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Two Routes of Control: Evidence from Case Transmission in Russian

Abstract

The unpronounced subject of infinitives, PRO, bears standard case, which is reflected on agreeing predicative elements in languages like Russian, Icelandic, Ancient Greek etc. This case can be independent from the case of the controller DP, or identical to it ('case transmission'). We report the findings of a novel study of case transmission in Russian, based on data collected from 30 speakers. The findings contradict some key generalizations that have gone unchallenged in the field for decades; specifically, case transmission is much more prevalent than previously assumed, often co-occurring with the option of independent case. The pattern of case transmission is determined by the interaction of a complex set of factors – the grammatical function of the controller, the shape of the complementizer, the type of control relation (exhaustive or partial), and more. The proposed analysis builds on "The Agreement Model of Obligatory Control (OC)" (Landau 2000, 2004, 2006) and strongly supports the claim that OC exploits two routes – either a direct Agree relation with PRO, or one mediated by the infinitival C. It is derivationally local and free of the "look-ahead" properties inherent to earlier accounts. Finally, we provide, for the first time, a description of the full range of crosslinguistic variation in this domain, and situate it within a tight typological model.

Keywords: Obligatory control, case transmission, Russian syntax, PRO, partial control

1 Introduction

From its inception (Rouveret and Vergnaud 1980, Chomsky 1980, 1981), the notion of abstract Case fulfilled two different functions in syntactic theorizing. The first one, which may be called *the NP-licensing function*, was embodied in the Case Filter; the requirement that every phonetic NP be assigned Case. For nearly 20 years, this has been viewed as the underlying rationale of Case theory in general: to explain the distributional restrictions on NPs. Thus, an elaborate web of assumptions – both lexical and syntactic – guaranteed that Case would be assigned by certain elements and not others and to certain positions and not others. To this day, few introductory courses in syntax miss the opportunity to solemnly declare that "noun phrases need case".

At the same time, syntactic practise has highlighted a second function of overtly marked Case, which might be called *the structure-detecting function*. While the NP-licensing function is ontological in nature (prescribing what sentences can or cannot exist), the structure-detecting function is methodological in nature (suggesting how Case can be used in syntactic research). Its primary beneficiary is the linguist, who is using Case to probe into particular syntactic configurations. During the GB period, the underlying structural concept was government, and the distribution of case-marked NPs was the main tool by which that concept was defined, refined or adjusted. In minimalism, long-distance case valuation came to the fore, which enabled a close scrutiny of the structural concepts of locality and intervention (as in the famous case study of raising across the experiencer of *seem*; see Park and Park 2004 for a recent review). Case gradually proved to be a crucial part of the syntactician's toolbox. Case reveals structure.

The two functions of Case – the ontological and the methodological – are in fact independent. Indeed, the NP-licensing function has been under constant attack throughout the last 15 years. By now, there is a rich, substantial literature that denies structural Case of any licensing function, and views it instead as a morphological marker, whose distribution is determined *by* syntax but does not determine anything *in* syntax.[1] I will adopt that conclusion in the present study. Among the many implications of the claim that Case has no licensing function in syntax, one is especially important in the present context: Lexical NPs and PRO do not contrast in Case. Since the distribution of both types of NPs is divorced from Case, there is no reason to assume, a priori, that PRO lacks

[1] See Comorovski 1985, Andrews 1990, Sigurðsson 1991, 2003, 2006, Franks 1998, Babby 1998, Babby and Franks 1998, Tallerman 1998, Marantz 2000, Harley 2000, Carnie and Harley 1997, Haeberli 2003, San-Martin 2004, McFadden 2004, Landau 2004, 2006.

case. Indeed, evidence for case-marked PRO has been around as early as Andrews 1971, 1976, and has accumulated ever since.[2]

The starting assumption of this study, then, is that PRO has case. That case is normally invisible (like other ϕ-features on PRO), but is revealed on agreeing predicative elements, in those languages that mark such elements for case. The well known examples are Ancient Greek, Icelandic and Russian. The Russian data are especially intriguing, and have raised much interest since the original study of Comrie 1974. Unfortunately, the existing data are unclear on crucial points, and many generalizations are clouded by conflicting judgments.

The empirical part of this paper resports an informant-study carried out with 30 Russian speakers, covering all syntactic contexts that are relevant to the phenomenon of case agreement in infinitives. The results of this study significantly alter the empirical generalizations that were taken as representative of Russian for over 30 years. In the theoretical part of the paper, I will use the facts of case agreement as a probe into the structure of Obligatory Control (OC) configurations. Thus, the theoretical part of this paper fall squarely within the tradition that capitalizes on the structure-detecting function of case.

In analysing the results of our study, I will be assuming "the agreement model of control" developed in Landau 2000, 2004, 2006, to appear. Originally, this model was constructed with an eye towards the complex interaction of finiteness and OC, as well as the distinction between partial and exhaustive control. The facts of case transmission, however, prove to be particularly amenable to treatment in terms of this model, supporting it from a new, independent angle. In essence – case being expressed in conjunction with other ϕ-features, it is hardly surprising that it will be transmitted and valued along with these features – precisely as the agreement model of OC envisions. The details of this idea are fleshed out in section 4. For now, I will simply lay out the basic assumptions of the model.[3]

In the agreement model of OC, control is implemented as an Agree relation between a matrix functional head and a ϕ-bearing element in the infinitive – either an Agr-bundle or PRO. The matrix functional head, functioning as the probe, is the same head that agrees with the controller DP – T for subject control, light v for object control. An Agr-bundle is accessible as a goal only on the C head of the infinitive, given that the

[2] See Landau 2006. Given that we discard the licensing function of Case, there is no more point in maintaining the Case-case distinction. Henceforth I shall only be using "case".
[3] The reader is referred to the cited works for a fuller exposition.

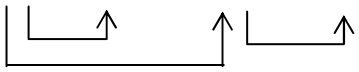
next lower Agr-bundle is on T, which is lower than PRO, a potential goal itself. Thus, we have two control routes: one is direct to PRO, the other one is mediated by C.

(1) *PRO-control*

... T/v ... DP ... [$_{CP}$ C [$_{TP}$ PRO$_{[\phi]}$ T]]

(2) *C-control*

...T/v .... DP ... [$_{CP}$ C$_{[\phi]}$ [$_{TP}$ PRO$_{[\phi]}$ T]]



A number of assumptions underlie this picture. First, C may be selected with or without an Agr-bundle (=[ϕ]). More precisely, as Landau argues, this choice is open only to "tensed" C, of the type that heads infinitives with their own (non-anaphoric) tense; untensed C lack Agr as well. If an Agr-bundle is selected, then the C-control route is taken, since C is closer to T/v than PRO. If C is Agr-less, PRO-control is the only option.

Second, the infinitival CP is not a strong phase in Chomsky's (2001) sense. It cannot be a phase since by definition, a phase is a syntactic substructure all of whose features are valued. Yet the ϕ-features of PRO are not valued until the requisite Agree relation is formed with a matrix element. The implication is that OC complements are either weak phases or not phases at all – a distinction of no significance in the present context.

Third, as Landau observes, in order to transmit the necessary ϕ-values, the matrix T/v must be first valued by the controller DP; thus, this head enters two Agree relations. The controller DP (in its base position) does not intervene with the second Agree relation precisely because it is the goal of the first Agree relation. This circumvention of the Minimal Link Condition is licensed by the Principle of Minimal Compliance, which applies in a wide range of cases in the same fashion (Richards 1998).

