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Empirical challenges to the Form-Copy Theory of Control

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A series of recent works (Chomsky 2021; Chomsky et al. 2023; Chomsky 2024) offers a novel theory of Obligatory Control (OC), based on the operation Form Copy (FC), which applies in movement chains as well. In this article I offer a critical assessment of the FC theory, focusing on its empirical consequences. I argue that this theory faces significant challenges. First, it offers no satisfactory answer to the fundamental question of what makes control *obligatory* in many cases. Second, it ignores the mass of evidence that the controllee is a pronoun rather than a lexical NP. Third, it unnecessarily complicates phase theory. Fourth, it overgenerates structures in which the controlled copy is produced by movement (Internal Merge); and fifth, it cannot adequately handle Partial Control. For all these reasons, judgment as to the implications of (or support from) the FC theory of control for the Strong Minimalist Thesis must be suspended.

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1 Introduction

In a series of recent works (Chomsky 2021; Chomsky et al. 2023; Chomsky 2024), Chomsky has advanced a novel theory of Obligatory Control (OC), based on the operation Form Copy (FC). This theory is said to have the virtue of showcasing “the enabling function of the SMT” (Strong Minimalist Thesis), that is, the thesis that the structures of language are generated by the simplest operations as dictated by computational efficiency and natural law. The core idea of the FC theory of control (to which I will simply refer as “The FC theory”) is that the controlled subject – traditionally termed PRO – is a silent copy of the controller NP. This pair of NPs enters a specific structural relation that is automatically identified by FC, which delivers both the interpretation of OC and the nullness of the controllee.

Different parts of this theory are elaborated in Chomsky 2021, Chomsky et al. 2023 and Chomsky 2024. For ease of reference, I will refer to these sources as C1, C2 and C3, respectively. In this article I offer a critical assessment of the FC theory as expounded in these works, focusing on its empirical consequences. In a nutshell, I will argue that the FC theory has a long way to become a viable theory of OC, since it faces numerous empirical challenges. Some of these challenges go the heart of the question of what control is; what the nature of the controllee is; and how labor is divided between syntax and semantics in explaining control patterns.

The structure of this article is as follows. In section 2, I describe two theories of control: The FC theory (section 2.1) and the Two-tiered Theory of Control (TTC) (section 2.2). The purpose of presenting the TTC is not to offer any novel argument in its favor. Rather, it is presented in order to demonstrate that the challenges facing the FC theory are widely recognized in the literature and most of them have received principled explanations. Quite often, questions left open or presented by the FC theory as defying answers have, in fact, been addressed with considerable success. Section 3 discusses the problems posed to the FC theory by the absence of reconstruction effects in OC. Section 4 argues that the FC theory offers no real answer to the fundamental question of what makes control *obligatory* in certain contexts. Section 5 challenges the FC’s theory assumption that no phase boundary is crossed in OC dependencies. Section 6 argues that the FC theory overgenerates whole classes of data where a copy of real movement occupies the position of the controllee, and it does so for the elementary reason that it takes the controllee to be a full NP, whereas all the evidence suggests it is a pronoun. Section 7 addresses distributional and semantic problems that arise with the FC theory’s proposal that Partial Control (PC) is derived by deletion of *for*-NP (Comp-Subj) strings in underlying structure. Section 8 concludes the article.

2 Two theories of control

Section 2.1 lays out the details of the FC theory of control as described in C1, C2 and C3. Section 2.2 proceeds to present the key features of the TTC (leaving out many details of implementation).

2.1 The Form-Copy theory of OC

In earlier versions of minimalism, the term *occurrence* was introduced to designate a member of a movement chain, the outcome of Internal Merge (IM). More recently, it has been replaced by *copy*, the product of the operation *Form Copy* (FC), characterized as follows (C2: 24):

“With formal systems, there is an implicit operation, *Form Copy* (FC), which assures the same interpretation of identical inscriptions; that is, FC applies to all structurally identical inscriptions in a formal proof, assigning them the same interpretation. But, plainly, the application of FC is restricted in language; it does not freely apply to any and all identical inscriptions. For language, we can define it as: Where X, Y are structurally identical, FC(X,Y) interprets X,Y as copies, that is, the inscriptions are interpreted in exactly the same way. The default is that identical inscriptions are repetitions, becoming copies only if assigned to the copy relation via FC”.

FC is restricted in two ways: (i) X must c-command Y; (ii) X and Y must occur in the same phase (that is, FC obeys the *Phase Impenetrability Condition*, the PIC). (i) follows from Minimal Search in the workspace (see C3: 26), whose members are X and some constituent containing Y. (ii) follows from language-specific conditions, namely, the chunking of derivations to phases (see C2: fn. 80, C3: fn. 13). Like other non-structure building operations, FC applies at the phase level (C1: fn.25). While presented as an operation/rule in C1 and C2, FC is adopted as a “convenience” in C3: 6, where it is explained that its basic properties can be factored out and thus it need not be “listed among admissible operations”.

FC is the grammar’s tool for marking identical inscriptions as copies. So, in *Many people praised many people*, the two identical inscriptions *many people* are interpreted as denoting different sets; technically, they are *repetitions*. In contrast, in *Many people were praised many people*, the two identical inscriptions *many people* are interpreted as identical because FC applied; technically, they are *copies*. A further consequence of FC is deletion of the lower copy (due to economy pressures on phonetic externalization). Note that FC is blocked from applying in the first (active) case due to the PIC; the external argument lies outside the spellout domain of the active v^* . Because the passive v does not introduce a phase, FC can apply in the second case (and *must* do so, otherwise the inscription in [Spec,InflP] would remain unlinked to a θ -role).

Chomsky stresses that FC is different from IM, and in particular, has no knowledge of how the identical inscriptions came about. If it so happens that they are introduced by separate applications of External Merge (EM), so be it. This is the Markovian property of syntactic derivations (“Don’t look back!”). It is therefore predicted that FC would be applicable to pairs of identical inscriptions satisfying the three conditions above (structural identity, c-command, co-phasehood) even if they arise by EM; such configurations are termed “Markovian gaps”, or *m-gaps* (C1: 21), and are taken as evidence for the enabling function of the Strong Minimalist Thesis. Obligatory Control (OC) is the primary example of this type.

Let us consider how OC is derived in the FC theory. Using the set-formation notation for structure building by Merge, the grammar constructs structure (1a) (C2: 35). The identical inscriptions *the man* – one in the embedded predicate, the other in the matrix predicate – are introduced by separate applications of EM. By assumption (which will be examined in section 5), the infinitival clause introduces no phase boundary. As the two conditions for FC are met – c-command and absence of a phase boundary – the two identical inscriptions are marked as copies (1b). For the semantic component, this is translated as referential identity. For PF, this implies deletion of the lower copy.¹

- (1) a. $\{\{\text{the, man}\}, \{\text{tried}\{\text{to}, \{\{\text{the, man}\}, \{\text{read}, \{\text{a, book}\}\}\}\}\}\}$
-
- b. FC: $\{\{\text{the, man}\}, \{\text{tried}\{\text{to}, \{\{\text{the, man}\}, \{\text{read}, \{\text{a, book}\}\}\}\}\}\}$

As Chomsky notes (C1: 22, 25, C2: fn.66), the FC theory of control shares certain important features with two precursors – the Equi-NP Deletion analysis of Rosenbaum 1967 and the Movement Theory of Control (MTC) of Hornstein 1999, 2003. Like the Equi analysis, the FC analysis assumes that the controller and controllee are full NPs, introduced separately into the derivation, and having been established as identical, enter a rule (*Erasure* for Rosenbaum, FC for Chomsky), whose effect is to silence the controllee. Like the MTC analysis, the FC analysis assumes that the PF deletion of the foot of a movement chain and the PF deletion of the controllee are one and the same operation. As we will see in the following sections, these similarities are not only a source of strength but also a reason to worry, for many of the afflictions of these earlier theories were carried over to the FC theory.

Let us now turn to some obvious consequences of the FC theory. First, because the controller is merged in a (matrix) θ -position, it cannot be a nonthematic argument (expletive or idiom chunk), a hallmark of control. Indeed, Chomsky stresses that control cannot be reduced to IM because of the principle of *Duality of Semantics*: EM yields θ -relations and argument structure, IM yields scopal and discourse properties (Chomsky 2008: 140). Thus, IM into a θ -position, a cornerstone of the MTC, is impossible. Second, the nullness of the controllee “comes for free” from whatever PF operation is responsible for the standard nullness of lower copies in movement

¹ Chomsky presumably intends “referential identity” to mean “co-variance”; C1: 23 recognizes that *Many people tried to win* does not mean “Many people tried to bring it about that many people win”. Phase-level interpretation is supposed to guarantee that the controllee is interpreted as a variable (C1 leaves out the details of how this is obtained). Whether FC is optional or mandatory is an important issue; I return to it in section 4. Note that further IM of *{the, man}* in (1) to the matrix [Spec,InflP] ultimately creates another copy, deleting in turn the one in the matrix v*P. C2: 42, fn. 83 leaves open the possibility of generating a copy in [Spec,to].

chains (although FC is *not* IM). Finally, the FC theory is superior to the MTC insofar as it is not committed to the Minimal Distance Principle (MDP), which favors object over subject control. FC is constrained by c-command and co-phasehood but *not* by the Minimal Link Condition, which applies to IM. This is clearly an advantage, given the diverse and robust counterexamples to the MDP (Jackendoff and Culicover 2003; Landau 2007). Indeed, some of the earliest challenges to the MDP have been observed by Chomsky himself (Chomsky 1968: 58).

To summarize, the FC theory of control is committed to this cluster of assertions.

- (2) *Properties of OC constructions according to the FC theory*
- a. The controllee is a full NP.
 - b. The controllee is structurally identical to the controller.
 - c. The controllee is null.
 - d. The control complement is not a phase.

In sections 3–7 we will see that each of these assertions faces nontrivial empirical challenges.

2.2 The Two-tiered Theory of OC

The Two-tiered Theory of Control (TTC) has been developed in a series of works aiming to integrate under one roof a broad range of control phenomena, extending from complement control through adjunct control to Non-Obligatory Control (NOC) (Landau 2015, 2018, 2020, 2021a,b, to appear). In this section I only present the rudiments of that theory, leaving out many details; the interested reader can consult the sources cited above.

At the core of the TTC is the idea that control clauses come in two types, which dictate two different modes of control resolution: One type denotes a property, and the controller is identified by direct predication. The other type denotes a proposition whose subject is a “perspectival center”, and the controller is identified by logophoric antecedence. These ideas are inspired by the important works of Williams 1992 and Wurmbrand 2002.²

That predication must be involved in some cases of OC is uncontroversial; reduced complements in restructuring environments, presumably, do not project a subject position, hence their external argument is shared with that of the matrix predicate via complex predicate formation (Wurmbrand 2002, 2003). What Landau (2015) proposed, adopting earlier analyses by Chomsky 1980, Chierchia 1990 and Clark 1990, is that clausal complements can also function as predicates if their PRO subject is treated as an operator. Specifically, a Fin head attracts PRO to its specifier, and the resulting chain is interpreted as λ -abstraction over the subject position.

² The duality of control has been a lingering insight in the literature: VP-complements vs. NP/PP-complements (Rosenbaum 1967), PRO vs. Reflexive Deletion (Chomsky and Lasnik 1977), OC vs. NOC (Williams 1980), Functional vs. Anaphoric Control (Bresnan 1982, Mohanan 1983), anaphoric PRO in IP vs. pronominal PRO in CP (Bouchard 1984; Koster 1984), Agree with PRO vs. Agree with C (Landau 2000, 2004, 2008).

This is possible because PRO is a minimal pronoun devoid of any inherent denotation; hence, it cannot saturate a predicate, only form one.

(3) *Predicative clause*: [_{FinP} PRO_i Fin [_{TP} PRO_i ...]]

Predicates selecting such complements are implicative (*dare, manage, ...*), aspectual (*begin, finish, ...*), modal (*need, able, ...*) and evaluative (*rude, smart, ...*). Their common semantic property is negative: They do *not* introduce attitudes, i.e., quantification over worlds consistent with someone’s beliefs or desires. Importantly, the nullness of PRO is not wired into the analysis; overt pronouns may also form complex predicates under λ -abstraction (e.g., resumptive pronouns, copy raising, etc.). Thus, overt PRO is a possibility envisioned and fully accommodated (see Landau 2015, 2024), and indeed attested, as we will see in section 6.2.

Next to this class of predicates we find *attitude* predicates (*want, tell, wonder, ...*), which select propositional complements. In control environments, these complements project a second tier above the predicative clause in (3): A “perspectival” or logophoric C head takes the FinP predicate as a complement, and projects a null *pro* as a specifier. This *pro* is associated (via a lexical presupposition on C) with a coordinate of the reported context – either the AUTHOR or ADDRESSEE of the matrix clause.³ The OC dependency is broken into two links: Variable binding between the controller and *pro*, and predication between *pro* and FinP.

(4) *Logophoric clause*: [_{CP} *pro* C_{+log} [_{FinP} PRO_i Fin [_{TP} PRO_i ...]]]

In these OC complements, one observes the obligatory *de se* reading (when AUTHOR-controlled) or *de te* reading (when ADDRESSEE-controlled) of PRO (see Morgan 1970; Chierchia 1990; Percus and Sauerland 2003; Schlenker 2003; Anand 2006; Pearson 2016, 2018). These readings amount to the observation that an attitude OC complement contributes information not about the matrix subject (AUTHOR) or object (ADDRESSEE), but rather about “the image” these participants have in the eyes of the attitude holder; technically, the “doxastic counterparts” of the matrix participants.

