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The place, range, and taxonomy of Control and Raising

William D. Davies & Stanley Dubinsky

The grammatical constructions referred to as Raising and Control are among a handful of syntactic phenomena which have been central concerns of generative syntax since the 1960s and must be factored into every instantiation of a comprehensive model. In most instances, the analysis of these constructions in a particular framework rests on key assumptions underlying that framework, and on the framework itself. It is now almost forty years since the publication of Peter Rosenbaum's *The grammar of English predicate complement constructions* (1967), which proposed the seminal generative account of Raising and Control constructions, and over thirty years since the publication of Paul Postal's *On Raising* (1974). Attention to these constructions has persevered through each significant paradigm shift in generative theories of syntax, and crested with the rise of each new theory of grammar. Interest in these constructions has also broadened significantly over the past three decades (from an initial focus on English and French) to include analyses of similar (or apparently similar) grammatical phenomena in a wide range of languages. In the past five to ten years, interest in Raising and Control has once again surged, driven in part by the rise of Chomsky's (1989, 1995, 1998, 1999) Minimalist Program. At the same time, some of the most recent analyses venture into relatively under-explored languages and/or grammatical phenomena. Renewed attention to these two central constructions, combined with the vastly larger empirical basis for analyzing them, makes this a particularly appropriate time to re-examine their status in linguistic theory. In this spirit, we organized (with NSF support) a symposium at the January 2005 LSA Annual Meeting, with the intention of articulating a common set of research questions and showcasing a range of plausible hypotheses which would subsequently be addressed in a workshop at the July 2005 LSA Institute.

The five articles in this issue were developed from the presentations at the January symposium, and are set forth here as a way of collecting in one place several of the most important recent perspectives on these constructions. Arrayed here are the movement theory of Control (Cedric Boeckx and Norbert Hornstein), the conceptual structure-based perspective of Peter Culicover and Ray Jackendoff, and the novel approach to the distribution of PRO put forward by Landau. More empirically or typologically focused are the article by Maria Polinsky and Eric Potsdam, which presents a movement based examination of "backward" and "forward" cases of Raising and Control, and the article by Jeff Runner, which more generally surveys unresolved data problems which continue to trouble the most recent accounts (including those contained in this issue). The intention of this collection is that the reader, in being presented with the opportunity to compare and contrast these approaches and consider these empirical issues all in one succinct issue of the journal, will come to a deeper understanding of the key issues and to an appreciation of the complexities still in front of us.

It is important to make clear what to expect of the papers in this issue. What distinguishes these papers, in part, is their largely programmatic nature, papers in which the authors seek to set out key concepts and principles rather than presenting detailed empirical arguments for all of their hypotheses and claims. In most cases these are widely available and more completely developed in other books, chapters, and articles by the authors. Nor is every problem presented here matched with a solution. The papers have been brought together to spell out important empirical lacunae that remain to be addressed without necessarily providing fully

motivated and argued solutions to them and thereby, perhaps, to serve as a vehicle to help point the ways towards future research. Finally, we should note that this issue features only a sampling of theoretical approaches that have received a great amount of attention over the past 5-10 years, of open empirical questions that must be addressed, and of empirical frontiers that are especially promising. This is not intended to be a forum for every available theoretical approach, a catalog of all empirical puzzles that remain to be worked out, or a survey of all the new empirical domains that might be brought to bear in future research on the topic. Such a collection of papers would be quite well beyond the research of a single issue of a journal. So, on to what this is.

Any discussion of Raising and Control typically begins with English examples such as (1) and (2), often with reference to a null element of a particular variety in the space before infinitival *to*. In the prototypical cases, Raising involves a single overt nominal exhibiting evidence of being displaced in some manner from its normal syntactic position, while Control involves a single overt nominal that appears to carry semantic roles in two distinct clauses.