The distinction between PRO-control and C-control is relevant to the explanation of partial control; it also interacts with case transmission in Russian in an intriguing way. These matters will only be discussed in section 4. For now, we may abstract away from this distinction, and return to the traditional description of control as a relation between a matrix DP and PRO.

Using these traditional terms, consider the three logically possibile relations between the case of the controller and the case of PRO.[4]

(3) *Case independence*

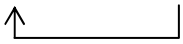
... $DP_{[\alpha Case]}$ ... $[PRO_{[\beta Case]}$ ...]

(4) *Case transmission*

... $DP_{[\alpha Case]}$ ... $[PRO_{[\alpha Case]}$ ...]

(5) *Case percolation*

... $DP_{[\alpha Case]}$ ... $[PRO_{[\alpha Case]}$ ...]



Case independence and case transmission are the prevalent patterns found in OC complements, while case percolation is characteristic of raising complements (Andrews 1976, 1982, 1990). Indeed, this fundamental asymmetry is a strong argument against collapsing the two grammatical constructions (Landau 2003).[5] The bulk of this paper is

[4] Case percolation is sometimes called "case preservation". I use the former term since it implies more clearly that it is the *lower* case that is preserved, by percolating upwards. See Landau, to appear, for the embryonic stages of this typology.

[5] There are extremely rare and isolated instances of case-percolation in what appears to be OC constructions. Gonzalez (1990) reports one such case from Chilean Spanish.

i. A Juan le quiere gustar Marta.
to Juan cl.DAT wants to-please Marta
'Juan wants to like Marta'

The controller *a Juan* appears in the dative case, which is assigned by the embedded verb *gustar* 'like' (*querer* 'want' does not assign DAT). Bošković (1994) and Hornstein (2003) cite this example as evidence for movement into a θ-position. However, Landau, to appear, points out that by Gonzales' own account, case percolation of this sort is anything but productive. It only occurs with *querer* for some speakers (and *tratar* 'try' for fewer) and it does not iterate beyond a single level of embedding. Quite possibly, (i) involves raising in a restructuring construction, with *querer* being analyzed as a modal of sorts (Wurmbrand 2003).

A second instance of case percolation in OC is reported in Icelandic, where a quirky DAT assigned by the embedded verb shows up on the controller (Andrews 1990:205).

ii. Drengnum vonast til að ganga vel við vinnuna.
the-boy.DAT hopes to go well at work
'The boy hopes to do well at work'

Andrews notes that out of 17 informants, 10 rejected (ii) completely, 4 found it marginal, and 3 found it perfect. The rarity of these examples, as well as their unclear status, suggest that case percolation in OC

concerned with the precise division of labor between case independence and case transmission. Specifically, we will investigate how the fine mechanics of the mediating elements in (1)-(2) determines whether the case on PRO is independent or transmitted from the controller.

The alternation between case transmission and independence raises the thorny issue of global, or "look-ahead" derivations. Consider the following examples from Ancient Greek (Quicoli 1982:107,114,124; the PRO-notation is mine).

(6) a. Dareios bouletai PRO polemikos/*polemikon einai.
Darius.**NOM** want.3sg PRO.**NOM/*ACC** war-like.**NOM/*ACC** to-be
'Darius wants to be war-like'

b. sumbouleuō soi PRO prothumōi/prothumon einai.
advise.1sg you.**DAT** PRO.**DAT/ACC** zealous.**DAT/ACC** to-be
'I advise you to be zealous'

The independent case of subjects of infinitives in Ancient Greek is ACC. While this case may be assigned to object-controlled PRO, it is not available in subject control. In other words, case transmission is obligatory in subject control and optional in object control (below we will see that Russian displays the same asymmetry).

The problem raised by these facts is twofold. First, how can the local, independent case of PRO be "suspended" in favor of the non-local, transmitted case? Second, how can the decision whether to assign the local case in the complement clause be informed by the structure of the matrix clause (subject or object control)?

In fact, the problem was recognized already by Lakoff (1970) and Andrews (1971). Both authors concluded that the rule of case agreement in Ancient Greek must be a *global* rule, referring to discontinuous derivational stages. Quicoli (1982), challenging this conclusion, proposed a cyclic version of the rule; that version, however, assumed an exceptional overwriting mechanism, such that the embedded predicate is first assigned ACC by agreement with the embedded subject; that subject is then "deleted" (by Equi-NP Deletion), and then agreement with (or "attraction to") the matrix controller overwrites NOM or DAT on ACC.

The problem is real, but the question remains whether its solution lies beyond the expressive power of ordinary, monotonous (i.e., no overwriting) bottom-up derivations. One of the main goals of this paper is to demonstrate that a solution within these well-

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contexts is not produced by regular grammatical mechanisms. I will have nothing more to say about it for rest of this paper.

motivated boundaries is feasible and defensible. That current syntactic theory, unlike its earlier incarnations, naturally affords such a solution, is, I believe, a sign of progress.

2 Case transmission in Russian: Background

2.1 Predicate case in Russian

Secondary predicates (SPs) in Russian can be predicated of subjects and direct objects only, as in many other languages. These SPs either bear agreeing or non-agreeing (default) case. Agreeing case is restricted to structural case; in finite clauses, nominative, accusative, or the genitive-of-negation. Non-agreeing case, which is the instrumental case, is always available, and in fact preferred.

(7) a. Taras prišël p'janym / ?p'janyj.
Taras.**NOM** came drunk.**INST**/?**NOM**
'Taras came drunk'

b. Ja našel ego p'janym / ?p'janogo
I.**NOM** found him.**ACC** drunk.**INST**/?**ACC**
'I found him drunk'

c. Boris$_1$ posmotrel na Sašu$_2$ golym$_{1/*2}$.
Boris.**NOM**$_1$ looked at Sasha.**ACC**$_2$ nude.**INST**$_{1/*2}$
'Boris looked at Sasha nude' (Boris is nude)

Two special items – *odin* 'alone' and *sam* 'oneself' (emphatic) – have drawn much attention in the literature. These so-called Semi-Predicatives (SemPs) only show up in the agreeing form.

(8) a. Taras prišël odin / *odnim.
Taras.**NOM** came alone.**NOM**/***INST**
'Taras came alone'

b. Ja našel ego odnogo / *odnim.
I.NOM found him.**ACC** alone.**ACC**/***INST**
'I found him alone' (He was alone)

SPs and SemPs display different morphological declensions. Recently, it has been argued that their different agreement patterns – in particular, the lack of a default instrumental case for SemPs – follows from a categorial distinction: SPs are either APs or NPs, while SemPs are QPs (Madariaga 2005). These differences aside, what is important for our purposes is the following generalization.

(9) *Secondary Predicate Agreement*
An agreeing secondary predicate bears the case of the clausemate DP it is predicated of.

Thus, for example, a subject-oriented SP or SemP bears the case of the subject. This fact comes handy when the subject itself is null (e.g., PRO), hence its case can only be detected indirectly. Furthermore, since the agreeing form is obligatory with SemPs and dispreferred with SPs, the former furnish a better tool to investigate the case properties of PRO. Indeed, already Comrie 1974), the first generative study of the second dative in Russian, reasoned that the systematic occurrence of dative SemP inside infinitives demonstrates that the null subject of the infinitive bears dative case.[6]

(10) a. Ona proposila ego [PRO ne ezdit tuda odnomu].
she.NOM asked him.ACC PRO not to-go there alone.**DAT**
'She asked him not to go there alone'

b. Ivan dumaet čto [PRO pojti domoj odnomu] važno.
Ivan.NOM thinks that PRO to-go home alone.**DAT** important
'Ivan thinks that it is important to go home alone'

[6] Comrie (and most of the scholars following him) took sentences like (i) as further evidence for the existence in Russian of a rule marking the subject of infinitives with dative case.

i. Mne ne sdat' èkzamen.
me.DAT NEG to-pass exam
'It is not (in the cards) for me to pass the exam'

However, Schein 1982, Sigurðsson 2002 and especially Fleisher 2006 provide compelling arguments that constructions like (i) are biclausal (the present tense copula being null in Russian) and that the dative NP is a matrix argument of a null modal predicate, rather than an embedded subject. Nevertheless, this argument does control a dative-marked PRO in the infinitive. If Russian fails to manifest overt dative subjects, however, then the alleged typological link between overt and null (PRO) dative subjects breaks down (see Greenberg 1989, Franks 1990, 1995, Greenberg & Franks 1991 for this typological claim).