Note that PRO and *pro*, on the TTC, are expository and not substantive terms. Both are one and the same minimal pronoun, consisting of a D feature and an unvalued ϕ -set, acquiring its particular features and interpretation according to the environment in which it is inserted.

Let us mention some significant consequences of the TTC (for a fuller discussion, see Landau to appear). First, because predication is a highly restricted and unique relation, predicative control resists different types of “noncanonical” OC. In particular, control shift and split

³ This idea is grounded in extensive work on the left periphery of clauses, which assumes that Speech Act participants are syntactically represented and active in a variety of grammatical processes (see, among others, Bianchi 2003; Safir 2004; Speas 2004; Hill 2007; Baker 2008; Sigurðsson 2011; Haegeman and Hill 2013; Wiltschko and Heim 2016; Sundaresan 2018, 2021; Charnavel 2019; Deal 2020; Woods 2021; Baker and Ikawa 2024).

control are excluded with predicative complements. However, they are allowed in logophoric complements; the intermediary logophoric *pro* in (4) can be anchored to either AUTHOR or ADDRESSEE coordinates, or possibly to their sum (Madigan 2008b). Likewise, “partial” readings are not obtainable under direct predication but can be modelled via an intermediate pronoun (see, e.g., Matsuda 2019). For this reason, partial control is typical of attitude complements.⁴

Second, the TTC harbors expectations about the *size* of control complements. Comparing (3) and (4), we observe that predicative clauses are smaller than logophoric ones, lacking at least the CP layer (and even more layers in restructuring complements). This is to be expected insofar as the former express modality, manipulation, phasal status and achievement, while the latter express desires, fears, epistemic states and speech acts. Typological research has shown that clausal complements of the latter type are larger than those of the former type (Lohninger and Wurmbrand to appear). Indeed, crosslinguistic data points to a clear asymmetry: overt complementizers in OC complements are more likely to be found in logophoric complements than in predicative complements (Landau to appear).

Third, the TTC makes clear predictions regarding the tolerance of OC complements to lexical subjects.

- (5) Complements of attitude predicates *may* allow lexical subjects; complements of nonattitude predicates *never* allow lexical subjects.

(5) follows straightforwardly from the fact that complements of attitude predicates are propositional whereas those of nonattitude predicates are predicative. In quite a few languages the word “may” can be dropped from the first part; being an attitude nonfinite complement is sufficient for licensing a lexical subject. This is true of Malayalam (Mohanam 1982), Tamil (Sundaresan and McFadden 2009) and Irish (McCloskey 1980, 1985; McCloskey and Sells 1988; Bondaruk 2006). In other languages, infinitives reject lexical subjects for poorly understood reasons. English infinitives present a complex picture due to the somewhat unstable option of *for*-infinitives. However, English gerunds, which place no special restrictions on the occurrence lexical subjects, fully confirm (5): Lexical subject in gerundive complements are allowed if and only if the complement expresses an attitude (see Pires 2007, where the same cut is expressed by the [\pm Tense] distinction, and Landau 2021a, where it is demonstrated with P+gerund combinations). We return to these facts in section 6.2.

To summarize, the TTC is minimally committed to three assertions.

- (6) *Properties of OC constructions according to the TTC*
 a. The controllee is a pronoun.

⁴ Experimental testing of PC largely confirms the correlation between attitude complements and tolerance to PC, yet finer-grained differences in the degree of tolerance have been found across various subtypes of attitude complements (White and Grano 2014).

- b. Some control complements denote properties (namely, nonattitude complements).
- c. Some control complements are full CPs (namely, attitude complements).

Note that these assertions are common to many approaches to control (e.g., Fischer 2018; McFadden and Sundaresan 2018; Pearson 2018, Matsuda 2019). In contrast, the FC theory denies these assertions. On the FC theory, the controllee is a fully lexical NP (contra (6a)); this NP saturates the embedded predicate, producing a propositional denotation for *any* OC complement (contra (6b)); and it is visible to the FC operation (which makes it silent) because no phase boundary separates it from the controller. This amounts to the claim that the complement is necessarily smaller than CP (contra (6c); see section 5).

In reducing the TTC's analytic commitments to just three properties, my intention is not in any way to make it easier to confirm this theory. Rather, it is to highlight the fact that the opposite commitments of the FC theory will clash not only with the TTC but also with many other approaches that share these minimal assumptions. Thus, the debate should not be framed as one between the FC theory and the TTC, but rather between the FC theory and a *family* of proposals, which is conveniently represented here by the TTC. Hopefully, the empirical arguments to be developed below will gain more theory-independence owing to this fact.

3 Reconstruction and low-copy visibility

A familiar and well-established contrast between Raising and Control concerns the possibility of reconstruction (see Landau 2013: 12–15 for a range of evidence). There are many ways in which this contrast is expressed; we illustrate two below.

- | | | |
|-----|--|----------------|
| (7) | a. How many students were expected to fail the exam? | <i>Raising</i> |
| | b. How many students expected to fail the exam? | <i>Control</i> |

(7a) is ambiguous between two readings: (i) For what *n*: there are *n*-many students *x* such that it was expected that *x* would fail the exam (the *specific* reading); (ii) For what *n*: it was expected that there would be *n*-many students *x* such that *x* would fail the exam (the *numerical* reading). To paraphrase, in reading (i), the expectation is about five specific individuals, possibly based on familiarity with their poor state of knowledge. In reading (ii), the expectation is about a number, possibly based on some statistical average of failure in the exams.

In contrast, (7b) only supports the specific reading; “For what *n*: there are *n*-many students *x* such that *x* expected to fail the exam”. It lacks the numerical reading (which would be identical to (ii)). In other words, a raisee can take scope in the position of its embedded copy, but a controller cannot take scope in the position PRO – which is nothing but its embedded copy on the FC theory.

Likewise, a violation of Weak Crossover can be “undone” by reconstruction in raising (8a) but not in control (8b).

- (8) a. His_i parents seemed to every kid_i to be ready. *Raising*
 b. *His_i parents said to every kid_i to be ready. *Control*

As noted, the pattern is systematic. Chomsky is clearly aware of it and notes it several times (C1: 22, C2: 45, C3: 10), using an old observation by Luigi Burzio to illustrate it.

- (9) a. One interpreter each seemed to be assigned to the diplomats.
 b. *One interpreter each tried to be assigned to the diplomats.

Chomsky is rather laconic in explaining this contrast. In C2: 45 he merely points out that in (9b) there is no reconstruction. In C3 he goes further to reduce the distinction to θ -theory, arguing that *one interpreter* in (9a) “lacks a theta role so interpretation must be at the trace position; reconstruction. Not so for PRO, whose antecedent has a theta role so there is no reconstruction.” (p. 10–11). In other words, Chomsky assumes that reconstruction tracks θ -positions.

However, this view conflates thematic positions and scopal positions, which are notoriously dissociable. In fact, it is not true that raising forces reconstruction; (7a) is ambiguous, and on one of its readings, *many students* takes matrix scope. Likewise (10a) is ambiguous, allowing the *someone* > *likely* reading. No less familiar is the ability of *picture*-NPs to be interpreted in intermediate positions (10b). In short, θ -positions are not *obligatory* reconstruction sites.

- (10) a. Someone from New York is likely to win the lottery this week.
 b. Which pictures of each other_i did Bill say that they_i insisted __ that I put on display?

Perhaps Chomsky intended a weaker, one-way implication:

- (11) Reconstruction of X cannot target a copy of X lower than X’s thematic position.
 [= X may take scope in any of its copy positions but not lower than the thematic one]

This would be descriptively correct, barring reconstruction of controller NPs, but as far as I can see, it does not *follow* from the FC analysis. What is unique about this analysis and sets it apart from PRO-based approaches is precisely the idea that the controller has an identical copy in the embedded clause. Moreover, because an argument’s θ -position and scopal position need not converge (witness (10)), the null hypothesis should be that *any* copy of the argument should be a suitable reconstruction site. The ban on reconstruction in PRO-based approaches is automatic; there is no copy of the controller in the embedded clause. Thus, one need not appeal to (11).⁵ This ban is not automatic on the FC theory, which does posit an embedded copy.

Indeed, C1: 22 states that “there are two kinds of IM-configurations, one derived from Merge and the other from FC: trace and PRO in traditional terms; I’ll keep the terms for expository convenience. INT cannot distinguish them, but other operations can, and do.” Reconstruction is

⁵ Indeed, (11) follows as a theorem on the standard view that copies are *only* produced by IM. Thus, the lowest copy is by necessity the thematic one (because IM only generates *higher* copies). With FC, however, this is no longer derived.

a somewhat misleading term, invoking a hypothetical operation. In reality, though, it is nothing more than a choice made at the semantic interface – interpret *this* copy rather than *that* copy. In other words, it is part of INT. If INT “cannot distinguish” trace and PRO, then it should not treat them differently vis à vis reconstruction.

Raising and Control exhibit related contrasts in syntactic reconstruction, namely, in the visibility of the full syntactic structure of the embedded subject. Consider the classic observation by Ruwet (1972) (see also Rooryck 1992) that a raised nominal in French can strand a partitive clitic (*en*) in the embedded clause, but a controller cannot. Landau (2013: 21–22) discusses this contrast under the rubric of “unaccusative properties” distinguishing raising and control.

- (12) a. Le directeur du département semble être accepté. *Raising*
 the head of the department seems to be accepted
 ‘The head of the department seems to be accepted.’
- b. [Le directeur *en*]_i semble [[~~le directeur *en*]~~_i *en* être accepté
 the head seems of it to be accepted
 [~~le directeur *en*]~~_i].
 ‘The head of it seems to be accepted.’
- (13) a. Le directeur du département espère être accepté. *Control*
 the head of the department hopes to be accepted
 ‘The head of the department hopes to be accepted.’
- b. *Le directeur_i espère [PRO_i *en* être accepté PRO_i].

Landau (2013: 20–21) explains this contrast as follows: “Assume that traces are copies of the moved element, with identical internal structure. The raising (passivized) complement in (12b) contains two fully deleted copies of the raised DP, and one pronounced subcopy, *en*, cliticized onto the infinitival verb. Presumably, cliticization preceded passivization (so, in effect, the embedded subject is a remnant). In contrast, the object-turned-subject in the control complement of (13b) is PRO – a simplex morpheme, which cannot host an internal copy of the clitic. Hence, there is no source for the embedded *en* in (13b).”

C1: 22 mentions these facts, but it is not clear how they are to be captured under the FC theory. In fact, they seem more problematic than the scope reconstruction data, because they hinge on a derivational stage at which Raising and Control are totally indistinguishable on that theory, even before FC applies. At the point of *en*-cliticization – presumably, the step immediately following Merge (Infl_[Fin], AuxP) – the Raising derivation and the Control derivation have constructed exactly the same object: [_{InflP} Infl [_{AuxP} être [_{VP} accepté [_{DP} le directeur *en*]]]]. There is simply no way to allow, as the next step, Merge (*en*, InflP) *only* if two steps downstream

a raising predicate (*seem*) is to be merged, and block it if a control predicate (*expect*) is. This kind of look-ahead is unavailable, and in any way would be arbitrary (why not the opposite?).⁶

The different predictions of the FC theory and the TTC regarding the reconstruction data stem from the difference between (2a) and (6a), namely, whether the controllee is a taken to be full NP or a pronoun. This very debate goes back to the earliest works on control: Postal 1970 is an extensive argument against the Equi-NP Deletion analysis of Rosenbaum, proposing instead that the controllee is a pronoun. We return in section 6 to further arguments to that effect.

4 What makes OC obligatory?

Rosenbaum's (1967) Equi-NP Deletion rule was a conditional: *If* the embedded subject NP is identical to a matrix NP, *then* erase the former. Note that this is quite different from the modern conception of OC, which takes it, at its core, to be a *requirement* for coreference. In fact, Rosenbaum recognized this explanatory gap. He observed that some verbs, like *hate*, allow an uncontrolled embedded subject, but others, like *persuade*, do not. While Equi-NP Deletion explained why (14b) and (15b) must be turned to (14c) and (15c), respectively, it did not explain the contrast between (14a) and (15a).

- (14) a. I hate for John to go.
 b. *I hate for me/myself to go.
 c. I hate to go.
- (15) a. *I persuaded John for Bill to come.
 b. *I persuaded John_i for him_i to come.
 c. I persuaded John_i to come.

Rosenbaum (1967: 95) concluded: “There may well be an explanation for the necessary identity of erasing and erased noun phrases in the structures just presented, but this issue will not be taken up in this study.”

The obligatory nature of the control relation with many verbs – the fact that the embedded subject *must* be identical to some matrix argument – was seen as a pressing concern in the literature spawned by Rosenbaum's study; it revolved around Perlmutter's (1968) “Like Subject Constraint” (Lakoff 1965; Perlmutter 1968; Fodor 1974; Brame 1976), seeking to establish whether the constraint is syntactic or semantic, whether it applies at Deep Structure or Surface Structure, etc. Much insight has been gained although the topic proved considerably more intricate than initially suspected.

⁶ This problem is shared by the MTC and the FC theory; see Landau 2003: 490.

The reason I mention these early discussions is that the issues they raised are just as relevant today as they were 50 years ago. Chomsky's FC theory, in particular, needs to formulate the key operational device of FC so that it will provide an adequate answer to *why* control is obligatory where it is. Does it, then?