(1)	a.	John seems to be nice	[Raising to Subject]
	b.	I believe John to be nice	[Raising to Object]
(2)	a.	John promised to be nice	[Subject Control]
	b.	I persuaded John to be nice	[Object Control]

Theoretical debate surrounding these constructions commonly focuses on whether there is a gap before the infinitive in each case, and if so, on the properties of the hypothesized gap. Much attention has also been paid to the grammatical properties of the (apparently) subjectless complement clause, particularly the transparency/opacity effects due to the absence or presence of tense. This latter concern has become increasingly important as the construction types have been explored in languages (e.g. Japanese, Madurese, and Niuean) where tense seems not to play the same role as it does in English. As will be seen in the articles in this issue, the possible positions that can be taken with respect to these questions are quite varied. Moreover, we find there to be other questions that are no less fundamental, questions sometimes obscured by the more salient points of debate.

One fundamental issue in the analysis of Control and Raising involves determining which syntactic operations (if any) are motivated by the data as well as establishing the properties of the null category or categories involved (if they do indeed exist). With respect to the former, there have been proposals for movement, feature movement, and coindexation. Concomitant with this is the question of whether Raising and Control involve the same derivational mechanism, and if so, how to formalize the differences between them. Hornstein's Movement Theory of Control (MTC), in opposition to its GB antecedents, claims that both are derived through syntactic movement, attributing the residual differences to the thematic properties of the respective matrix verbs, a position integral to the analyses propounded within HPSG and LFG (Bresnan 1982a, Pollard & Sag 1994). Landau's account, by contrast, maintains a formal distinction between Raising and Control derivations, claiming PRO to be licensed through the interaction of features (e.g. $\pm$ Tense, $\pm$ Agreement, $\pm$ Referential) in the embedded complement clause. Where the latter question is concerned, there are proposals for null categories that are distinct for each

construction (Landau), proposals that the same null category is involved in all cases (Boeckx & Hornstein), and proposals that no null categories are involved at all (Culicover & Jackendoff), this last position being championed in the past in the work of Bach (1977), Brame (1976), Bresnan (1978), Jacobson (1992), and others.

Another issue attracting increasing attention is the cross-linguistic typology and language-internal range of these constructions. On the one hand, it has become important to assess whether seemingly parallel constructions in other languages (particularly non-Indo-European) are in fact varieties of Raising or Control or whether they are quite distinct from what have been characterized as such in more familiar languages. The facts are not always as clear as would be desirable. Some purported cases of Raising and Control, such as Raising in Madurese (Davies 2005) and some instances of Control in Japanese (Dubinsky & Hamano 2006a/b) may in fact not belong to the construction class at all. The possibility that some purported cases of Raising and Control may not actually be so should signal the need to exercise caution in applying the Raising and Control labels. In contrast, there are constructions heretofore not recognized as Raising or Control, which may turn out to belong to the class. The “backward” cases, such as “Backward Control”, in which the overt nominal is the lower controllee and the hypothesized gap is the higher controller (Polinsky & Potsdam 2002), have broadened our semantic and syntactic conception of the construction class. The recognition of the “backward” cases as varieties of Raising and Control necessitates a fuller investigation of the taxonomy of Raising and Control generally. And all of this leads us to the question of precisely to what structures we want to apply the labels of Raising and Control.

The five articles here address some of these questions directly and others more obliquely, and bring different contributions to the overall discussion. Some authors bring new data to the table, providing an opportunity to see how to incorporate new facts into previously articulated or newly extended theoretical positions. Two articles present articulated typologies, of Control in one case (Landau) and backward/forward Raising and Control in the other (Polinsky & Potsdam). One article (Runner) focuses attention on articulate residual problems that any theory of Control and/or Raising must still contend with. While a consensus on the right analysis of these constructions, and even on the answers to the several questions posited, is decidedly lacking, bringing these different viewpoints together does shine a light on some of the important issues and disagreements and actually reveals some convergent paths that current research has taken.