The simplest account of (10), no doubt, would invoke generalization (9): SemP in (10) agrees with PRO, which must therefore be marked with dative case. The default form of Russian predicates is the instrumental case, not the dative; furthermore, SemP *always* agree with lexical antecedents. Hence, there is little reason to believe that the dative case on SemP in (10) is a default, non-agreeing case.

Appealing as this account may be (see Comrie 1974, Neidle 1988, Babby 1998, Franks 1998, Babby & Franks 1998), it has been rejected in a number of studies (Schein 1982, Franks 1990, Greenberg and Franks 1991, Franks and Hornstein 1992). The reason is stated clearly by Franks & Hornstein (1992:24): "The main problem with this kind of theory [=case-agreement with PRO, *IL*] is that if dative case were actually assigned to the subject position whenever the second dative is possible, then one would expect PRO to alternate with a lexical DP. Patently, this is not correct".

The "argument from distribution", of course, presupposes that Case is the crucial licensor of lexical DPs; it also assumes that PRO is necessarily caseless. These assumptions were ingrained in the GB framework, and were carried over to some research strands in minimalism. However, as discussed in section 1, they are no longer tenable. An overwhelming body of crosslinguistic data suggests that PRO – whether in OC or NOC – bears case just like lexical DPs. We can therefore safely assume that a dative SemP agrees with a dative PRO in Russain, and proceed to the interesting question: when and under what conditions may PRO be assigned dative case? We turn now to the traditional answers to these questions.

2.2 Lacunas in the traditional generalizations

Much of the discussion of the second dative in Russian has been conducted under the shadow of Comrie's (1974) seminal study. Both the empirical generalizations and the framing of the theoretical issues in all subsequent studies rarely departed from this original work. The result has been that in the course of 30 years or so a number of generalizations have been solidified merely by being cited repeatedly, rather than put to newly designed tests. In this section I present these generalizations as first stated by Comrie and slightly adjusted in subsequent studies. We will see that quite a few empirical issues are left undecided by the existing data. With these lacunas in mind we will turn in section 3 to the novel data collected for the present study.

Case transmission in Russian has been argued to be governed by three factors: Whether or not the control relation is obligatory, whether or not the controller is a subject, and whether or not the infinitival complementizer is null.

(11) *Case transmission in Russian* (pace Comrie 1974)

a. In OC constructions, whenever the immediate controller of PRO is a subject, and the CP layer is null – PRO inherits the case of its controller.

b. Elsewhere, PRO is dative.

Transmission (of nominative case) is found in two types of cases: Simple subject control predicates, that is, predicates that take no object besides the infinitive; and subject controlled rationale clauses without an overt complementizer.

(12) a. Kostja obeščal [PRO prijti odin].
Kostja.**NOM** promised PRO.**NOM** to-come alone.**NOM**
'Kostja promised to come alone'

b. Ljuda priexala [PRO pokupat maslo sama]
Ljuda.**NOM** came PRO.**NOM** to-buy butter herself.**NOM**
'Ljuda came to buy the butter herself'

The elsewhere case, where PRO is locally assigned a dative case, breaks into five subtypes. First, subject control across a matrix object; second, any kind of object control; third, subject controlled rationale clauses introduced by the overt complementizer *čtoby*; fourth, subject control into *wh*-infinitives; fifth, non-obligatory control.

(13) a. Volodja obeščal materi [PRO vernut'sja odnomu].
Kostja.NOM promised mother.DAT PRO.**DAT** to-come alone.**DAT**
'Kostja promised his mother to return alone'

b. Ona proposila ego [PRO ne ezdit' tuda odnomu].
she.NOM asked him.ACC PRO.**DAT** not to-go there alone.**DAT**
'She asked him not to go there alone'

c. Ljuda priexala [čtoby PRO pokupat maslo samoj]
Ljuda.NOM came in-order PRO**.DAT** to-buy butter herself**.DAT**
'Ljuda came to buy the butter herself'

d. Ivan ne znaet [kak tuda PRO dobrat'saj odnomu].
Ivan.NOM not know how there PRO.**DAT** to-reach alone.**DAT**
'Ivan doesn't know how to get there by himself'

e. Ivan dumaet čto [PRO pojti domoj odnomu] važno.
Ivan.NOM thinks that PRO.**DAT** to-go home alone.**DAT** important
'Ivan thinks that it is important to go home alone'

This basic picture naturally raises the following questions: (i) Why is case transmitted only from subject controllers but not from object controllers?[7] (ii) Why do matrix objects and overt CP material block case transmission? (iii) Why isn't case transmitted in NOC? In section 3.6 we will briefly consider some of the answers provided to these questions in the literature.

At this point it is important to note that the status of some examples, crucially relevant for the evaluation of particular analyses, has been unclear from the outset. In general, the choice of case for SemP was said to be unique in all cases, yet Comrie noted a few exceptions. Subsequent research aggrevated the empirical confusion.

First, Comrie observed that case transmission across an object is not entirely impossible; a nominative *odin* in (13a) received a "??" mark. Greenberg (1983) in fact reports that all of his informants require the nominative SemP and reject the dative. Franks & Hornstein (1992) confirm that most of their informants also prefer the nominative. Clearly, this state of affairs calls for deeper empirical investigation. In section 3.3 I report the results of the present study with respect to these cases.

[7] With the exception of Greenberg (1983), all scholars agree that the relevant feature for licensing case transmission is syntactic, not morphological; namely, a controller may transmit its case in virtue of being a subject, not in virtue of being nominative. This is supported by evidence for ACC/DAT transmission in Icelandic (see section 5.1), as well as GEN transmission from quantified subjects in Polish, as in (i) (Franks 1995, p. 279). In the next section we will see that even in Russian case transmission is not restricted to NOM.

i. Wielu studentów chce [PRO iść samych/*samym].
many students.**GEN** want PRO.**GEN** to-go alone.**GEN**/*DAT
'Many students want to go alone'

Second, Comrie noted in passing that Russian speakers occasionally use an *accusative* SemP in object control examples like (13b). “On reflection, however, they either reject them as ill-formed or at least say that they mean something different” (p. 142). He leaves it an open question whether these “second accusatives” reveal dialectal differentiation or simply slips of tongue. However, Babby (1998) reported that in colloquial Russian, accusative does replace dative on SemP in object control infinitives. On the other hand, Franks (1998, fn. 11) suggested that this is an illusion arising from SemP being attached to the matrix clause and directly modifying the accusative controller.

Can these contradictory descriptions be teased apart? If SemP is embedded and agrees with PRO, then it indicates that ACC can be transmitted to PRO; if SemP is unembedded and agrees with the controller, PRO may well bear the "elsewhere" DAT case.