The problem arises right away, because FC is characterized, at least in two of the articles, as optional (C1: 25, C2: 41). If FC is optional, C1: 23 observes, (16a) is overgenerated.

- (16) a. *John tried [Mary to win].
b. John expected [Mary to win].

C1: 23 proposes to replace reference to the Case Filter – the earlier GB account of this fact – with reference to the more natural notion of Transitivity: “Case-assignment here is a reflex of the semantic property *Transitivity* (TR) of a verb. To account for (16a), as distinct from the ECM counterpart (16b), it suffices to appeal to TR directly, ignoring the derivative (structural) Case property.”

It is actually not clear why *try* is considered intransitive, given its capacity to appear in a transitive frame (e.g., *Did you try our new infusion?*). In general, while transitivity of V is necessary for licensing ECM, it is not sufficient, even when the verb may semantically select a proposition.

- (17) a. She regretted the remark.
b. She regretted that the remark had been so offensive.
c. *She regretted the remark to be so offensive.
- (18) a. They ignored him.
b. They ignored that he was unemployed last year.
c. *They ignored him to be unemployed last year.

More importantly, “transitivity” in the sense required to rule out (16a) is not reducible to “the semantic property Transitivity”. The latter is simply a specification of semantic type: A verb is semantically transitive iff it is a binary relation of type $\langle e, \langle e, t \rangle \rangle$. But many verbs taking dative or oblique objects fit this semantic description without being *syntactically* transitive. Not surprisingly, they do not license an “ECM variant” with the dative/oblique NP as the embedded subject.

- (19) a. Bill thought about the program.
b. Bill thought that the program was a disaster.
c. *Bill thought [[about the program] to be a disaster].
- (20) a. Jane marvelled at his age.
b. Jane marvelled that his age was 90.
c. *Jane marvelled [[at his age] to be 90].

There is a sense in which (19c) and (20c) are *obviously* bad. My point is that this sense is lost under C1's appeal to *semantic* transitivity as the underlying licenser of ECM; for (19a) and (20a) are no less semantically transitive than *John expected/believed Mary* is, and yet *expect/believe* license ECM and *think/marvel* do not.

It seems that C1 conflates two questions that should be kept apart. The first one is “What determines the class of ECM verbs?”; the second one is “What accounts for obligatory coreference in OC contexts?”. That these two questions are better handled separately is made evident by considering languages other than English, in which ECM is simply unavailable (indeed, ECM is a crosslinguistic rarity). In these languages, the two questions do not interact. OC with *try*-verbs requires coreference and rejects an embedded lexical subject. Transitivity is not relevant to ECM licensing because *no* transitive verb in these languages licenses ECM. To illustrate, this is the situation in Hebrew (and many other languages).

- (21) a. *Rina hoxixa et Gil lihyot noxel.
 Rina proved.3SG.F ACC Gil to.be crook
 (Intended: ‘Rina proved Gil to be a crook.’)
- b. Rina nista [(*et Gil) lenaceax].
 Rina tried.3SG.F ACC Gil to.win
 ‘Rina tried [(*Gil) to win].’

Possibly due to these and other reasons, the transitivity-based account of C1 is no longer upheld in C2. Instead, the entire problem of obligatory coreference in OC – arguably the most fundamental problem in the study of control – is relegated to a footnote, which essentially leaves it unanswered: “We assume that FC applies optionally. The assumption leads to an empirical consequence, namely potentially SM-blocked but CI-convergent derivations of *John tried Mary/John to win*, raising factual questions that there is no obvious way of answering.” (C2: 43, fn.85). By “SM-blocked but CI-convergent derivations” I assume that C2 means that both (22a) and (22b) are semantically coherent and only violate a spellout constraint.

- (22) a. *John tried [John to win].
 b. *John tried [Mary to win].

This claim is debatable for both cases. If the controllee is a pronoun rather than a full NP, as it is in the TTC (and in other approaches) but not in the FC theory, then the ungrammaticality of (22a) reflects something deeper than a mere failure in spellout: An underlying pronoun cannot surface as a full NP by any PF procedure;⁷ the NP simply contains lexical features missing from the pronoun, and adding them at PF would violate Inclusiveness. (22b), in turn, does involve a

⁷ The opposite may be a real option, for example, in full NPs being reduced to or elided next to resumptive pronouns (Pesetsky 1998; Aoun et al. 2001; Guillot and Malkawi 2007; Sichel 2014).

semantic violation, at least with a well-defined class of control verbs (see below). Neither case, then, is merely “SM-blocked”.

Turning to C3, the problem of OC receives yet a different solution:

“If FC applies obligatorily (as is natural, given that it simply identifies a structural relation), it blocks externalization of the lower element of the cc-configuration in such single phase expressions as “*Many people tried many people to win*” or “*John tried John to win.*”... There are unclear factual questions as to whether there is a CI interpretation under distinct reference (Case aside), and no obvious way to answer them.” (C3: 14, fn. 28).

Here, FC is no longer optional, hence the nullness of the controllee is derived. Once again, however, cases like (15a) and (22b), where FC is not applicable, are left unexplained; what makes the *semantic* relation of control obligatory under certain predicates? The last sentence of the footnote suggests that there is “no obvious way to answer” these questions, but I think this assessment is over-pessimistic. Before I turn to the answer offered by the TTC, I would like to consider the empirical price tag of the shift from optional to obligatory FC, which occurs between C1/C2 and C3 without any explanation.

Recall that FC is subject to three conditions: Structural identity, c-command and co-phasehood. By making it obligatory, C3 predicts that any pair of identical NPs in a local c-command relation will undergo FC. This overgenerates examples like the following.

- (23) a. *Mary showed/assigned John to ~~John~~.
 (cf. *Mary showed/assigned John to himself*)
 b. *She talked with many people about ~~many people's~~ future.
 (cf. *She talked with many people_i about their_i future*)

Note that even if the object NP/DP is a phase in (23b), the possessor is located at the edge of that phase, hence accessible to FC applying at the higher, v*P phase. Crucially, Chomsky does not require that FC create a chain with a single θ -role, or else it would not be allowed to apply in OC. Thus, no independent principle seems to be violated in (23a,b), or in similar cases, with FC applying between arguments and adjuncts within the same clause.⁸ As far as we know, in all such cases of local binding languages employ anaphors or pronouns and not silent copies. Thus, the empirical cost of making FC obligatory offsets the benefit of deriving the nullness of the controllee.

⁸ The occurrence of *many people* inside a PP should pose no issue for c-command, as such arguments freely bind and control (*She talked with him about himself, She pleaded with him to calm down*). Since FC can access material inside adjuncts (see C2: 62), similarly overgenerated cases are expected there as well (e.g., *I met Bill in his office/* I met Bill in Bill's office*). Note that “structural identity” in the application of FC must be understood loosely enough to allow mismatch in case between the controller and the controllee, as amply documented in Russian, Polish, Icelandic, Latin and Ancient Greek (Andrews 1971; Thráinsson 1979; Quicoli 1982; Sigurðsson 1991; 2008; Landau 2008 and the references therein; Lindert 2016).

How, then, is the obligatory nature of OC explained on the alternative approaches? While answers might differ, to the best of my knowledge none of them is complete. Nonetheless, a partial answer is available which is well-grounded. Recall from section 2.2 that the TTC divides the domain of control predicates to attitude and nonattitude predicates. Nonattitude predicates select predicative complements and fall into four subclasses: aspectual, modal, implicative and evaluative. These complements resist lexical subjects by virtue of their meaning.

- (24) a. Sue began/continued/finished [(**Paul*) to cook the meal]. *Aspectual*
 b. Sue is able to/must/could [(**Paul*) fix the fence]. *Modal*
 c. Sue managed/dared/condescended [(**Paul*) to help us]. *Implicative*
 d. It was rude/brave/smart of Sue [(**for Paul*) to speak out]. *Evaluative*

Indeed, syntactic licensing of the embedded subject is not relevant for these cases. Even in languages displaying finite control like Greek, where case-licensing of the subject is not an issue (Varlokosta 1993), or in languages like Irish, which otherwise freely allows lexical subjects in infinitives (McCloskey 1980), no lexical subject may appear in these environments. The ban is universal, with no exceptions ever reported.

- (25) a. O Yanis arxise [na kolimba (**o* Giorgos)]. *Greek*
 the John started.3SG PRT swim.3SG the George
 ‘John started (**George*) to swim.’
 b. Rinne sé_i iarracht [(**na* daoine) teach a thógáil]. *Irish*
 made he attempt those people house PRT build.VN
 ‘He tries (**those people*) to build houses.’

The generalization was stated in (5) and is repeated below.

- (26) Complements of attitude predicates *may* allow lexical subjects; complements of nonattitude predicates *never* allow lexical subjects.

The second part of (26), illustrated in (24)–(25), follows straightforwardly from semantic compositionality: A lexical subject would turn the complement into a proposition, creating a type mismatch at the level of the matrix VP, as the verb requires a property-denoting complement (see the explicit derivation in Landau 2015: 28). As mentioned in section 2.2, the split between the two types of complements in English is most clearly visible with gerunds (NC = No Control).

- (27) a. *Attitude gerund complements: ✓OC, ✓NC*
 Sue preferred/imagined/feared [(Paul) taking the exam].
 b. *Nonttitude gerund complements: ✓OC, *NC*
 Sue began/avoided/tried [(**Paul*) taking the exam].

The reason why gerunds reflect the semantic cut so clearly is that they introduce no extra syntactic conditions on the licensing of an internal subject. We thus see that the impossibility of (16a)/(22b) has nothing to do with transitivity or with spellout problems. Rather, *try* is an implicative verb, selecting a predicative complement, which resists a lexical subject. OC follows from its inherent meaning.⁹

For the nonattitude complements, then, the question of “Why is control obligatory?” receives a principled answer. Turning to attitude complements, the question is whether they always alternate between OC and NC, and if not, why. In fact, in many languages the alternation is systematic: Malayalam (Mohanar 1982), Tamil (Sundaresan and McFadden 2009) and Irish (McCloskey 1980, 1985; McCloskey and Sells 1988; Bondaruk 2006) are such languages; infinitival attitude complements in these languages display either OC with PRO, or no control, with a lexical subject. Likewise, in languages with finite OC, it is again attitude complements, and only them, that alternate between OC and NC (see, a.o., Iatridou 1988; Varlokosta 1993; Krapova and Petkov 1999; Landau 2004; Darzi and Motavallian 2010; ElSadek 2016; Leung and Halefom 2017; Sevdali and Sheehan 2021; and the summary in Landau 2024).

Still, in most languages infinitival complements reject lexical subjects altogether, including complements of attitude predicates. While English employs the semi-productive device of *for*-infinitives to license lexical subjects in irrealis complements, most languages lack such a device. The device was called “Case” throughout much of the history of generative grammar, but this was merely a placeholder; there seems to be no reason to deny PRO of Case (see McFadden 2005; Landau 2006, 2008; San Martin 2007; Bobaljik and Landau 2009; Sundaresan and McFadden 2009). To illustrate, we are still short of a principled account of the difference between (28a) and (28b).

- (28) a. *I persuaded John for Bill to come.
 b. I persuaded John that Bill should come.

In sum, C2: fn. 85 is partially correct in stating that the obligatory referential identity in OC raises “factual questions that there is no obvious way of answering”. Yet they are mistaken in thinking the problem applies to the verb *try*, or indeed, in not acknowledging the fact that we do understand the obligatoriness of control with the entire class of nonattitude predicates.¹⁰

⁹ In fact, *try* is an atypical implicative verb, susceptible to dialectal coercion that allows it to take *for*-complements, at least for some speakers (% *I tried for John to notice me*). I abstract away from these variations, which obviously modify the basic meaning of the verb, thus shifting its control status (see Grano 2017 for an illuminating discussion). An anonymous reviewer points out that nonattitude verbs are not *restricted* to selection of properties. Sometimes they take DP or small clause complements (*A begins the alphabet, John started Bill smoking*). I take it that DPs denote *individuals* and small clauses denote *events*, the latter being distinct from propositions in lacking temporal and world anchoring. As long as these verbs fail to select propositions, the facts in (24), (25) and (27b) follow.

¹⁰ Parallel issues arise with respect to adjunct control. As shown in Landau 2021b, like complements, adjuncts split into two categories, illustrated in (i)–(ii): One displays strict OC, meaning, PRO does not alternate with a lexical subject; the other displays an alternation between PRO and a lexical NP.

5 Evidence for a CP phase

Recall that the FC theory requires there to be no phase boundary between the overt and the deleted copies of the controller, cf. (2d). This implies either that the OC complement does not project a CP, or perhaps, that it projects a “defective” CP that, for whatever reason, does not introduce a phase. The assumption is necessary to block overgeneration of copy chains across v^* or C, as in the following cases.

- (29) a. * $[_{InflP}$ Many people Infl $[_{v^*P}$ ~~many people~~ [v^* $[_{VP}$ praised ~~many people~~]]]]
 (*Many people praised)
 b. * $[_{InflP}$ Many people Infl $[_{v^*P}$ ~~many people~~ [v^* $[_{VP}$ said
 $[_{CP}$ that $[_{TP}$ ~~many people~~ Infl $[_{v^*P}$ ~~many people~~ [v^* cried]]]]]]]]]
 (*Many people said that cried)

A sensible and more conservative alternative, however, would claim that FC does not exist outside IM chains, hence (29a–b) are underivable. The alternative would gain further plausibility insofar as it can be shown that some OC complements *are* standard phases.