In some ways, this issue of Syntax might be viewed as focused on the pros and cons of the MTC, the most influential new approach and most radical departure from conventional wisdom, with Boeckx and Hornstein presenting the MTC model in their article and the other four articles arrayed to some degree in relation to it. Polinsky and Potsdam present empirical support for the MTC by showing how it appears to naturally accommodate the cases of “backward” Raising and Control in addition to the more familiar “forward” classes. Culicover and Jackendoff’s article presents contrary view, but it actually shares with Boeckx and Hornstein, the notion that Raising and Control are subject to unification (to a similar degree) and also that the primary differences between them involve thematic differences between the matrix verbs involved. Both assert ONE means of establishing or deriving “function sharing” ... for Boeckx and Hornstein, both Raising and Control involve copy-merge movement, while for Culicover and Jackendoff, coindexation of conceptual arguments (Control) or GFs (Raising) is involved. Both

require additional levels of derivation. For Boeckx and Hornstein, movement must come into play. For Culicover and Jackendoff, a level of GF structure independent of Conceptual Structure and Phrase Structure is required. Landau argues for a position which is at odds both with Boeckx and Hornstein and with Culicover and Jackendoff. In his article, he argues that PRO is still a necessary component of the Control derivation, that there are reasons to avoid unifying the two classes of constructions, and that a distinction should be maintained between classes of null categories (PRO and NP-trace). Runner, contributes to Landau's position by identifying reasons to distinguish between Control and Raising in a broad overview of problems for current theories of Control and Raising (including the MTC). While not presenting a particular formal mechanism to solve attending problems in this regard, Runner provides additional motivations for keeping the two phenomena separate. Polinsky and Potsdam take a different tack by showing how a movement theory of Control (where movement is founded on Copy and Merge) can explain the seemingly intractable "backward" cases of Raising and Control.

Culicover and Jackendoff's account makes a compelling case for conceptual structure being directly involved in licensing the core cases of Control and in determining the controller, and provides a challenge to the notion that syntactic principles are most clearly involved in delimiting the distribution of Control and determining the properties of the controlee. A key question that their approach raises is whether (or not) semantic (or conversely, syntactic) structures are able to exhaustively determine all the relevant properties of these constructions. This continues to be an open question and the answer to this question ultimately hinges at least in part upon whether all Control constructions should have the same analysis or whether different varieties of Control might be subject to different analyses.

Also crucially related to this discussion is the question of where syntactic effects are implemented in a syntactic derivation, assuming that there is one. As Runner amply points out, any analysis of Raising must contend with potentially contradictory syntactic conclusions that might be drawn from phenomena (such as verb movement) that interact with the construction in question. Runner observes that many of the data types that still present problems to current analyses date back to the early 1970's, such as the interpolation of matrix material between the complement subject and predicate (Postal 1974) and the ban on extraction from the raised subject (Chomsky 1971). As Runner notes, some of these potentially problematic properties of Raising are not characteristic of Control structures, a fact which may prove nettlesome to a movement analysis of Control. The resolution of some other problems requires firm answers regarding clause structure in the thematic layer. One example here is determining the appropriate landing site in Raising to Object as well as Object Control under the MTC.

However, to the extent that syntax does play a role, tense (or finiteness) emerges as primary in determining the transparency necessary for these constructions to surface. This is addressed or at least noted in all the papers. Whether one calls it Unique Control, Exhaustive Control, or Obligatory Control, the Control construction in which the complement clause is nonfinite is the one whose interpretation is most restricted (and which is most likely restricted syntactically). And whether or not the presence of tense is only determined semantically, as Landau suggests, it would seem that its role can be separated from conceptual structure and/or lexical representations.

Another convergence arises out of the Boeckx and Hornstein approach to Control, also adopted by Polinsky and Potsdam, in which the one-to-one mapping of thematic roles to argument positions is abandoned in favor of allowing a single constituent (or chain) to accumulate multiple semantic roles. Opening the door in this way to a movement analysis of Control, their approach has succeeded in moving the Minimalist perspective closer to that favored by lexicalist and non-derivational approaches that stretch back (at least) to Bach 1977, in which Raising and Control have the same syntactic structure—the difference between them reduced to the number of semantic roles applied to a particular constituent.