(14) a. [Sub.NOM ... V ... Obj.ACC [PRO.ACC ... SemP.ACC]]
b. [Sub.NOM ... V ... Obj.ACC [PRO.DAT ...] SemP.ACC]

There is an easy way to rule out (14b): insert an embedded constituent after SemP. Thus, sentences like (15) could unambiguously decide whether ACC-transmission is a real option in Russian (notice that *zavtra* 'tomorrow' cannot modify the matrix past tense).

(15) Ona proposila ego ne ezdit’ tuda odnogo / odnomu zavtra.
she.NOM asked him.**ACC** not to-go there alone.**ACC / DAT** tomorrow
'She asked him not to go there alone tomorrow'

Strikingly, sentences like (15) were never tested on a large scale. They form another part of the data set probed in the present study.

A third locus of obscurity is the situation in object control constructions where the controller has been passivized.

(16) On byl ugovoren prijti odin / odnomu.
he.NOM was persuaded to-come alone.NOM/DAT
‘He was persuaded to come alone’

Comrie’s informants rejected the nominative and marginally accepted the dative. Greenberg (1983), though, reports the opposite – only the nominative is acceptable. Various authors have noted the difficulty in obtaining reliable data given the

unnaturalness of passive in Russian and furthermore the ambiguity between verbal and adjectival passives. The latter point has obvious analytical implications, since the presence or absence of a trace of the passivized controller may decide whether these examples should fall together with active object control or not.

A final point of unclarity concerns the possibility of case transmission into infinitival complements of nouns (N-complements).

(17) a. Ivan dal obeščanie [PRO prijti na večarinku odin].
Ivan.**NOM** gave promise PRO.**NOM** to-come to party alone.**NOM**
'Ivan made a promise to come to the party alone'

b. Ivan poprosil razrešenija [PRO prijti na večarinku odnomu].
Ivan.NOM asked permission PRO.**DAT** to-come to party alone.**DAT**
'Ivan asked permission to come to the party alone'

Franks & Hornstein (1992), from which these examples are taken, argue that certain V-N sequences are reanalyzed as complex verbs while others are not. When reanlysis applies, the infinitive becomes a complement of a subject control predicate and exhibits case transmission, in accordance with (11a). Why *give a promise* is, while *ask permission* is not, subject to reanalysis is a question Franks & Hornstein do not address. They do, however, point out a prediction – infinitival clauses embedded inside PPs will not display case transmission because reanlysis only applies to V-N sequences, not V-P-N sequences. To throw more light on these issues, we included such examples in our data set.

To summarize this section, it is clearly the case that simple subject control in Russian exhibits case transmission. It is far less obvious, however, whether this option is excluded in other configurations. Comrie's initial study did establish this asymmetry, but it already contained seeds of doubt that were further expanded on by subsequent authors. Given that so many important parts of the empirical picture are unclear or contested, it would seem pointless to judge the existing theoretical accounts against the currently available data. What we first need is a richer data base, that covers all the open issues, and controls for the potential ambiguities in Comrie's original data. Only then would it make sense to consider the theoretical options.

3 The Russian data revisited

3.1 Methodology

We elicited judgments from a group of 30 informants, ranging from 17 to 54 in age (most were in their twenties). All informants were monolingual native speakers of Russian, who had immigrated to Israel after age 15. All used Russian as the main language of communication with their close friends and family.

A training session preceded the target session, in order to familiarize the informants with the SemP items *odin* and *sam*, their various declensions, and the fact that the particular shape each item takes depends on the context in which it appears. The training session consisted of 6 example sentences, all simple clauses without infinitives, in which there was a unique correct form of SemP. No informant showed any problems during the training session.

The sentences were presented in cyrillic alphabet. Each sentence contained two alternative forms of a SemP; one was the agreeing form, the other was dative. The two items were placed below and above the sentence line, to neutralize any effect of word order. In the target session, each sentence featured a SemP inside an infinitive, followed by some embedded material, to guarantee a downstairs attachment of the SemP.

The informant had to read the sentence to him/herself, and judge the acceptability of each form of the SemP according to three levels: Fine, impossible or strange/unclear (these were coded as grammatical, ungrammatical and marginal, i.e. "??"). Overall, there were 46 sentences in the target session. Since we were mainly interested in the categorial shape of the data, rather than fine-grained tendencies and inter-speaker variability, no statistical analysis was applied beyond the simple calculation of proportions. In particular, the results were assembled under three rubrics: Obligatory case transmission, optional case transmission and obligatory case independence.

3.2 Obligatory case transmission

In agreement with Comrie's results, only two grammatical contexts systematically produced obligatory case transmission: Subject control into a complement that is not sperated from the controller by an object, and subject control into a rationale clause headed by a null C.

(18) a. On želaet ženit'sja na nej sam/*samomu v cerkvi.
he.**NOM** wants to-marry her himself.**NOM/*DAT** in church
'He wants to marry her himself in a church'

b. Ona sobiralas' putešestvovat' odna/*odnoj v Japonii.
she.**NOM** planned to-travel alone.**NOM/*DAT** in Japan
'She planned to travel alone in Japan'

c. Ivan vstal pogovorit' sam/*samomu s tolpoj.
Ivan.**NOM** stood-up to-speak himself.**NOM/*DAT** to crowd
'Ivan stood up to speak himself to the crowd'

NOM-transmission was judged grammatical by all speakers, whereas independent DAT was judged ungrammatical.[8]

3.3 Optional case transmission

This was by far the most common pattern: Case is either transmitted from the controller (NOM, ACC) or assigned locally (DAT). For all constructions in this group, speakers were found that accepted both options, even though most speakers preferred one option over the other. I take this state of affairs to represent true optionality at the level of formal grammar. What this means, in effect, is that no attempt will be made to construct idiolect-specific grammars. As will be seen shortly, below a certain level of description, cross-speaker variation becomes too random. Thus, our purpose is to delineate the borders of the empirical space afforded by the grammar; particular choices made within this space may well be guided by extra-grammatical factors.

The first instance of this pattern is object control, where an ACC/DAT alternation was observed. Our results thus contradict the mainstream concensus (largely due to Comrie) and confirm Babby's (1998) observations (rates of acceptance are indicated below each example).

[8] In fact, four speakers (out of 30) found DAT marginal in (18b). Three found it marginal in (18c) and one found it grammatical. In section 4.4 I speculate on the source of these aberrations.

(19) a. Ona poprosila ego ne ezdit' tuda odnogo/odnomu zavtra.
she.NOM asked him.**ACC** not to-go there alone.**ACC/DAT** tomorrow
'She asked him not to go there alone tomorrow'
ACC OK – 60%; DAT OK – 90%

b. Ona ugovorila ego pogovorit' samogo/samomu s ejo roditeljami.
she.NOM convinced him.**ACC** to-talk himself.**ACC/DAT** with her parents
'She convinced him to talk himself to her parents'
ACC OK – 60%; DAT OK – 83%

As can be seen, around half the speakers accepted both options.

The internal profile of the data is rather random. Some speakers accept only ACC for both *ask* and *convince*, others accept only DAT; some accept only ACC for one verb and only DAT for the other; some accept both ACC and DAT for one verb, but only one of them for the other. And as mentioned above, some are entirely liberal and accept both options for both verbs.

Surprisingly, the latter subgroup could not detect any difference between the two variants – either in meaning, connotation or register. Hence, there is no support for Babby's claim that the ACC variant is more colloquial. Our youngest informant (age 17) was one of the speakers who only accepted DAT, while our oldest informant (age 54) accepted ACC in both (19a,b), and found DAT acceptable in (19a) but marginal in (19b). Thus there is also no evidence for an alleged "generational shift" from case independence to case transmission in Russian object control.