The first piece of evidence that some OC complements are phases is straightforward: There are interrogative *wh*-infinitives that exhibit OC. Note that the Condition B effect with index *i* below indicates that these are truly OC complements; PRO may not be disjoint from the controller *Kevin*, although the intended readings are perfectly natural.¹¹

- (30) a. Kevin_{*i*} wondered [how PRO to help him_{*j*}/_{*i*}].
 b. Kevin_{*i*} asked Beth [when PRO to applaud him_{*j*}/_{*i*}].

It will not do to deny the phasehood of these complements, as they show clear *wh*-island effects – a consequence of the PIC, hence evidence for a phase boundary – at least with adjunct extraction.

- (31) a. *How_{*i*} did Kevin_{*i*} ask [what PRO to clean t_i]?.
 b. How did_{*i*} Kevin_{*i*} offer [PRO to clean the bath t_i]?

Likewise, the edge of OC complements displays some properties taken to indicate a phase boundary in finite complements, such as being a site of Q-stranding under long-distance *wh*-movement in Ulster English (32a,b) (McCloskey 2000: 61).

-
- | | |
|---|-------------------------|
| (i) Bill _{<i>i</i>} smiled [PRO _{<i>i</i>} (*for Mary) to see the baby calm down]. | <i>Stimulus clause</i> |
| (ii) Jane _{<i>i</i>} stepped back [in order PRO _{<i>i</i>} /for Bill to get a better view]. | <i>Rationale clause</i> |

Under the TTC, this split also reflects the distinction between predicative and logophoric control. However, the application of the FC theory to adjuncts (see C2: 62) again seems to ignore this fundamental distinction, leaving unanswered the question of why certain adjuncts *must* be controlled while others merely *can*.

¹¹ The relevance of *wh*-infinitives to the IP vs. CP debate was first recognized in Koster and May 1982. See Landau 2000: 40 on why the licensing of *oneself* in these complements does not undermine their OC status and Pitteroff and Schäfer 2019 for further discussion.

- (32) a. What did he say **all** that he wanted?
 b. What were you trying **all** to say?

Furthermore, in many languages the same complementizer introduces finite clauses and infinitival OC complements. This is typically the case in Scandinavian languages, e.g. Swedish *att* ‘that’ (33a) (Thráinsson 1993: 186), and often the case in languages with finite control like Persian (33b), where the complementizer *ke* ‘that’ introduces a range of clauses beyond OC (Hashemipour 1989: 272).

- (33) a. Maria lovade att inte läsa böcker.
 Mary promised to not read books
 ‘Mary promised not to read books’
 b. Hæsani sæiy = kærd ke be-xab-e.
 Hasan try = do.PST that SBJ-sleep-3SG
 ‘Hasan tried to sleep.’

Now, it may seem outdated to talk about “CP” in the cartographic age; surely there is more than a single projection above InflP (or TP). It is also likely that by and large nonfinite clauses project less structure than finite clauses. Among nonfinite complements we also find subclausal complements in restructuring environments, which lack any CP material.

Notwithstanding all these obvious caveats, they do not immediately benefit the FC theory. For it only takes a single clear case of OC across a clear CP projection to rob that theory of a key component, namely, the idea that FC (and hence OC) cannot cross a phase boundary. In Wurmbrand & Lohninger’s (2023) extensive typology of clausal complements, it is observed that the category of *propositional* complements projects the largest size syntactically. In fact, such complements do occur in OC environments; not abundantly, but not so rarely either.

- (34) a. Mary pretended/claimed to be busy with customers.
 b. Jane regretted/hated watching *A Nightmare on Elm Street*.
 c. Er glaubt, gewonnen zu haben. German
 he believes won to have
 ‘He believes himself to have won.’

Thus, whatever cartographic baggage is required for “*believe that...*” would also be required for “*believe to...*”. Note that evidence that some OC infinitives, in some syntactic environments, lack the CP projection (e.g., Keine’s (2020) discussion of selective opacity) falls short of the much stronger claim that all OC infinitives always lack it.

To uphold the FC theory in view of all these facts would force one to introduce unnatural distinctions; namely, (i) that *wh*-words are hosted in different projections in finite and nonfinite clauses, and (ii) that the same complementizer heads different projections in finite and nonfinite

clauses, and (iii) that the same semantic type (e.g., proposition) maps to different cartographic structures in finite and nonfinite clauses, or (iv) granting all the facts, that finite CP is a phase but infinitival CP is not. None of that would be needed on alternative accounts, like the TTC, where the link between the controller and PRO is not constrained by the PIC.¹²

One last possibility, raised by an anonymous reviewer, is that the phasal status of OC complements is neutralized in virtue of PRO being a bound variable. Specifically, the proposal is that bound pronouns are initially unvalued for ϕ -features, and get valued via Feature Transmission from the binder (Heim 2008; Kratzer 2009), an analysis adopted for PRO within the TTC (Landau 2015). Grano and Lasnik (2018) note that an unvalued *subject* pronoun would make the T head of its clause also unvalued, and propose that under such circumstances the local C does not define a phase-boundary, the idea being that phases must be convergent (i.e., fully valued).

Grano & Lasnik proceed to demonstrate how bound overt pronouns of finite CP complements neutralize the phasal status of these complements for a host of movement dependencies otherwise known to be clausebound (but *only* when the clause contains a disjoint subject), such as *too/enough*-movement, *tough*-movement, gapping, comparative deletion, antecedent-contained deletion, quantifier raising, multiple questions, pseudogapping, reciprocal binding, multiple sluicing, family of questions and extraposition. The effect is illustrated below for multiple sluicing and extraposition; the (a) cases display the familiar (finite-)clauseboundedness, which is lifted in (b) cases with OC infinitives, and is significantly weakened with embedded bound subjects in finite complements, the (c) cases (all the data are from Grano & Lasnik 2018).

(35) *Multiple sluicing*

- a. *Someone claims [that John is worried about something] but I don't know
[who ~~claims that John is worried~~ about what].
- b. Someone_i claims [PRO_i to be worried about something] but I don't know
[who ~~claims [PRO_i to be worried~~ about what].
- c. ?Someone_i claims [that **they**₁ are worried about something] but I don't know
[who_j ~~claims that they_j are worried~~ about what].

(36) *Extraposition*

- a. *[Mary claims [that Ann reads t_i] every time I ask about it]
[all the major linguistics journals]_i.

¹² If the PIC does constrain (at least some) OC dependencies, then it may be respected by raising the controllee to [Spec,CP], a position accessible from the matrix clause. This is the gist of the proposals in Fischer 2018 and Sheehan 2018, both of which are couched within the Agree-based approach to OC, where the target of control is an unvalued null pronominal. It is not entirely clear how to reconcile *wh*-infinitives with this proposal. If the null pronominal lodges in a specifier below the *wh*-phrase, it will not be at the edge of the phase and Agree would be blocked. If it lodges in a higher (the outermost) specifier, selection for the [+Q] head by the matrix predicate would be nonlocal.

- b. [Mary claims [PRO_i to read t_i] every time I ask about it]
[all the major linguistics journals]_i.
- c. ?[Mary_i claims [that **she**_i reads t_i] every time I ask about it]
[all the major linguistics journals]_i.

I see two problems in extending convergence-based phasehood to the FC theory; one concerns the applicability of this proposal, the other concerns empirical overgeneration.

First, on the FC theory, the embedded subject is a fully specified lexical NP, rather than an unvalued pronoun. Thus, the complement CP converges and closes off as a phase. In fact, in considering the implications of their theory for the Movement Theory of Control, Grano & Lasnik (2018: 489) acknowledge that phase-neutralization cannot be based on lack of convergence: “The other option for control clauses is to adopt the movement theory of control (see, e.g., Hornstein 1999) whereby controlled subjects do not harbor unvalued features but rather are the residue of movement. In that situation, it would have to be the case that control clauses either lack C or have a nonphasal C in order to ensure that locality is extended.”

Notice that the MTC and the FC theory are indistinguishable at the level of the complement CP, the difference emerging only at the matrix vP level, where either IM applies (on the MTC) or EM does (on the FC theory).

The second problem is empirical. Suppose OC complements *could* be neutralized for phasehood on pains of non-convergence under the FC theory. This would indeed solve a problem in allowing copy deletion to apply within a phase in (37a). However, the gain comes with a lethal cost, namely overgeneration of cases like (29b), for now OC is also generated across a finite CP boundary (37b), whose phasehood has been neutralized by the very same OC dependency.

- (37) a. *Bill wanted to cry.*
Bill [_{v*P} ~~Bill~~ wanted [_{CP} C [_{TP} ~~Bill~~ to [_{v*P} ~~Bill~~ cry]]]].
↳ **phase neutralized**
- b. **Bill said that cried.*
Bill [_{v*P} ~~Bill~~ said [_{CP} that [_{TP} ~~Bill~~ T_[Past] [_{v*P} ~~Bill~~ cried]]]].
↳ **phase neutralized**

Put differently, if phase-neutralization in (35c)/(36c) (and in many parallel cases) teaches us *anything*, it is that finite CPs lose their phasal status when hosting a bound subject pronoun. Borrowing this insight to the domain of OC should, at a minimum, lead to the expectation that the OC dependency itself may enjoy this phase-neutralization, if indeed it is subject to the PIC, as the FC theory has it. In other words, the combination of the FC theory (or *any* theory crucially invoking co-phasehood between controller and controllee) with the phase-neutralization theory of Grano & Lasnik 2018 entails the existence of *finite* OC in English. This is plainly false. As far

as I can see, the prediction can only be avoided by stipulating that phase neutralization applies to *any* CP (in dependencies like *tough*-movement, gapping, multiple sluicing, ACD etc.) *except* when it comes to the OC dependency, where phasehood can be neutralized in nonfinite CPs but crucially not in finite CPs. However, this stipulation follows from no independent principle and merely underscores the misalignment of OC with other phase-sensitive phenomena.

I conclude that there does not seem to be a notion of phasehood that fits the needs of the FC theory. Either OC complements (at least some) are ordinary phases, in which case they are undergenerated by that theory; or they are all non-phases, in which case their finite counterparts are also non-phases, and are overgenerated by that theory.

6 PRO does not alternate with genuine (movement) copies

In section 3 we have seen that the reduction of PRO to a deleted copy is not supported by any reconstruction evidence available to us. In this section, I will adduce *distributional* evidence against this reduction: Movement copies cannot occur in the position of PRO even when all other grammatical conditions are satisfied (section 6.1). This will be seen to be a reflection of a deeper property: To satisfy the principles of control, the controllee must be a pronoun and not a full NP or a copy thereof (section 6.2).

6.1 Control across passive: Lethal overgeneration

An important piece in the overall architecture of the grammar, going all the way back to the distinction between “Deep Structure” and “Surface Structure” interpretations, is the Duality of Semantics (C2: 33).

(38) *Duality of Semantics*: EM, and only EM, creates theta positions.

The import of DoS is that theta relations are established upon the initial introduction of an argument into the derivation (its EM position). Other semantic properties, like scope, topic/focus and illocutionary force, are established by movement, that is, in IM-created positions. In particular, and in sharp contrast to the MTC, movement to a θ -position is barred.

Let us consider again the derivational stage right before the controller is merged, according to the FC theory.

(39) {tried {to, {{the, man}, {read, {a, book}}}}}}

At this point two possibilities arise: Either IM of the embedded *{the, man}* to [Spec,try], or EM of an identical inscription *{the, man}* to the same position.¹³ C2: 35 explain why the first possibility

¹³ Recall that *why* EM must merge in the matrix clause an NP *identical* to the embedded subject NP is not explained by the FC theory; see section 4.

is not available: “By Duality, *{the, man}* cannot be internally merged into the higher subject position; that higher (predicate-internal) position is a theta position of the predicate *try* and hence internally merging it would run afoul of Duality.” EM then applies, yielding (1) above.

Note that DoS *alone* rules out A-movement of the embedded subject to the matrix clause. This is consistent with the assumption of the FC theory that no phase boundary intervenes between the two clauses (see section 5) to hinder such movement. But now an immediate prediction ensues: If IM of the embedded subject were to target a matrix *nonthematic* position, nothing would go wrong. This prediction, however, overgenerates a whole class of derivations, in which the embedded subject moves across a matrix passive verb to [Spec,TP]. Because the matrix verb is passive, no θ -role is left unassigned. Because the resulting structure satisfies the conditions on FC, the lower copy gets deleted. The resulting interpretations (indicated in parentheses below) are perfectly coherent, yet none of these sentences are possible, in English or elsewhere.

- (40) a. *John was hoped [~~John~~ to win the game].
 (It was hoped that John would win the game)
 b. *The committee was regretted/hated [~~the committee~~ to have passed the decision].
 (People hated/regretted it that the committee had passed the decision)

In fact, the FC theory shares this problem with the MTC; examples (40a–b) are taken from Landau’s (2003, 2007) argumentation against that theory’s unconstrained notion of cross-clausal A-movement.¹⁴ Landau (2007) also observed that the availability of “passive ECM” in English somewhat obscures the fact that such derivations are absolutely ruled out with control verbs. Thus, (41a) is not derived from the underlying OC source, but from an ECM source, which, for poorly understood reasons, cannot surface in the active form (see Postal 1974, 1993; Bošković 1997; Moulton 2009; Rezac 2013; Reed 2023). This is shown by the characteristic stativity of the embedded predicate. The OC verb *decide* is not so restricted (41b), and indeed, cannot be passivized (41c).

