kirby ultimately proposes an ECM-like analysis of RtoO, in which embedded subjects are objects only by dint of case-marking, not syntactic position. In short, a RtoO utterance like *Molly wanted him to make dinner*, the embedded subject *him* may remain in subject position in the lower CP, but receive its Case from the matrix verb.

Clearly, research in acquisition is both informed by, and itself informs, the adult debates on RandC. This constant dialogue is sure to remain central in the future.

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5 This kind of interpretation of RtoO utterances is reminiscent of early approaches to these utterances, which assumed the embedded CP to be “unitary” in nature. See discussion in the section on “Status of the raised or controlled argument” above.
Conclusion

This article has touched on a number of the most central current debates in research on raising and control – even though many of these debates have their roots deep in syntactic history.

Much of the literature on RandC has focused on the empirical properties of the two constructions (including the status of the raised or controlled argument, and the attributes of the complement clause and its finiteness). Research on these details has naturally led to other “big picture” questions, including whether these characteristics are better given a syntactic or a semantic formalization, and whether these properties support the proposal that the two classes can be unified under a single syntactic rubric.

Answering these questions becomes more complex when the entire spectrum of RandC phenomenon (including Possessor Raising, raising out of tensed clauses, RandC in nominalizations, Non-Obligatory Control, Split Control, Partial Control, and Super-Equí) is considered, and crosslinguistic evidence on forward, backward, and copy cases only serves to broaden the range of data to be accounted for. Evidence from the acquisition of RandC structures may ultimately inform our picture of RandC in adult grammars, but research in this area has only just begun.

In many ways, the research behind these debates indicates that we know much more about RandC than we did even a few years ago; new theories and new data from previously underdocumented languages has helped us along this path. But novel discoveries often lead to novel puzzles, as unexpected patterns come to light and push the envelope of accepted generalizations. The cross-linguistic spectrum of RandC phenomena will surely continue to act as a crucible for any new syntactic or semantic theory, and should keep curious and motivated linguists busy for years to come.

(text: 5800 words)
Works Cited