Case transmission was also possible, and optional, from an object turned genitive under negation. Such examples are not easy to construct given the frequent syncretism between the genitive and the accusative forms. Yet the following example is pertinent.

(20) On ne naučil ni odnogo ditja est' samogo/samo/samomu iz tarelki.
he.**NOM** not taught not-one.**GEN** baby.**GEN** to-eat itself.**GEN/ACC/DAT** from plate
'He didn't teach any baby to eat by itself from the plate'
GEN OK – 62%; DAT OK – 58%

Unexpectedly, 6 speakers (20%) accepted an accusative SemP even though the controller is genitive. These speakers presumably apply the genitive of negation rule only after the basic ACC is transmitted.

To sum up, the generalization is clear: Case transmission from objects in Russian is optional.

The optionality persists when object control structures are passivized. Our data reveal that agreement could not be reached in the past regarding the facts for a good reason: the process is truly optional. The examples we tested include *by*-phrases and punctual time adverbials, to facilitate the verbal passive and suppress the adjectival variant.

(21) a. On byl zastavlen imi prijti sam/samomu na večerinku.
he.**NOM** was forced by-them to-come himself.**NOM**/**DAT** to party
'He was forced by them to come himself to the party'

b. On byl srazu ubeždën imi pojti sam/samomu tuda.
he.**NOM** was immediately convinced by-them to-go himself.**NOM**/**DAT** there
'He was immediately convinced by them to go there himself'

c. On byl poprošen imi sdelat' eto odin/odnomu bystro.
he.**NOM** was requested by-them to-do it alone.**NOM**/**DAT** quickly
'He was requested by them to do it alone quickly'

Mean rates: NOM OK – 63%; DAT OK – 64%

As in active object control, speakers were not necessarily consistent across the three verbs (some accepted ACC with one verb, DAT with another, and both with a third). Nor were there systematic correlations observed with choices made for the active variants. For example, some speakers who only accepted ACC transmission in the active *convince* rejected NOM-transmission in the passive, while others who rejected ACC transmission in the active forced NOM-transmission in the passive. This state of affirs confirms that the optionality of case transmission is part of individual idiolects, and not a mean statistical effect.

We now turn to subject control across an object. Recall that previous studies were in disagreement on the status of examples like (13a). One reason was the occasional reports by speakers that they prefer to use a subjunctive complement and not an infinitive in such contexts. This preference sometimes showed up in our sessions as well, and we had to urge speakers to focus on constructions which were unnatural to a few of them. Nevertheless, the overall pattern of judgments was clearly asymmetric. Without an

(indirect) object, subject control forces NOM-transmission. With an object, DAT becomes a second option.

(22) a. Ivan pokljalsja sdelat' eto sam/*samomu zavtra.
Ivan.**NOM** vowed to-do it himself.**NOM**/***DAT** tomorrow
'Ivan vowed to do it himself tomorrow'

b. Ivan prigrozil potratit' den'gi sam/*samomu na sledujuščij god.
Ivan.**NOM** threatened to-spend money himself.**NOM**/***DAT** on next year
'Ivan threatened to spend the money himself next year'

Mean rates: NOM OK – 97%; DAT OK – 8% (marginally)

When a goal argument was added to the matrix verb, both options were attested.

(23) a. Ivan pokljalsja druzjam sdelat' eto sam/samomu zavtra.
Ivan.**NOM** vowed friends to-do it himself.**NOM**/**DAT** tomorrow
'Ivan vowed to his friends to do it alone tomorrow'

b. Ivan prigrozil Tanje potratit' den'gi sam/samomu na sledujuščij god.
Ivan.**NOM** threatened Tanya to-spend money himself.**NOM**/**DAT** on next year
'Ivan threatened Tanya that he would spend the money himself next year'

Mean rates: NOM OK – 73%; DAT OK – 45%

Again, the choice of case in (23a) did not predict the choice of case in (23b). The only reliable generalization is that a matrix object may suspend case transmission in subject control, but it need not do so. In a sense, then, both Comrie and Greenberg were right, although both were wrong to think that the pattern they documented was unique.

A fourth context for optional case transmission is control across a lexical C. Comrie's data indicated that the presence of the complementizer *čtoby* in rationale clauses blocks case transmission, and this description went unchallenged to the present. Our data show quite clearly that case transmission is possible, though optional, across *čtoby*, a result with far-reaching theoretical implications.

(24) Ivan vstal čtoby pogovorit' sam/samomu s tolpoj.
Ivan.**NOM** stood-up in-order to-speak himself.**NOM**/**DAT** to crowd
'Ivan stood up in order to speak himself to the crowd'
NOM OK – 60%; DAT OK – 93%

In contrast with the *čtoby*-less variant (18c), a lexical C may, but need not, suspend case transmission.

The conclusion is corroborated by object controlled purpose clauses (OPC), which allow a lexical C in Russian (unlike the English construction, e.g., *John sent Mary (*in order) to introduce herself to the dean*). These constructions have so far not been tested for case transmission in Russian, to my knowledge.[9]

(25) a. Ivan poslal Mašu čtoby rabotat' samu/samoj v komnate.
Ivan.NOM sent Masha.**ACC** in-order to-work herself.**ACC**/**DAT** in room.
'Ivan sent Masha to work by herself in the room'

b. Ivan priglasil ix čtoby poguljat' odnix/odnim v ego vladenijax.
Ivan.NOM invited them.**ACC** in-order to-stroll alone.**ACC**/**DAT** in his estate
'Ivan invited them to stroll alone in his estate'

mean rates: ACC OK – 20%; DAT OK – 95%

Finally, we turn to subject control into N-complements. Franks & Hornstein (1992) already noted that N-complements are not all alike with respect to their transparency to case transmission. While they left the matter at the mercy of a lexically unpredictable reanalysis rule, our data reveal more structure. Except for one example (to be mentioned below), we have not found an N-complement configuration that systematically *requires* case transmission. The two types that were attested were optional case transmission and case independence. We present the former type now and return to the latter in the next section.

[9] ACC-transmission was also attested into OPCs headed by a null C; in fact, it was the preferred option (92%) compared to independent DAT (42%). Again, microvariation seems random. A speaker may disallow ACC-transmission into complements but allow it into OPC; a speaker may allow ACC-transmission in one OPC but not in another; and (in)consistency in complement control does not predict (in)consistency in OPC.

Optional case transmission was observed whenever the PRO subject of the N-complement was controlled by the matrix subject. Put differently, case may be transmitted to PRO from a matrix DP just in case that DP controls PRO.

(26) a. Ivan sdelal usilije porabotat' odin/odnomu nad temoj.
Ivan.**NOM** made effort to-work alone.**NOM**/**DAT** over topic
'Ivan made an effort to work alone on the topic'
NOM – 72% ; DAT – 45%

b. Ivan poprosil razrešenija prijti odin/odnomu na večerinku.
Ivan.**NOM** asked permission to-come alone.**NOM**/**DAT** to party
'Ivan asked permission to come alone to the party'
NOM – 37% ; DAT – 87%

c. Ivan polučil ukazanie prijti odin/odnomu na večerinku.
Ivan.**NOM** got instruction to-come alone.**NOM**/**DAT** to party
'Ivan got an instruction to come alone to the party'
NOM – 33% ; DAT – 90%

d. Ivan podčinilsja prikazu porabotat' odin/odnomu nad temoj.
Ivan.**NOM** obeyed order to-work alone.**NOM**/**DAT** over topic
'Ivan obeyed an order to work alone on the topic'
NOM – 23% ; DAT – 100%

This pervasive optionality contradicts the picture in Franks & Hornstein's study, where either NOM or DAT is allowed in the N-complement, but not both. In fact, the finding for *ask permission* in (26b), with more than a third of the speakers accepting NOM-transmission, directly contradicts Franks & Hornstein's report of (17b) above. On the other hand, our data do concur with (17a): The phrase *give a promise* imposes obligatory case transmission, even when the SemP is placed in a medial position.