- (41) a. John was decided [~~John~~ to be our representative]. *Passive ECM*
 b. John decided to apologize to Mary tomorrow. *Control*
 c. *John was decided [~~John~~ to apologize to Mary tomorrow].

Languages without (passive) ECM do not allow the counterparts of (41a), so that all control verbs in them show the pattern in (40). Indeed, this is also the pattern of control verbs in English, once

¹⁴ This challenge to the MTC was first noted in Brody 1999. Hornstein (2000) attributed the fault in (40a) to the PIC, arguing that C-incorporation, required to void the phasehood of the complement, is blocked under passive verbs. Landau (2003) pointed out that this suggestion undergenerates sentences like *Mary was persuaded to leave* and *It was decided to leave*. Boeckx and Hornstein (2004) then proposed that the problem is different, having to do with the absence of a personal passive of *hope* (**A victory was hoped*), rather than a pseudopassive. Landau (2007) responded with (40b), where OC verbs that do occur in personal passives (*The decision was regretted/hated*) nonetheless disallow control across passive.

we carefully distinguish them from ECM verbs. Universally, the controllee cannot ever surface as the passivized subject of the control verb.¹⁵

In this context, it is instructive to consider the explanation given in C1: fn. 35 for the ungrammaticality of (42).

(42) *Who did John try [~~who~~ to win]?

C1: fn. 35 appeals to the Case Filter, assumed to apply before FC deletes the lower copy; presumably, the *wh*-chain has no Case. It is not clear how this is compatible with C1's earlier attempt to avoid reference to the Case Filter in attributing (16a) above to "Transitivity". In any event, as discussed in section 4, the idea that PRO (= the controllee) lacks Case is unsupported; crosslinguistically, any language that offers an opportunity to detect the case of PRO on agreeing elements reveals that PRO is normally case-marked.

In fact, the problem of why the trace of a lexical NP (in current jargon, a copy created by IM) cannot occur as the subject of a control complement has been a major concern of Chomsky 1981, from which the following data are culled (p. 58, 156, 232, 272, 297).

- (43) a. *John_i is possible [t_i to win].
 b. *John_i is difficult [t_i to win].
 c. *John_i is illegal [t_i to participate].
 d. *John_i was persuaded Bill [t_i to win].
 e. *Who_i did John persuade Bill [t_i to win].
 f. *Who_i did you try [t_i to win]?

Like (40)/(41c), these examples do not violate the modern DoS. Back in 1981, two explanations were provided for these violations. Chomsky (1981: 306) argued that all these examples contain an additional trace in the embedded [Spec,CP], which fails to be properly governed, violating the ECP. In addition, Chomsky (1981: 297) proposed that (43e–f) violate the θ -criterion, since the *wh*-chain is not Case-marked and Case is required for θ -marking (*The Visibility Condition*); the latter account has been carried over, essentially, to C1: fn. 35.

6.2 An explanation within the TTC

Consider how the facts described in the previous section can be accounted for by alternative approaches to OC. A natural, theory-neutral way of describing all the ungrammatical instances with a trace instead of PRO is the following.

¹⁵ This generalization is superficially related to the more familiar *Visser's Generalization* (VG), but the two are distinct. VG states that subject control verbs cannot be passivized, or more precisely, following van Urk 2013, that they may not occur in personal passives (with the object promoted to subject); **John was promised to leave*. It addresses the failure of a matrix *implicit agent* to control PRO (in the presence of a derived subject). The text's generalization, in contrast, addresses the failure of the matrix *surface subject* to "control" its trace in (40)/(41c).

(44) A (copy of a) nominal with lexical content cannot be controlled.

Intuitively speaking, OC is “designed” to link the reference of two participants, but in the starred examples above, it is always a single participant that is involved; no link is established between *John* or *who* and some other participant in (43).

How is this intuitive idea to be cashed out within the TTC? Once again, the class of predicative complements is straightforwardly explained: a variable (= trace) in the embedded subject position would turn the complement into a proposition (logically, an open proposition), which cannot properly compose with the matrix verb. Thus, (42) is explained *exactly* as (16a) is, by reference to (i) *try* being an implicative verb, (ii) implicative verbs selecting unsaturated predicates, (iii) lexical NPs and variables saturating the complement predicate, and (iv) semantic compositionality.

As far as attitude (propositional) OC is concerned, we note that a nominal with lexical content cannot replace *pro* as the target of the referential dependency in structure (4), repeated below.

(45) *Logophoric clause*: [_{CP} *pro* C_{+log} [_{FinP} PRO_i Fin [_{TP} PRO_i ...]]]

pro and PRO are both minimal pronouns, identical in constitution and labeled differently for expository purposes only. Landau (2015: 43) proposed that PRO functions as a λ -abstractor and *pro* as a projected coordinate of the reported context *c* tuple, $c = \langle \text{world, time, author, addressee} \rangle$, introduced by the complementizer; in effect, AUTHOR(*c*) or ADDRESSEE(*c*), giving rise to subject or object control, respectively. In Landau 2015, this is implemented as a *de se* presupposition on the concept generator that applies to *pro* (following the general LF format for *de re* ascriptions in Percus and Sauerland 2003), but other implementations are possible, e.g., those incorporating an indexical component in PRO (Matsuda 2019; Stegovec 2019). What is important is that either the coordinate or the indexical are functions defined over contexts; specifically, they apply to the reported context tuple and return its author or addressee, accounting for the *de se/de te* reading in attitude OC.

Lexical NPs simply cannot introduce the AUTHOR/ADDRESSEE functions; only pronouns can. This is evident from the standard *de re/de se* distinction. When Sam believes “Sam is hungry” and when Sam believes “I am hungry”, he is in two different belief states; parallel remarks hold for *de te* vs. *de re*. Thus, if the complementizer of OC complements *selects* this type of coordinate/indexical in its specifier, inserting a lexical NP in this position would violate s-selection (we turn shortly to the option of overt pronouns).

Ultimately, then, the TTC derives (44) from semantic considerations: either a type mismatch or an s-selectional violation would result from using a lexical NP (or its copy) to close off the predicative FinP projection. Notice that at least for the class of attitude OC complements, a

syntactic alternative suggests itself. These complements project a CP, which is presumably a phase (see section 5). A-movement across this phase is blocked by the PIC, explaining (43a–d). While hyper-raising is not universally excluded (see Wurmbrand 2019), it requires a special featural makeup on the intervening C that standard OC complements do not possess. This account is indeed close in spirit to Chomsky’s (1981) proper-government account, which also invokes the “barrierhood” of CP.

A number of crosslinguistic predictions follow from this way of analyzing OC. I will mention two of them, rather briefly. First, if the target of the OC relation is truly a pronoun and not a lexical NP, we expect *overt* pronouns to be possible controllees, at least in some languages. Second, to the extent that we find overt lexical NPs as controllees, a different analysis is called for.

The first prediction is indeed confirmed. By now we already know of two language families in which PRO *must* be spelled out overtly: Niger-Congo and Oto-Manguean (see Landau 2024 for a fuller discussion). Two examples from the former family are Gã (46a) (Allotey 2021) and Bùlì (46b) (Sulemena 2021, 2022); similar facts hold in Igbo, Ewe, Akan and Wolof. An example from the latter family is San Martín Peras Mixtec (46c) (Ostrove 2018: 128). All the cases pass the standard tests for OC; importantly, none of them accepts a null PRO or a lexical NP as the controllee.

- (46) a. Gbekebi_i le nye (ni) *(amei_{i/sj}) he shia.
Children DET managed COMP 3.PL buy.INF home
‘The children managed to buy a home.’
- b. Núrmà_i zèrì *(bà_{i/sj}) dā gbáŋ.
people.DEF.PL refuse 3PL buy book
‘The people refused to buy a book.’
- c. Nàntōso_i ña Juana nakatsya *(ñá_{i/sj}) míí tsyàà.
forget.PST she Juana wash.IRR she the clothes
‘Juana forgot to wash the clothes.’

In other languages, PRO alternates with an overt pronoun – but never with a lexical NP – when assigned contrastive or exhaustive focus, often accompanied by a focus-sensitive particle. Examples from European Portuguese (Barbosa 2018: 133) and Hungarian (Szabolcsi 2009) are given in (47a–b), respectively (note that these works carefully show that the embedded pronoun is a genuine subject and not an emphatic doubling adjunct).

- (47) a. *pro*_i decidiu [ir só **ele**_i ao mercado].
decided to.go only he to.the market
‘He decided for it to be the case that only he goes to the market.’

- b. Nem felejtettem el [én is aláírní a levelet].
 not forgot.1SG PFX I too to.sign the letter.ACC
 ‘I didn’t forget to bring it about that I too sign the letter.’

Are there genuine cases of controlled lexical NPs, or as the FC theory would describe it, pronunciation of the lower copy in OC? Such cases came to be known as “Backward Control” (BC) in the MTC literature (Polinsky and Potsdam 2002, Fukuda 2008, Potsdam 2009, Haddad and Potsdam 2013). Notably, the phenomenon is very rare and limited even in the languages for which it has been proposed. Furthermore, a number of cases that had initially been analyzed as BC were subsequently shown not to involve control at all.¹⁶

In fact, the clearest cases involve “small” nonattitude complements (aspectual or implicative), displaying typical restructuring properties. I will tentatively follow Pietraszko 2021 in assuming that these constructions do not, strictly speaking, involve BC. Instead, they involve index-sharing, a process by which the matrix and embedded Voice heads come to share the index of their external argument, mimicking an OC reading (see Pietraszko 2021 for explicit derivation and compositional semantics). This process is further demonstrated in Voice Restructuring phenomena (see Wurmbrand 2014; Wurmbrand and Shimamura 2017; Bryant et al. 2023).

To the extent that genuine BC cases are documented and shown not to fall under this analysis, they remain a challenge to the TTC. However, one should bear in mind that the overall challenge to the FC theory (and to the MTC) is far greater. For nothing in these two theories leads us to expect the (not so rare) phenomenon of overt controlled *pronouns*, or the fact that in the same languages controlled lexical NPs are excluded. Appeal to some procedure of “minimal spellout”, converting full NPs to pronouns at PF (see fn. 7), is insufficient. Such procedures are precisely designed to capture a mismatch between the full syntactic visibility of a copy and its superficial spellout as a pronoun; e.g., resumptive pronouns in Lebanese Arabic (Aoun et al. 2001). However, the controllee in OC displays no reconstruction properties whatsoever, syntactic or semantic, as we have seen in section 3. If it walks like a pronoun and quacks like a pronoun, it probably *is* a pronoun.

7 The challenge of partial control

In this final section I address the account offered by the FC theory to the phenomenon of partial control (PC). It should be noted that PC is but one of a number of “noncanonical” control phenomena that are actively studied in recent years, with many important implications for control theory (for a state-of-the-art survey, see Landau 2024). The FC theory has not been

¹⁶ See Kwon et al. 2010 on Korean, Yoshimoto 2013 on Japanese, Coftas 2016 on Romanian and Alexiadou and Anagnostopoulou 2021 on Greek.

extended to all these phenomena, so it may not be fair to speculate on how well it can cope with them. I thus limit myself to PC, for which the FC theory does offer an account.

C1: 23–24 and C2: fn.118 propose that PC reduces to “*for*-NP” deletion at the left edge of infinitival complements. Thus, the contrast between (48a)–(48b) reflects the contrast between their derivational “ancestors” (49a)–(49b).

- (48) a. John arranged to meet at noon.
 b. ??John managed to meet at noon.
- (49) a. John arranged for us/them to meet at noon.
 b. ?? John managed for us/them to meet at noon

The proposal is appealingly simple, although it already raises a theoretical issue: The proposed deletion violates the venerable principle of *Recoverability of Deletion*. The meaning of the plural *us/them* in (49) cannot be recovered from the meaning of the antecedent *John*. Assuming this to be a standard case of ellipsis, the question arises why we do not find it elsewhere. In parallel cases of number mismatch under ellipsis, as in (50a), the [PL] feature of the elided noun is recoverable from the stranded numeral. When no overt material is available from which plurality can be recovered, a mismatch is disallowed (50b).

- (50) a. She ate a nugget and I ate three nuggets.
 b. She ate a nugget and I did too [eat a nugget/*eat nuggets].

One might take the collective predicate *meet* in (49a) to function as *three* in (50a), namely, to provide the recoverable plurality for the elided nominal. However, this analogy fails, because collective predicates are not *required* to license PC, they simply help facilitate it. Non-linguistic context can achieve the same goal – *unlike* in true ellipsis, where only *linguistic* context is consulted.

- (51) [Suzan_i and her posdoc Dan_j are working jointly on a project. They met today in the afternoon, intending to do some work, but Suzan feels very tired and unfocused. She wants to postpone this for another time, so she says to Dan]:
 “Do you_j agree [PRO_{j+i} to continue working on this next week]?”

Regardless of how one formulates the deletion operation, however, it faces further, considerable difficulties. In fact, it fails to account for all the basic properties of PC.

First, the FC account implies that taking a *for*-NP is a necessary condition for licensing PC in the complement. This is plainly false. The very first example of PC in the generative literature, (52a), involved a gerund (Wilkinson 1971); gerunds never take *for*-complementizers. *Wh*-infinitives do not take *for*-NP either and yet allow PC (52b); the verb *persuade* does not take a *for*-NP (see (15a,b)) and yet allows PC (52c), and also split control (52d).