Of course, the “Control is movement” approach also conflates the familiar distinctions between null categories. The claim that the gapped constituents in Raising and Control are deleted (at PF) copies of their phonologically overt associates converges with the Culicover and Jackendoff approach, which analogously claims neither Raising nor Control to have a gapped constituent at all. Landau, for his part, has provided reasons for eliminating Case as a distinction between controlled PRO and “pro-drop” pro; however, they are still distinguished in terms of their referential properties, and are both distinguished from the null category “trace” which is held to be the gapped constituent in Raising.

The significance of a number of Raising/Control differences are based to some degree on the correct analysis of purported Raising and Control constructions in a great number of languages. In fact, most contemporary attempts to analyze Raising and Control draw conclusions based on cross-linguistic evidence. And while it is extremely important to base one’s theoretical proposals on a wide range of linguistic evidence, it is equally important to be cautious about extending explanatory accounts in one language to seemingly analogous constructions in another without sufficient evidence. Some purported cases of Raising and Control may in fact not belong to the construction class at all. The Korean Backward Control data discussed by Polinsky leads to one such cautionary tale. Where Korean Control complement clauses have complementizers but no morphological tense, their Japanese analogs have both tense and complementizers. As reported in Dubinsky & Hamano 2006a/b, there is good reason to believe that purported instances of Control in Japanese are not in fact Control at all (or at least are not Obligatory Control), but instead involve null pronominals. And to the extent that the Japanese/Korean differences are real, much of what has been claimed regarding Japanese Obligatory Control may ultimately have to be set aside.

Along with the cross-linguistic extension of Raising and Control analyses to a great range of languages, Raising and Control have been proposed for a wide range of constructions within a single language. Some of these atypical cases have greatly broadened the class of Raising and Control construction to include Forward and Backward Control, Forward and Backward Raising, Copy Raising, Possessor Raising and perhaps others. Polinsky and Potsdam articulate a typology which includes forward (standard), backward, and copy varieties of Raising and Control. In so doing, they bring firmly into the core data to be accounted for, not only backward control (familiar from some of their previous papers), but also backward raising, which by their own admission is quite rare as of now. They ask a new question to be added to the puzzle of these constructions: why are backward and copy structures so little attested. While advocating a fresh look at languages in search of these structures, Polinsky and Potsdam caution (as have others) against suddenly finding backward and copy structures where the data do not support such an

analysis, pointing to specifically as ‘imposters’ in English and Greek which on the surface appear to be excellent candidates. Against the backdrop of this broad class of constructions, yet another open question that emerges is whether all of these ought to have a uniform account (that is, whether all should be subject to what Culicover and Jackendoff call “derivational uniformity”).

A remaining issue that is perhaps not touched on completely in the papers here is the extent to which Control or Raising can be viewed as a unified phenomenon across languages. Control might involve a single overt nominal having semantic roles in two distinct clauses in only a subset of cases so characterized. The classic cases—variously referred to as Obligatory Control (Boeckx & Hornstein), Unique Control (Culicover & Jackendoff), and Exhaustive Control (Landau)—are the ones that most easily succumb to such an analysis. What needs to be entertained and given close scrutiny is the possibility that some apparent cases of Control merely involve semantic entailments between matrix and complement clauses and nothing more. The other cases—e.g. Nonobligatory Control, Control into adjuncts, optional Control and others—are more difficult to accommodate under any derivationally uniform approach and exhibit what Boeckx and Hornstein refer to (kindly) as “residual asymmetries”. The same core/peripheral situation obtains for studies of Raising as well, where the core characterization of Raising, i.e. “a single overt nominal exhibiting evidence of being displaced in some manner from its normal syntactic position”, is only indisputably exhibited in a subset of the cases for which Raising has been proposed. These questions and other raised implicitly or explicitly in these papers will likely keep interested linguists busy for years to come.

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