(27) Ivan dal obeščanije prijti odin/*odnomu na večerinku.
Ivan.**NOM** gave promise to-come alone.**NOM**/***DAT** to party
'Ivan made a promise to come alone to the party'

Except for two apeakers who found DAT marginal, all speakers rejected it.

In the next section we return to N-complements that block case transmission. But already at this stage one can appreciate that reanalysis, if operative, has a secondary role at best. The main generalization is that subject control into N-complements licenses case transmission. The process is optional, except for the (so far) one phrase *give a promise*, which acts like a complex (subject control) verb in forcing case transmission.[10]

To further probe the putative role of reanalysis, we tested N-complements embedded in PPs. Recall that by assumption, [V+N] may be reanalyzed as V but [V+P+N] may not. Consequently, Franks & Hornstein predicted that case transmission into PPs would be blocked. In fact, we find the same pattern as in (26): subject control licenses optional case transmission. Note that *regret* and *talk* take PP complements in Russian.

(28) a. Ivan požalel o popytke vyjti odin/odnomu v more.
Ivan.**NOM** regretted on attempt to-go alone.**NOM**/**DAT** to sea
'Ivan regretted the attempt to go out alone to the sea'
NOM OK – 67% ; DAT OK – 67%

b. Ivan govoril o popytke vyjti odin/odnomu v more.
Ivan.**NOM** talked on attempt to-go alone.**NOM**/**DAT** to sea
'Ivan talked about the attempt to go out alone to the sea'
NOM OK – 47% ; DAT OK – 83%

Note that (28b) is potentially ambiguous between a reading where *Ivan* controls the subject of *to go* and an arbitrary reading. When the latter is isolated, case transmission is no longer possible (see (33) below).

3.4 Case independence

Of the five configurations traditionally assumed to block case transmission, listed in (13), three in fact allow it (object contol, and subject contol across an object or a lexical C). The remaining two configurations are control into *wh*-infinitives and NOC. The present study did not directly test NOC configurations, which are of course much more diverse than OC configurations. Our preliminary data indicated that the traditional generalization here is correct – only independent DAT is allowed. Moreover, since NOC is not mediated by any sentence-level grammatical mechanism (see Williams 1992, Kawasaki 1993,

[10] The "reanalysis" proposal is strengthened by our finding that *dal svojo obeščanie* 'gave his promise' does permit an independent DAT on PRO. As Franks and Hornstein observed, reanalysis is blocked by referential determiners. Note, though, that Franks & Hornstein reported that NOM-transmission was blocked in this context, whereas we found an alternation (NOM – 73%, DAT – 33%).

Lyngfelt 1999, Landau 2000, 2003), there is no plausible "vehicle" for case transmission anyway. Thus NOC is one unproblematic context for case independence.

Four other constructions displayed case independence in our study: *wh*-complements, non-accusative object control, non-subject control into N-complements, and partial control. The first three are discussed in this section, the latter is addressed in section 4.4.

Our data concur with the earlier reports that a *wh*-phrase in [Spec,CP] of the complement infinitive blocks case transmission to PRO.

(29) a. On zabyl pogovorit' sam/*samomu s načal'nikom.
he.**NOM** forgot to-talk himself.**NOM/*DAT** with boss
'He forgot to talk himself to the boss'

b. On zabyl kak govorit' samomu/*sam s načal'nikom.
he.**NOM** forgot how to-talk himself.**DAT/*NOM** with boss
'He forgot how to talk himself to the boss'

In this minimal pair, NOM was accepted by all speakers in (29a) and no speaker in (29b); DAT was accepted by no speaker in the former and all speakers in the latter.[11]

Consider next object control. Given that accusative controllers may transmit case to PRO, the question arises whether other objects may do so. Recall that under genitive of negation, GEN may be transmitted (see (20) and fn. 7). However, like NOM and ACC, GEN licensed under negation is a structural case, so its patterning with the former is to be expected. The interesting question is whether lexical (or inherent) case is also transmitted.

Object controllers inherently marked for case are either dative or genitive in Russian. Testing DAT-transmission is impossible – obviously, a transmitted DAT is indistinguishable from a locally assigned one. That leaves us with inherently marked genitive controllers.

The first example we tested comes from Greenberg (1983, ex. 17).

[11] These data were obtained from a group of 20 speakers; one speaker rejected both options in (29b), with a slight preference for NOM. In principle, one could also check whether *wh*-elements block ACC-transmission in object control. Recall, though, that DAT assignment was the dominant option in plain, non-*wh* object control (see section 3.3). It was therefore difficult to attribute the blocking of ACC-transmission solely to
the presence of an intervening *wh*-element in these cases.

(30) Dlja nas utomitel'no delat' èto samim/*samix.
for us.**GEN** tiresome to-do that ourselves.**DAT/*GEN**
'It is tiresome for us to do this ourselves'

All 30 speakers accepted DAT while only one accepted GEN here, and only marginally. The asymmetry was less robust in our second example.

(31) Ona potrebovala ot nego pojti samomu/??samogo v magazin.
she demanded from him.**GEN** to-walk himself.**DAT/??GEN** to store
'She demanded of him to walk to the store by himself'

28 speakers (93%) accepted DAT, and a puzzling minority of 6 speakers (20%) – of which two marked this option as "??" – accepted GEN. The small numbers make it hard to tell whether this should be interpreted as uniform case independence with some "interfering noise", or rather the dim shadow of a true alternation between independent DAT and GEN-transmission. Pending future research, I will assume the former and treat (30) and (31) as a natural class.

Non-subject control into N-complements

The subject of an N-complement may be controlled by the local subject or not. When it is, we have seen, NOM may be optionally transmitted. However, when the local nominative DP is not the controller, NOM-transmission is not observed. This suggests a tight connection between the mechanism of control and the mechanism of case transmission; in effect, the latter is parasitic on the former (see section 4 below).

In the three sentences below, DAT was uniformly accepted by all speakers. The rate of NOM acceptance was negligible – between zero and three speakers, of which two found it marginal.

(32) a. Ivan dal razrešenije prijti odnim/*odni na večerinku.
Ivan.**NOM** gave permission to-come alone.**DAT/*NOM** to party
'Ivan gave permission to come alone to the party'

b. Ivan dal ukazanie prijti odnim/*odni na večerinku.
Ivan.**NOM** gave instruction to-come alone.**DAT/*NOM** to party
Ivan gave an instruction to come alone to the party'

c. Komandir otdal prikaz atakovat' odnim/*odni lager' vraga.
Commander.**NOM** gave order to-attack alone.**DAT/*NOM** camp enemy
'The commander gave an order to attack the enemy's camp alone'

Notice that the sole difference between these examples and those in (26b-d) is the change of the main verb from *get* to *give*. While the former induces control by the subject, the latter induces control by the implicit goal of the nominal (to whom the permission/instruction/order is given). As the subject is overtly nominative and the implicit goal is not, it is not surprising to find NOM-transmission only in the former case.

In the same vein, observe how the shift from obligatory control in (28) to arbitrary control below eliminates NOM-transmission. The following sentence, with an N-complement inside a PP, was accepted by 97% of the speakers when DAT was tested; NOM-transmission was accepted only by three speakers out of 30, two of which found it marginal.