- (52) a. I_i regretted [PRO_{i+} killing Sam the way we did] because he was such a nice guy.
 b. Jane_i asked [where PRO_{i+} best to gather].
 c. Suzan could not attend, so she persuaded the chair_i [PRO_{i+} to meet without her].
 d. Suzan_i persuaded Dan_j [PRO_{j+i} to continue working on this next week].

None of this is surprising. The true distributional generalization behind PC derives, once again, from the basic dichotomy of the TTC: Only attitude complements license PC (Landau 2015, 2024).¹⁷ The English *for*-NP strategy is restricted to a subset of irrealis complements, itself a subset of attitude complements; it can therefore only cover a subset of the English data.

Second, looking beyond English, there are very few analogues to the *for*-NP strategy. In many languages, OC PRO never alternates with a lexical NP. Yet the distribution of PC across languages is quite stable, obeying the attitude/non-attitude criterion. If an underlying NP that gets deleted (with or without a complementizer) had been a pre-requisite for PC, we would not have witnessed PC in so many different languages., e.g. Korean (53a) (Madigan 2008a: 109) and Hebrew (53b).

- (53) a. Jwuh_i-ka [PRO_{i/+arb} yeses-si-ey moi-keyss-ta-ko] yaksok-ha-yess-ta.
 J-NOM six-hour-at gather-VOL-DC-C promise-do-PST-DC
 ‘Jwuh_i promised [PRO_{i/+arb} to gather at 6].’
 b. Mixael_i he’edif [PRO_{i+} le’hitpazer lifney ha-xašexa].
 Michael preferred to.disperse before the-dark
 ‘Michael preferred to disperse before darkness fell.’

Third, as has been documented since Landau 2000 (see also Landau 2016, Authier and Reed 2018), the plurality of PC PRO is distinct from that of plural pronouns and NPs (at least in languages where OC complements lack inflection). In particular, it supports neither syntactic plurality nor distributive readings, and in that sense is more akin to the plurality of collective nouns (e.g. *committee*, *team*, etc.).

- (54) a. Mary told John_j that she_i wished [for them_{i+j} to work together / become partners].
 b. The doctor recommended to Bill [for the boys to each take a blood test].
 (55) a. Mary told John that she_i wished [PRO_{i+} to work together / *become partners].
 b. The doctor recommended to Bill_i [PRO_{i+} to (*each) take a blood test].

The plural ending on the predicate *partners* must be licensed by a *syntactically* plural subject; such a [NUMBER:pl] feature is present on *them* in (54a) but not on the PC PRO_{i+} in (55a). Likewise, *the boys* in (54b) introduces a plurality whose members are “visible” to grammatical manipulation,

¹⁷ This is an oversimplification for some languages (though not for English); see Pitteroff et al. 2017 on the limited option of covert comitatives and Landau 2024 for critical discussion.

like distributive quantification by *each*; not so the PC PRO_{i+} in (55b), which resists a distributive interpretation (note that *recommend* is a PC verb, e.g. *I recommended to John to meet in his office rather than in a noisy café*). While the literature has not yet reached a consensus on the proper treatment of plurality in PC, it has acknowledged the fact that this plurality is more abstract than that of normal plural NPs/pronouns. This fact is lost if (55a–b) are directly derived from (54a–b) by simple deletion of *for*-NP, a purely PF operation on the controllee that should not affect its semantics.

Fourth, the *for*-NP deletion account of PC neglects the fundamental fact of *control*, replicating the problems discussed in section 4. PC is a subkind of OC, but the subject of *for*-infinitives is not subject to any coreference restriction. To see this, compare (56a) with (56b) and (57a) with (57b).

- (56) *Context*: Mary and I had a fight and we stopped talking. John, a good friend of both of us, is keen on getting us to be friends again. He insists that we meet but he feels it would be best if the meeting would be just between Mary and myself, without him.
- a. John_i wanted [for us to meet without him_i].
 - b. John_i wanted [PRO_{i+} to meet without him_{j/*i}].
- (57) *Context*: John annoyed a number of people on his team at work, right before an important deadline. He asks for my advice on what they should do.
- c. I advised John_i [for his team to meet without him_i].
 - d. I advised John_i [PRO_{i+} to meet without him_{j/*i}].

The binding domain for the embedded pronoun *him* is the complement clause. When the pronoun is coindexed with the controller *John* (matrix subject in (56), matrix object in (57)), a violation of Condition B is triggered in the (b) cases but not in the (a) cases. This indicates that the embedded subject necessarily includes *John* in the (b) cases but not in the (a) cases; Condition B then rules out overlapping reference (cf. **Bob_i & Jane_j met without him_i*). In general, PC is an extension of OC, preserving the obligatory referential link. By deriving (48a) from (49a) via *for*-NP deletion, C1 and C2 leave this fundamental aspect of PC unexplained, wrongly excluding it from the domain of OC.

Fifth, even if one restricts attention to the “subset” reading with an overt embedded subject, this reading does not genuinely reproduce PC. PC is a species of OC, and OC PRO is interpreted as a bound variable and not just as a free variable that happens to co-refer with the controller, a fact known at least since Morgan 1970 (see Landau 2013: 30–31). Chomsky acknowledges this characteristic interpretation of OC, and ties it to the FC operation (see fn. 1 above). However, he derives PC in (48a) *not* by FC but rather by “*for*-NP deletion”, which targets an underlying plural NP. Whether this is a lexical NP or a pronoun, it is not expected to display an *obligatory* bound variable reading as OC PRO does. Indeed, it does not.

The scenario in (58) makes the free variable reading of the “controller’s part” inside the controllee true and the bound variable reading false. Correspondingly, the *for*-NP sentence (58a) is possibly true but the PC sentence (58b) is necessarily false in the given context. Conversely, the scenario in (59) makes the free variable reading false and the bound variable reading true. Correspondingly, the *for*-NP sentence (59a) is possibly false but the PC sentence (59b) is necessarily true in that context.¹⁸

- (58) *Context*: Peter, Jane and Adam are each making arrangements to have a meeting with their respective families.
- a. Only Peter_i arranged for his_i family/them_{i+} to meet.
Strict: (only Peter) ($\lambda x.x$ arranged for Peter’s family to meet): **True**
Sloppy: (only Peter) ($\lambda x.x$ arranged for x’s family to meet): **False**
- b. Only Peter_i arranged [PRO_{i+} to meet].
Sloppy: (only Peter) ($\lambda x.x$ arranged for x’s family to meet): **False**
- (59) *Context*: Peter, Jane and Adam are each making arrangements for Peter’s family to meet.
- a. Only Peter_i arranged for his_i family/them_{i+} to meet.
Strict: (only Peter) ($\lambda x.x$ arranged for Peter’s family to meet): **False**
Sloppy: (only Peter) ($\lambda x.x$ arranged for x’s family to meet): **True**
- b. Only Peter_i arranged [PRO_{i+} to meet].
Sloppy: (only Peter) ($\lambda x.x$ arranged for x’s family to meet): **True**

What these differences teach us, then, is that PC shares a fundamental semantic property with regular OC, as distinct from normal pronominal binding. The FC theory, however, fails to capture this common pattern, and in fact, falsely predicts that PC would pattern with pronominal anaphora in licensing non-bound variable readings.¹⁹

Taken together, the evidence in this section indicates that PC cannot be derived by *for*-NP deletion. Indeed, it must involve whatever mechanism regular OC does. The problem for the FC theory is obvious. Regular OC is derived by FC, but FC is contingent on “structural identity” between the controller and controllee. For this reason, indeed, FC in movement chains – specifically, in Raising – does *not* allow the subset interpretation. As Landau (2003: 493) puts it, “There is no partial raising” (e.g., * *The chair appeared to be gathering once a week*). How and why FC in EM-created pairs produces a subset reading but FC in IM-created pairs does not is an open challenge to the FC theory of control.

¹⁸ The sloppy reading is actually not easy to access with *them* as the embedded subject, as it requires it to be construed as a “paycheck pronoun”. This is harmless to the present point, which hinges on the availability of the *strict* reading of the controlled part of *them*.

¹⁹ An entirely parallel argument against the *for*-NP deletion account of PC can be constructed on the basis of the *de se/de re* contrast. OC PRO under attitude predicates famously must be read *de se*, but the uncontrolled pronoun in the *for*-NP construction can be read *de re*. The obligatory *de se* reading of PRO carries over to PC (Pearson 2016), further militating against its reduction to *for*-NP deletion.

8 Conclusion

The FC theory of control is no minor piece in Chomsky's recent advocacy for the SMT. Consider these statements: (i) "M-gaps yield obligatory control — a module enabled by SMT and LSCs (specifically Duality of Semantics)" (C1: 22); (ii) "Absent SMT, there would be no reason for the full module of obligatory control to exist" (C1: 24); (iii) "The existence of obligatory control is thus an immediate consequence of SMT" (C2: 43); (iv) "Obligatory Control has received a principled explanation under the enabling function of SMT that allowed FC to apply to cc-configurations of structurally identical inscriptions" (C2: 59).

The Duality of Semantics is incorporated not only in the FC theory but also in the TTC and most other approaches to control (except for the MTC). Nothing in the present paper challenges or risks its status. Neither do the empirical arguments discussed here directly bear on the SMT. My overall message was quite different. Regardless of whether the FC theory is "enabled" or "derived" by the combination of SMT and DoS, and probably before that issue is even addressed, one urgently wants to know whether the FC theory of control is *true*; that is, does it account for the facts of control in an adequate way. My answer has been negative.

The FC theory faces substantial empirical challenges. First and foremost, it fails to explain the fundamental fact of *obligatory* control, as it relies on an operation (FC) which presupposes but does not explain coreference between the controller and controllee. Second, it assumes that the controllee is a silent copy of the controller. This is not a technical error, I believe, but an ontological one; the controllee is a pronoun. Indeed, there is virtually no evidence from reconstruction, syntactic or semantic, for the lexical content of the controller being present at the embedded clause at any derivational stage in OC (in contrast to the robust evidence in Raising). Crosslinguistic spellout patterns of the controllee support this conclusion.

The FC theory makes a number of further predictions that were shown to be false. It denies any phase status of the OC complement, contrary to evidence from the distribution of complementizers and *wh*-island effects. It allows a trace in the position of the controllee in subject control across passive and in \bar{A} -movement – that is, under IM of the controllee in nonthematic matrix positions. None of these constructions is actually attested. It also fails to predict the distribution of PC and expects it to share interpretive properties with pronominal anaphora that are not observed.

Admittedly, the FC theory has not been developed as fully as alternative approaches to control, like the TTC. It is rather austere and minimal. Theories evolve in tandem with empirical findings. It is conceivable that the FC theory will be revised and expanded to address all the empirical problems discussed above, some of which go back the earliest days of generative grammar, and were certainly recognized by Chomsky himself in his earlier writings. However, until this is done and as long as the empirical challenges are so daunting, I believe it is premature to claim any victory or support for the SMT on the basis of control. The bridge between the two has yet to be constructed.

One may ask whether the SMT “enables” the competing TTC in any meaningful way. It is difficult to answer such questions in the abstract. Certainly the TTC does not posit any special “module of control”. Rather, it derives a wide range of control phenomena from the interaction of independently motivated components. The key components are: predication, variable binding, IM, minimal pronouns and syntactically represented speech act participants. These components, in turn, incorporate both SMT assumptions (locality, minimality and c-command) and language specific conditions (like theta-theory and the syntax-discourse interface). However, their specific *arrangement* in OC constructions in natural language is not *explained* by the SMT and the language specific conditions. The arrangement could have been different in many ways; OC is not deducible from the mere existence of these two sources. Perhaps this is as far as we can get. Linguistic explanations can be principled and even genuine insofar as they appeal to principles of universal validity and deliver a broad empirical coverage.

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References

- Alexiadou, Artemis & Anagnostopoulou, Elena. 2021. Backward control, long distance Agree, nominative case and TP/CP transparency. In Mucha, Anne & Hartmann Jutta M. & Trawiński, Beata (eds.), *Non-canonical control in a cross-linguistic perspective*, 15–34. Amsterdam: John Benjamins. DOI: <https://doi.org/10.1075/la.270.01ale>
- Allotey, Deborah. 2021. Overt pronouns of infinitival predicates of Gã. *Western Papers in Linguistics* 4. 1–47.
- Anand, Pranav. 2006. *De De se*. PhD dissertation, MIT.
- Andrews, Avery D. 1971. Case agreement of predicate modifiers in ancient Greek. *Linguistic Inquiry* 2. 127–151.
- Aoun, Joseph & Choueiri, Lina & Hornstein, Norbert. 2001. Resumption, movement, and derivational economy. *Linguistic Inquiry* 32. 371–403. DOI: <https://doi.org/10.1162/002438901750372504>
- Authier, J.-Marc & Reed, Lisa. 2018. Symmetric reciprocal semantics as a predictor of partial control. *Linguistic Inquiry* 49. 379–393. DOI: https://doi.org/10.1162/LING_a_00276
- Baker, Mark. 2008. *The Syntax of Agreement and Concord*. Cambridge: Cambridge University Press. DOI: <https://doi.org/10.1017/CBO9780511619830>
- Baker, Mark & Ikawa, Shiori. 2024. Control theory and the relationship between logophoric pronouns and logophoric uses of anaphors. *Natural Language and Linguistic Theory*. DOI: <https://doi.org/10.1007/s11049-023-09592-3>
- Bianchi, Valentina. 2003. On finiteness as logophoric anchoring. In Guéron, Jacqueline & Tasmowski, Liliane (eds.), *Temps et point de vue/Tense and point of view*, 213–246. Université Paris X, Nanterre.
- Bobaljik, Jonathan & Landau, Idan. 2009. Icelandic control is not A-movement: the case from case. *Linguistic Inquiry* 40. 113–132. DOI: <https://doi.org/10.1162/ling.2009.40.1.113>
- Boeckx, Cedric & Hornstein, Norbert. 2004. Movement under control. *Linguistic Inquiry* 35. 431–452. DOI: <https://doi.org/10.1162/0024389041402625>
- Bondaruk, Anna. 2006. The licensing of subjects and objects in Irish non-finite clauses. *Lingua* 116. 874–894. DOI: <https://doi.org/10.1016/j.lingua.2004.09.003>
- Bošković, Željko. 1997. *The Syntax of Nonfinite Complementation: An Economy Approach*. Cambridge, MA: MIT Press.