(33) Oni govorili o popytke vyjti odin/*odnomu v more.
They.**NOM** talked on attempt to-go alone.SG.**NOM**/***DAT** to sea
'They talked about the attempt to go out alone to the sea'

Unlike in (28b), the embedded SemP in (33) does not agree in number with the matrix subject, hence the latter cannot be the controller. The resulting interpretation is necessarily "They talked about one's attempt...". In the absence of a control relation, case transmission fails too. In section 4.2 I discuss the implications of all these finding for the syntactic representation of null arguments inside nominals.

3.5 Summary of the data

The following table summarizes the three catgories of data emerging from the present study.

(34) *Case transmission in Russian infinitives*

Obligatory Case Transmission	**Optional Case Transmission**	**Case Independence**
1. Simple subject control. 2. Subject controlled rationale clause with a null C.	3. Subject control across an object. 4. Direct object control. 5. Passive of object control. 6. Control across a lexical C. 7. Subject control into N-complements.	8. Control into *wh*-complements. 9. Control by non-accusative objects. 10. Implicit control into N-complements. 11. Non-obligatory control.

The explanatory challenge facing any analysis of these data is to identify the right structural determinants of each category that interact with the right theory of control to yield the observed pattern. Before we turn to such an analysis, some comments are in order concerning the limitations of the existing analyses.

3.6 Limitations of existing analyses

In this section I will show why none of the existing accounts can adequately deal with the data of case transmission in Russian. Naturally, the data considered by these accounts was quite different from, if not conflicting with, our present results. For this reason, and for space limitations, my purpose will not be to evaluate the details of each existing proposal. Rather, I will try to highlight three general aspects of the presesnt results that pose fundamental problems for some key assumptions cutting across the previous accounts. It seems to me that the problematic assumptions cannot be modified in any straightforward way to accommodate the new results, suggesting that a whole new approach is called for.

Perhaps the glaring problem for *all* previous accounts is that the most pervasive pattern is *optional* case transmission. Abstracting away from minor refinements, every study on the topic since Comrie (1974) has adopted the empirical description in (11), a typical linguistic rule with an “elsewhere” clause. The “elsewhere” logic implies a distributional disjunction between the cases covered by the two clauses of the rule. That is, either the condition for case transmission are met, in which case it must apply; or they

are not met, in which case DAT must be assigned. An alternation between the two forms is a theoretical impossibility for such accounts. Indeed, when faced with hints that such optionality exists, the strategy was either to disregard or downplay it.

The truth of the matter is that Russian speakers, on many occasions, choose either the agreeing or the non-agreeing form of SemP. Importantly, we have seen that a non-trivial proportion of the speakers allow this alternation within their individual idiolects. The implication is that optional case transmission must be an option countenanced by formal grammar, which is yet to be restricted in a precise manner.

A second issue has to do with the inuition of "cohesion", going back to Comrie's explanation for the special behavior of subject control infinitives. Comrie's idea was that infinitival complements of subject control verbs like *want* form a "cohesive" unit with the matrix verb; the embedded clause is pruned to become a VP complement. Cohesion is blocked by matrix objects and complementizers, which therefore block case transmission.

This intuition guided much subsequent research. Neidle (1982) analyzed subject control as functional control (in LFG) of a VP and other cases as anaphoric control of an S. Franks 1990, Greenberg & Franks 1991 and Franks & Hornstein 1992 tie case transmission to (proper) government of PRO. Subject control infinitives, assumed to be bare IP, allow PRO to be governed by the main verb, but an intervening object (forming a Small Clause with the infinitive) or a CP projection blocks this. Finally, Babby (1998) returns to Comrie's original idea that subject control infinitives are VP complements whereas object control ones project an S.

Putting aside potential worries about the principles underlying these proposals, the present results put the "cohesion" idea to rest. The two pillars on which this idea was erected – lack of case transmission in object control and across a lexical C – have collapsed: both configurations freely allow case transmission. In particular, we may dispense with the artificial assumption that subject control infinitives have some unique property distinguishing them from other infinitives – an assumption that was never motivated independently of the case transmission data. That Russian should allow case transmission across a lexical C, in fact, is not surprising from a crosslinguistic perspective. In section 5.1 we will see that Icelandic consistently applies case transmission across the complementizer *að*. Even inside Slavic, the phenomenon exists.

(35) Jan pracuje [$_{CP}$ żeby [$_{IP}$ PRO mieszkać sam/samemu]].
Jan.**NOM** works in-order PRO to-live alone.**NOM/DAT**
'Jan works in order to live alone'

(Polish; Franks 1995:280)

Of course, we still need to explain why case transmission in simple subject control is obligatory, not merely optional. But this explanation may not avail itself of any special assumptions about the categorial size of the infinitive (VP, IP or CP) or some special structure reserved only for object control (i.e., Franks & Hornstein's "predicational" SC).[12]

A recent version of the cohesion idea is pursued in Hudson 2003. Hudson makes one theoretical claim and one empirical claim. First, the case agreement facts reflect a distinction between raising and control, such that case transmission always signals a raising structure, without PRO,[13] while case independence signals the presence of PRO. Second, the facts of Russian, Icelandic and Ancient Greek indicate that subject control always involves case transmission, while object control involves either case transmission or independence.

The theoretical claim, however, is not warranted. One cannot infer from the sharing of a feature between two dependents that the dependency is not mediated by a distinct element sharing the same feature. Suppose we witness case agreement between a matrix DP and an embedded predicate. (36a-c) are all possible analyses of this fact.

(36) a. $\text{John}_{i[\text{NOM}]}$ hoped [to be $\text{popular}_{i[\text{NOM}]}$].
b. $\text{John}_{i[\text{NOM}]}$ hoped [t_i to be $\text{popular}_{i[\text{NOM}]}$].
c. $\text{John}_{i[\text{NOM}]}$ hoped [$\text{PRO}_{i[\text{NOM}]}$ to be $\text{popular}_{i[\text{NOM}]}$].
d. $\text{John}_{i[\text{NOM}]}$ hoped that [$\text{he}_{i[\text{NOM}]}$ would be $\text{popular}_{i[\text{NOM}]}$].

(36a-b) fall under Hudson's "structure-sharing" analyses. There are just two relevant syntactic objects – the matrix DP and the embedded predicate, and they agree directly, either at S-structure or at some prior level. Yet the mere fact of agreement cannot distinguish between these analyses and (36c), where agreement is mediated. This

[12] The robustness of ACC-transmission in our object control data, both in complements and in purpose clauses, also undermines Franks' (1998) typological treatment of this phenomenon. Franks maintained that ACC-transmission in Slavic is attested only in languages that also have ECM constructions (with perception verbs) – Czech, Slovak and Slovanian. Russian and Polish, lacking ECM, were thus expected to lack ACC-transmission in object control. Our Russian data imply that the existence of ECM in the language is not a necessary condition for ACC-transmission (nor is it sufficient – Franks cites Sorbian as a case in point).

[13] This implies that raising into a θ-position is allowed, as in Hornstein 1999. Hudson uses the term "structure sharing" instead of raising, in order to make it clear that the shared DP could be θ-marked more than once. I keep to the traditional term "raising", bearing this proviso in mind.

becomes evident when we consider (36d), in which, uncontroversially, the embedded predicate agrees with the embedded subject, and only indirectly with the matrix one.