- Bouchard, Denis. 1984. *On the Content of Empty Categories*. Dordrecht: Foris. DOI: <https://doi.org/10.1515/9783110850000>
- Bresnan, Joan. 1982. Control and complementation. *Linguistic Inquiry* 13. 343–434.
- Brody, Michael. 1999. Relating syntactic elements: remarks on Hornstein's 'Movement and chains'. *Syntax* 2. 210–226. DOI: <https://doi.org/10.1111/1467-9612.00021>
- Bryant, Shannon & Kovač, Iva & Wurmbrand, Susi. 2023. Forward, backward, crossed: voice restructuring and its semantics. Handout of a talk given in NELS 53, University of Göttingen.
- Charnavel, Isabelle. 2019. *Locality and Logophoricity: A Theory of Exempt Anaphora*. Oxford: Oxford University Press. DOI: <https://doi.org/10.1093/oso/9780190902100.001.0001>
- Chierchia, Gennaro. 1990. Anaphora and attitudes *de se*. In Bartsch, Renate & Benthem, Johan van & Boas, Peter van Emde (eds.), *Semantics and contextual expression*, 1–32. Dordrecht: Foris. DOI: <https://doi.org/10.1515/9783110877335-002>
- Chomsky, Noam. 1968. *Language and Mind*. New York: Harcourt, Brace & World. DOI: <https://doi.org/10.1037/e400082009-004>
- Chomsky, Noam. 1980. On binding. *Linguistic Inquiry* 11. 1–46.
- Chomsky, Noam. 1981. *Lectures on Government and Binding*. Dordrecht: Foris.
- Chomsky, Noam. 2008. On phases. In Freidin, Robert & Otero, Carlos Peregrín & Zubizarreta, Maria Luisa (eds.), *Foundational issues in linguistic theory: essays in honor of Jean-Roger Vergnaud*, 133–166. Cambridge, MA: MIT Press. DOI: <https://doi.org/10.7551/mitpress/7713.003.0009>
- Chomsky, Noam. 2021. Minimalism: where are we now, and where can we hope to go. *Genko Kenkyu* 160. 1–41.
- Chomsky, Noam. 2024. The miracle creed and SMT. In Greco, Matteo & Mocci, Davide (eds.), *A Cartesian dream: a geometrical account of syntax: in honor of Andrea Moro*, 17–40: LingBuzz Press.
- Chomsky, Noam & Lasnik, Howard. 1977. Filters and control. *Linguistic Inquiry* 8. 425–504.
- Chomsky, Noam & Seely, T. Daniel & Berwick, Robert C. & Fong, Sandiway & Huybregts, M. A. C. & Kitahara, Hisatsugu & McInnerney, Andrew & Sugimoto, Yushi. 2023. *Merge and the strong minimalist thesis*. Elements in Generative Syntax. Cambridge: Cambridge University Press. DOI: <https://doi.org/10.1017/9781009343244>
- Clark, Robin. 1990. *Thematic Theory in Syntax and Interpretation*. London: Routledge.
- Coftas, Maria A. 2016. Subjunctive complements in romanian: the view from control. *Generative Grammar in Geneva* 9. 77–98.
- Darzi, Ali & Motavallian, Rezdan. 2010. The Minimal Distance Principle and obligatory control in Persian. *Language Sciences* 32. 488–504. DOI: <https://doi.org/10.1016/j.langsci.2009.08.001>
- Deal, Amy Rose. 2020. *A Theory of Indexical Shift: Meaning, Grammar and Crosslinguistic Variation*. Cambridge, MA: MIT Press. DOI: <https://doi.org/10.7551/mitpress/12374.001.0001>
- Fischer, Silke. 2018. Locality, control, and non-adjoined islands. *Glossa* 3(1). 82. 1–40. DOI: <https://doi.org/10.5334/gjgl.182>

- Fukuda, Shinichiro. 2008. Backward control. *Language and Linguistics Compass* 2. 168–195. DOI: <https://doi.org/10.1111/j.1749-818X.2007.00048.x>
- Grano, Thomas. 2017. Control, temporal orientation, and the cross-linguistic grammar of *trying*. *Glossa* 2(1): 94. DOI: <https://doi.org/10.5334/gjgl.335>
- Grano, Thomas & Lasnik, Howard. 2018. How to neutralize a finite clause boundary: phase theory and the grammar of bound pronouns. *Linguistic Inquiry* 49. 465–499. DOI: https://doi.org/10.1162/ling_a_00279
- Guilliot, Nicolas & Malkawi, Nouman. 2007. Reconstruction without movement. In Eguren, Luis & Fernández-Soriano, Olga (eds.), *Coreference, modality, and focus*, 111–131. Amsterdam: John Benjamins. DOI: <https://doi.org/10.1075/la.111.07gui>
- Haddad, Youssef A. & Potsdam, Eric. 2013. Linearizing the control relation: a typology. In Biberauer, Theresa & Roberts, Ian (eds.), *Challenges to linearization*, 235–268. Berlin De Gruyter Mouton. DOI: <https://doi.org/10.1515/9781614512431.235>
- Haegeman, Liliane & Hill, Virginia. 2013. The syntactization of discourse. In Folli, Raffaella & Sevdali, Christina & Truswell, Robert (eds.), *Syntax and its limits*, 370–390. Oxford: Oxford University Press.
- Hashemipour, Margaret M. 1989. *Pronominalization and Control in Modern Persian*. PhD dissertation, University of California San Diego.
- Heim, Irene. 2008. Features on bound pronouns. In Harbour, Daniel & Adger, David & Béjar, Susana (eds.), *Phi theory: phi-features across modules and interfaces*, 35–56. Oxford, New York: Oxford University Press. DOI: <https://doi.org/10.1093/oso/9780199213764.003.0002>
- Hill, Virginia. 2007. Vocatives and the pragmatics-syntax interface. *Lingua* 117. 2077–2105. DOI: <https://doi.org/10.1016/j.lingua.2007.01.002>
- Hornstein, Norbert. 1999. Movement and control. *Linguistic Inquiry* 30. 69–96. DOI: <https://doi.org/10.1162/002438999553968>
- Hornstein, Norbert. 2000. On A-Chains: a Reply to Brody. *Syntax* 3. 129–143. DOI: <https://doi.org/10.1111/1467-9612.00028>
- Hornstein, Norbert. 2003. On control. In Hendrick, Randall (ed.), *Minimalist Syntax*, 6–81. Oxford: Blackwell Publishing. DOI: <https://doi.org/10.1002/9780470758342.ch1>
- Iatridou, Sabine. 1988. On nominative case assignment and a few related things. Ms., MIT. Reprinted in *Papers on case and agreement II* (1993), ed. by Colin Phillips, MITWPL 19, 175–196. Cambridge, MA: MIT.
- Jackendoff, Ray & Culicover, Peter W. 2003. The semantic basis of control in English. *Language* 79. 517–556. DOI: <https://doi.org/10.1353/lan.2003.0166>
- Keine, Stefan. 2020. *Probes and Their Horizons*. Cambridge, MA: MIT Press. DOI: <https://doi.org/10.7551/mitpress/12003.001.0001>
- Koster, Jan. 1984. On binding and control. *Linguistic Inquiry* 15. 417–459.
- Koster, Jan & May, Robert. 1982. On the constituency of infinitives. *Language* 58. 117–143. DOI: <https://doi.org/10.2307/413533>

- Krapova, Iliyana & Petkov, Vassil. 1999. Subjunctive complements, null subjects and case checking in Bulgarian. In Dziwirek, Katarzyna & Coats, Herbert & Vakareliyska, Cynthia M. (eds.), *Proceedings of the 7th meeting of formal approach to Slavic linguistics*, 267–285. University of Michigan, Ann Arbor: Michigan Slavic Publications. DOI: <https://doi.org/10.1075/cilt.182.14kra>
- Kratzer, Angelika. 2009. Making a pronoun: fake indexicals as windows into the properties of pronouns. *Linguistic Inquiry* 40. 187–237. DOI: <https://doi.org/10.1162/ling.2009.40.2.187>
- Kwon, Nayoung & Monahan, Philip J. & Polinsky, Maria. 2010. Object control in Korean: a backward control impostor. In Hornstein, Norbert & Polinsky, Maria (eds.), *Movement theory of control*, 299–328. Amsterdam: John Benjamins. DOI: <https://doi.org/10.1075/la.154.11kwo>
- Landau, Idan. 2000. *Elements of Control: Structure and Meaning in Infinitival Constructions*. Dordrecht: Kluwer Academic Publishers.
- Landau, Idan. 2003. Movement out of control. *Linguistic Inquiry* 34. 471–498. DOI: <https://doi.org/10.1162/002438903322247560>
- Landau, Idan. 2004. The scale of finiteness and the calculus of control. *Natural Language and Linguistic Theory* 22. 811–877. DOI: <https://doi.org/10.1007/s11049-004-4265-5>
- Landau, Idan. 2006. Severing the distribution of PRO from case. *Syntax* 9. 153–170. DOI: <https://doi.org/10.1111/j.1467-9612.2006.00087.x>
- Landau, Idan. 2007. Movement-resistant aspects of control. In Davies, William D. & Dubinsky, Stanley (eds.), *New horizons in the analysis of control and raising*, 293–325. Dordrecht: Springer. DOI: https://doi.org/10.1007/978-1-4020-6176-9_14
- Landau, Idan. 2008. Two routes of control: evidence from case transmission in Russian. *Natural Language and Linguistic Theory* 26. 877–924. DOI: <https://doi.org/10.1007/s11049-008-9054-0>
- Landau, Idan. 2013. *Control in Generative Grammar: A Research Companion*: Cambridge University Press. DOI: <https://doi.org/10.1017/CBO9781139061858>
- Landau, Idan. 2015. *A Two-Tiered Theory of Control*. Cambridge, MA: MIT Press. DOI: <https://doi.org/10.7551/mitpress/9780262028851.001.0001>
- Landau, Idan. 2016. Agreement at PF: an argument from partial control. *Syntax* 19. 79–109. DOI: <https://doi.org/10.1111/synt.12118>
- Landau, Idan. 2018. Direct variable binding and agreement in obligatory control. In Patel-Grosz, Prity & Grosz, Patrick Georg & Zobel, Sarah (eds.), *Pronouns in embedded contexts*, 1–41. Dordrecht: Springer. DOI: https://doi.org/10.1007/978-3-319-56706-8_1
- Landau, Idan. 2020. Nonobligatory control with communication verbs: new evidence and implications. *Linguistic Inquiry* 51. 75–96. DOI: https://doi.org/10.1162/ling_a_00332
- Landau, Idan. 2021a. Duality of control in gerundive complements of P. *Journal of Linguistics* 57. 783–813. DOI: <https://doi.org/10.1017/S0022226721000128>
- Landau, Idan. 2021b. *A Selectional Theory of Adjunct Control*. Cambridge, MA: MIT Press. DOI: <https://doi.org/10.7551/mitpress/13925.001.0001>
- Landau, Idan. 2024. Noncanonical obligatory control. *Language and Linguistics Compass*, e12515. DOI: <https://doi.org/10.1111/lnc3.12515>

- Landau, Idan. To appear. Control. In *Cambridge Elements*.
- Leung, Tommi & Halefom, Girma. 2017. The theory and syntactic representation of control structures: an analysis from Amharic. *Glossa* 2(1): 97. 1–33. DOI: <https://doi.org/10.5334/gjgl.277>
- Lindert, Patrick. 2016. Predication under control: the case of Polish. In Bellamy, Kate & Karvovskaya Elena & Saad, George (eds.), *Proceedings of ConSOLE XXIV*, 392–413. Leiden: Leiden University Centre for Linguistics.
- Lohninger, Madgalena & Wurmbrand, Susi. To appear. Typology of argument clauses. In Benz, Anton et al. (eds.), *Handbook of clausal embedding*. Berlin Language Science Press.
- Madigan, Sean. 2008a. *Control Constructions in Korean*. PhD dissertation, University of Delaware.
- Madigan, Sean. 2008b. Obligatory split control into exhortative complements in Korean. *Linguistic Inquiry* 39. 493–502. DOI: <https://doi.org/10.1162/ling.2008.39.3.493>
- Matsuda, Asako. 2019. *Person in Partial Control*. PhD dissertation, Ochanomizu University.
- McCloskey, James. 1980. Is there raising in modern Irish? *Ériu* 31. 59–99.
- McCloskey, James. 1985. Case, movement and raising in modern Irish. In Goldberg, Jeffrey & Mackaye, Susannah & Michael, Wescoat (eds.), *Proceedings of WCCFL 4*, 190–205. Stanford, CA: Stanford Linguistics Association.
- McCloskey, James. 2000. Quantifier float and wh-movement in an Irish English. *Linguistic Inquiry* 31. 57–84. DOI: <https://doi.org/10.1162/002438900554299>
- McCloskey, James & Sells, Peter. 1988. Control and A-Chains in modern Irish. *Natural Language and Linguistic Theory* 6. 143–189. DOI: <https://doi.org/10.1007/BF00134228>
- McFadden, Thomas. 2005. The distribution of subjects in non-finite clauses: an account without case. In Arunachalam, Sudha & Scheffler, Tatjana & Sundaresan, Sandhya & Tauberer, Joshua (eds.), *Proceedings of the 28th annual Penn linguistics colloquium*, 169–182. UPENN: Philadelphia.
- McFadden, Thomas & Sundaresan, Sandhya. 2018. Reducing *pro* and PRO to a single source. *The Linguistic Review* 35. 463–518. DOI: <https://doi.org/10.1515/tlr-2018-0003>
- Mohanan, K. P. 1982. Infinitival Subjects, Government and Abstract Case. *Linguistic Inquiry* 13. 323–327.
- Mohanan, K. P. 1983. Functional and anaphoric control. *Linguistic Inquiry* 14. 641–674.
- Morgan, Jerry L. 1970. On the criterion of identity for noun phrase deletion. In Campbell, Mary Ann et al. (eds.), *Proceedings of CLS 6*, 380–389. Chicago: Chicago University Press.
- Moulton, Keir. 2009. Clausal complementation and the *Wager*-class. In Schardl, Anisa & Walkow, Martin & Abdurrahman, Muhammad (eds.), *Proceedings of NELS 38*, 165–178. Amherst, MA: GLSA Publications. DOI: <https://doi.org/10.1051/eas/0938018>
- Ostrove, Jason. 2018. *When ϕ -Agreement Targets Topics: The View from San Martín Peras Mixttec*. PhD dissertation, UCSC.
- Pearson, Hazel. 2016. The semantics of partial control. *Natural Language and Linguistic Theory* 34. 691–738. DOI: <https://doi.org/10.1007/s11049-015-9313-9>

- Pearson, Hazel. 2018. Counterfactual *de se*. *Semantics and Pragmatics* 11. DOI: <https://doi.org/10.3765/sp.11.2>
- Percus, Orin & Sauerland, Uli. 2003. On the LFs of attitude reports. In Weisberger, Matthias (ed.) *Proceedings of Sinn and Bedeutung* 7, 228–242. Konstanz: Universität Konstanz.
- Pesetsky, David. 1998. Some optimality principles of sentence pronunciation. In Barbosa, Pilar & Fox, Danny & Hagstrom, Paul & McGinnis, Martha & Pesetsky, David (eds.), *Is the best good enough? optimality and computation in syntax*, 337–383. Cambridge, MA: MIT Press.
- Pietraszko, Asia. 2021. Backward control without A-movement or ϕ -agreement. In Farinella, Alessa & Hill, Angelica (eds.), *Proceedings of NELS 51*, 139–152. UMASS, MA: GLSA Publications.
- Pires, Acrisio. 2007. The derivation of clausal gerunds. *Syntax* 10. 165–203. DOI: <https://doi.org/10.1111/j.1467-9612.2007.00100.x>
- Pitteroff, Marcel & Alexiadou, Artemis & Darby, Jeannique & Fischer, Silke. 2017. On partial control in German. *Journal of Comparative Germanic Linguistics* 20. 139–185. DOI: <https://doi.org/10.1007/s10828-017-9088-y>
- Pitteroff, Marcel & Schäfer, Florian. 2019. Implicit control cross-linguistically. *Language* 95. 136–184. DOI: <https://doi.org/10.1353/lan.2019.0016>
- Polinsky, Maria & Potsdam, Eric. 2002. Backward control. *Linguistic Inquiry* 33. 245–282. DOI: <https://doi.org/10.1162/002438902317406713>
- Postal, Paul. 1970. On coreferential complement subject deletion. *Linguistic Inquiry* 1. 439–500.
- Postal, Paul M. 1974. *On Raising*. Cambridge, MA: MIT Press.
- Postal, Paul M. 1993. Some defective paradigms. *Linguistic Inquiry* 24. 357–364.
- Potsdam, Eric. 2009. Malagasy backward object control. *Language* 85. 754–784. DOI: <https://doi.org/10.1353/lan.0.0160>
- Quicoli, Antonio C. 1982. *The Structure of Complementation*. Ghent-Antwerp-Brussels: E. Story-Scientia Gent. DOI: <https://doi.org/10.1075/sigla.3>
- Reed, Lisa A. 2023. Simplifying the theoretical treatment of *wager* verbs. *The Linguistic Review* 40. 461–497. DOI: <https://doi.org/10.1515/tlr-2023-2007>
- Rezac, Milan. 2013. Case and licensing: evidence from ECM + DOC. *Linguistic Inquiry* 44. 299–319. DOI: https://doi.org/10.1162/LING_a_00129
- Rooryck, Johan. 1992. On the distinction between raising and control. In Hirschbühler, Paul & Koerner, Konrad (eds.), *Romance languages and modern linguistic theory*, 225–250. Amsterdam: John Benjamins. DOI: <https://doi.org/10.1075/cilt.91.16roo>
- Rosenbaum, Peter. 1967. *The Grammar of English Predicate Complement Constructions*. Cambridge, MA: MIT Press.
- Ruwet, Nicolas. 1972. *Théorie Syntaxique et Syntaxe du Français*. Paris: Editions du Seuil.
- Safir, Ken. 2004. Person, context and perspective. *Rivista di Linguistica* 16. 107–153. DOI: <https://doi.org/10.1177/1971400903016SP131>

- San Martin, Itziar. 2007. The complementary distribution between PRO and lexical subjects. *Anuario Del Seminario De Filología Vasca "Julio De Urquijo"* 41. 139–174.
- Schlenker, Philippe. 2003. A Plea for monsters. *Linguistics and Philosophy* 26. 29–120. DOI: <https://doi.org/10.1023/A:1022225203544>
- Sevdali, Christina & Sheehan, Michelle. 2021. Rethinking partial control: new evidence from finite control clauses. In Bárány, András & Biberauer, Theresa & Douglas, Jamie & Vikner, Sten (eds.), *Syntactic architecture and its consequences III: inside syntax*, 323–340. Berlin Language Science Press.
- Sheehan, Michelle. 2018. On the difference between exhaustive and partial control. In Cognola, Federica & Casalicchio, Jan (eds.), *Null subjects in generative grammar: a synchronic and diachronic perspective*, 141–170. Oxford: Oxford University Press.
- Sichel, Ivy. 2014. Resumptive pronouns and competition. *Linguistic Inquiry* 45. 655–693. DOI: https://doi.org/10.1162/LING_a_00169
- Sigurðsson, Halldór A. 1991. Icelandic Case-Marked PRO and the Licensing of Lexical Arguments. *Natural Language and Linguistic Theory* 9. 327–363. DOI: <https://doi.org/10.1007/BF00134679>
- Sigurðsson, Halldór A. 2008. The Case of PRO. *Natural Language and Linguistic Theory* 26. 403–450. DOI: <https://doi.org/10.1007/s11049-008-9040-6>
- Sigurðsson, Halldór A. 2011. Conditions on argument drop. *Linguistic Inquiry* 42. 267–304. DOI: https://doi.org/10.1162/LING_a_00042
- Speas, Margaret. 2004. Evidentiality, logophoricity and syntactic representation of pragmatic features. *Lingua* 114. 255–276. DOI: [https://doi.org/10.1016/S0024-3841\(03\)00030-5](https://doi.org/10.1016/S0024-3841(03)00030-5)
- Stegovec, Adrian. 2019. Perspectival control and obviation in directive clauses. *Natural Language Semantics* 27. 47–94. DOI: <https://doi.org/10.1007/s11050-019-09150-x>
- Sulemena, Abdul-Razak. 2021. *Non-Finite Complementation: A Case Study of Bùlì*. PhD dissertation, MIT.
- Sulemena, Abdul-Razak. 2022. Obligatory controlled subjects in Bùlì. In Sibanda, Galen & Ngonyani, Deo & Choti, Jonathan & Biersteker, Ann (eds.), *Descriptive and theoretical approaches to African linguistics: selected papers from the 49th annual conference on African linguistics*, 211–225. Berlin Language Science Press.
- Sundaresan, Sandhya. 2018. Perspective is syntactic: evidence from anaphora. *Glossa* 3(1): 128. 1–40w. DOI: <https://doi.org/10.5334/gjgl.81>
- Sundaresan, Sandhya. 2021. Shifty attitudes: indexical shift versus perspectival anaphora. *Annual Review of Linguistics* 7. 235–259. DOI: <https://doi.org/10.1146/annurev-linguistics-051220-043921>
- Sundaresan, Sandhya & McFadden, Thomas. 2009. Subject distribution in Tamil and other languages: selection vs. case. *Journal of South Asian Linguistics* 2. 5–34.
- Thráinsson, Höskuldur. 1979. *On Complementation in Icelandic*. New York: Garland Press.
- Thráinsson, Höskuldur. 1993. On the structure of infinitival complements. In Thráinsson, Höskuldur & Epstein, Samuel D. & Kuno, Susumu (eds.), *Harvard working papers in linguistics vol. 3*, 181–213. Cambridge, MA: Harvard University.

- van Urk, Coppe. 2013. Visser's generalization: the syntax of control and the passive. *Linguistic Inquiry* 44. 168–178. DOI: https://doi.org/10.1162/LING_a_00124
- Varlokosta, Spyridoula. 1993. Control in modern Greek. In Mason, Carol A. & Powers, Susan M. & Schmitt, Cristina (eds.), *University of Maryland working papers in linguistics 1*, 144–163.
- White, Aaron S. & Grano, Thomas A. 2014. An experimental investigation of partial control. In Etxeberria, Urtzi & Fălăuş, Anamaria & Irurtzun, Aritz & Leferman, Bryan (eds.), *Proceedings of Sinn und Bedeutung 18*, 469–486. Konstanz: Universität Konstanz.
- Wilkinson, Robert. 1971. Complement subject deletion and subset relations. *Linguistic Inquiry* 2. 575–584. DOI: <https://doi.org/10.1016/B978-0-08-092531-8.50018-X>
- Williams, Edwin. 1980. Predication. *Linguistic Inquiry* 11. 203–238.
- Williams, Edwin. 1992. Adjunct control. In Larson, Richard & Iatridou, Sabine & Lahiri, Utpal & Higginbotham, James (eds.), *Control and grammar*, 297–322. Dordrecht: Kluwer Academic Publishers.
- Wiltschko, Martina & Heim, Johannes. 2016. The Syntax of confirmationals: A neo-performative analysis. In Kaltenböck, Gunther & Keizer, Evelien & Lohmann, Arne (eds.), *Outside the clause: form and function of extra-clausal constituents*, 305–340. Amsterdam: John Benjamins. DOI: <https://doi.org/10.1075/slcs.178.11wil>
- Woods, Rebecca. 2021. Towards a model of the syntax-discourse interface: a syntactic analysis of *please*. *English Language & Linguistics* 25. 121–153. DOI: <https://doi.org/10.1017/S1360674319000510>
- Wurmbrand, Susi. 2002. Semantic vs. syntactic control. In Zwart, Jan-Wouter & Abraham, Werner (eds.), *Proceedings of the 15th workshop on comparative Germanic syntax*, 93–127. Amsterdam: John Benjamins. DOI: <https://doi.org/10.1075/la.53.07wur>
- Wurmbrand, Susi. 2003. *Infinitives: Restructuring and Clause Structure*. Berlin: Mouton de Gruyter. DOI: <https://doi.org/10.1515/9783110908329>
- Wurmbrand, Susi. 2014. Restructuring across the world. In Veselovská, Ludmila & Janebová, Markéta (eds.), *Complex visibles out there: proceedings of the Olomouc linguistics colloquium 2014: language use and linguistic structure*, 275–294. Olomouc: Palacký University.
- Wurmbrand, Susi. 2019. Cross-clausal A-dependencies. In Ronai, Eszter & Stigliano, Laura & Sun, Yen-an (eds.), *Proceedings of CLS 54*, 585–604. Chicago, IL: Chicago Linguistic Society.
- Wurmbrand, Susi & Lohninger, Magdalena. 2023. An implicational universal in complementation – theoretical insights and empirical progress. In Hartmann, Jutta & Wölkstein, Angelika (eds.), *Propositional arguments in crosslinguistic research: theoretical and empirical issues*, 183–229. Berlin: Mouton de Gruyter.
- Wurmbrand, Susi & Shimamura, Koji. 2017. The Features of the voice domain actives, passives, and restructuring. In d'Alessandro, Roberta & Franco, Irene & Gallego, Ángel (eds.), *The verbal domain*, 179–204. Oxford: Oxford University Press. DOI: <https://doi.org/10.1093/oso/9780198767886.003.0008>
- Yoshimoto, Keisuke. 2013. The syntax of Japanese *tokoro*-clauses: against control analyses. *Lingua* 127. 39–71. DOI: <https://doi.org/10.1016/j.lingua.2013.01.007>