Hudson contends that binding and coreference relations between overt pronominals do not normally involve case sharing. True, but OC is different precisely in that the features of PRO are not intrinsic, but externally valued – and this may include case as well as ϕ-features. To choose between (36a-b) and (36c) we need evidence independent of case agreement; evidence for PRO. Such evidence is abundant in the literature on control, so I will not reproduce it here (see Landau 2000, 2003, and the references therein).

The empirical claim – that subject control always involves case transmission – is also unsupported. Russian alone, as documented above (and in previous studies), allows an independent DAT in several subject control contexts: When there is an intervening matrix object, when the controller is a passivized object, and when the infinitival complementizer is overt. In section 5.1 we will see that the same is true of Icelandic. Thus, it seems that the complexity of the data suggests a mechanism of case transmission that is more sophisticated than previously envisioned. At the same time, there is no need to countenance radical structural ambiguities in the grammar of control.

A third issue is the complexity revealed in control into N-complements. The behavior of these constructions with respect to case transmission was first studied by Franks & Hornstein (1992), who proposed that case transmission in these contexts depends on reanalysis (of [V+N]). In section 2.2 we have seen that this description fails to capture the main generalization in this domain: Case may be transmitted from an overt nominative controller but not from an implict controller, regardless of whether reanalysis is available. This finding compels us to reconsider the tight connection between OC and case transmission.

4 Towards an analysis

The pattern of case transmission in Russian, as summarized in table (34), raises several questions. First – what makes subject control (without an object), across a null C, special? Why is this the only configuration in which case transmission is forced? Second, What blocks case transmission into *wh*-infinitives and why do non-accusative controllers fail to transmit case to PRO? Third, how can the alternation between case transmission and case independence be licensed in all the other situations?

Furthermore, an even deeper and more disturbing puzzle lurks behind these questions, involving a derivational paradox. As discussed in section 1, the paradox stems

from the fact that the choice between the *local* mechanism (DAT assignment) and the *non*-local mechanism (case transmission) must be made before the non-local environment is constructed. At the stage when the infinitival CP is completed, DAT should already be available for PRO. However, DAT assignment may be suspended if the matrix clause happens to contain a subject controller and no object. This seems like a look-ahead property – a late stage blocking an early one. This situation is rather alarming if one assumes, as I do, that derivations proceed stepwise and bottom-up. Our analysis must somehow cope with this problem. Ideally, the paradox will be shown to illusory.[14]

4.1 Control in Russian: Two routes

Recall that under the agreement model of OC, a functional head in the matrix clause – T in subject control, light v in object control – probes either PRO or the infinitival C (see (1)-(2)). In the first route, *PRO-control*, T/v mediates between the controller and PRO. In the second route, *C-control*, T/v mediates between the controller and C, which in turn mediates between T/v and PRO. PRO-control is always available; C-control is only available when C contains a ϕ-set (normally parasitic on a [Tense] feature). In principle, neither option competes with the other: The MLC, which could have chosen C-control over PRO-control, is in fact neutralized by the Principle of Minimal Compliance (see section 1).

In most cases, both routes lead to indistinguishable OC interpretations. However, only C-control may give rise to partial control, as argued in Landau (2000). We return to partial control in section 4.4, but the Russian data suggest that infinitival C is also involved in the case-marking of PRO. This is perhaps most vividly brought out by the contrast between a null C, which requires case transmission in subject control, and the lexical C *čtoby*, which permits an independent DAT case on PRO.

Let us assume, then, that the valued case feature in Russian infinitives is located not on T but on C. More speicifcally, assume that Russian infinitival C bears an optional [DAT] feature. We may assume that UG countenances such restricted variation in the clausal distribution of formal features (other options will be discussed in section 5).[15]

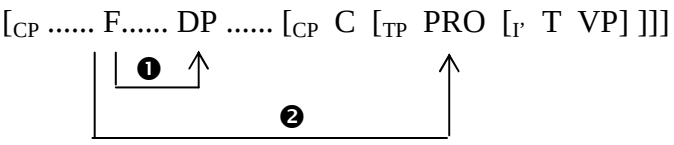
[14] Notice that the look-ahead paradox inheres in Franks & Hornstein's (1992) account too; proper government of PRO by a matrix V (the condition of case transmission) is established after the sisterhood of the infinitival I' and SemP (the condition of dative assignment). Presumably, this was not perceived as a problem, since derivational logic was much less prominent at the time.

[15] The present proposal is reminiscent of Franks' (1990) suggestion (see also Greenberg & Franks 1991, Franks & Hornstein 1992) that lexical dative subjects in Russian infinitives are licensed by C. Note, however, that for us, case assignment is divorced from licensing (following Landau 2004, 2006), so that even the dative case on PRO is checked/valued by C.

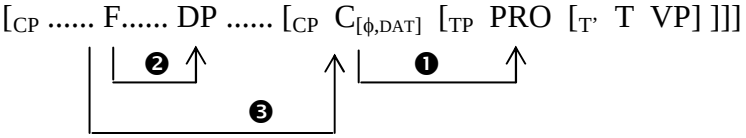
(37) a. For T in Russian: [–Fin] → no case
b. For C in Russian: [–Fin] → ([DAT])

In light of the previous discussion, this proposal predicts a strict correlation between the route of control and the case marking of PRO.

(38) *PRO-control*



(39) *C-control*



C in (38) bears neither ϕ-features nor case; the only source of potential valuation for PRO is the matrix F, whose ϕ-features are valued by the controller DP and whose case feature is intrinsic (NOM or ACC). PRO thus ends up bearing the same case feature alloted to the controller. In (39), by contrast, C is chosen with the full set of ϕ-features, including case, which is fixed to be DAT in Russian, by (37b).[16] This case feature can only be checked by PRO. As always, feature checking is maximalist, so the ϕ-features of PRO are valued by those of C, which therefore must be valued externally, by F. Notice that the third Agree operation in (39) only values the ϕ-features of C, its case being intrinsically valued [DAT].

If this reasoning is on the right track, case marking is a useful indicator of the route of control in Russian. This is stated below.

(40) *Control route and case in Russian*
a. Case transmission ↔ PRO-control
b. Case independence (DAT) ↔ C-control

The generalizations in (40) underscore the significance of case concord in infinitives to the study of control. On any theory of obligatory control, much of the work is done by

[16] We assume that the choice between the two types of C – or rather, the choice whether to endow C with a ϕ-set – is free, as the null hypothesis should be.

"hidden", abstract mechanisms (whether lexical or syntactic in nature). As these mechanisms are not directly accessible to observation, it is particularly important to identify their observable correlates. The pattern of case concord in infinitives is precisely such a correlate under the present analysis. Whether and how it can be rationalized under alternative conceptions of control is a question I will briefly touch on in the conclusion.

4.2 Choosing control routes

We now have to address the empirical generalizations expressed in table (34). The three patterns we have established are obligatory case transmission, optional case transmission and case independence. Given the connections in (40), these are readily translated into the following categories.

(41) *The distribution of control routes in Russian*

PRO-control	**PRO-control or C-control**	**C-control**
1. Simple subject control. 2. Subject controlled rationale clause with a null C.	3. Subject control across an object. 4. Direct object control. 5. Passive of object control. 6. Control across a lexical C. 7. Subject control into N-complements.	8. Control into *wh*-complements. 9. Control by non-accusative objects. 10. Implicit control into N-complements. 11. Non-obligatory control.

Assuming that the grammar makes the two routes available in principle, the explanatory task, then, is to explain what blocks C-control in configurations (1)-(2) and what blocks PRO-control in configurations (8)-(11). For this purpose, we must spell out our assumptions about the structures involved in these configurations.

Perhaps the best place to start is the minimal contrast between cases (1)-(2) and case (6). Why should the presence of a lexical C matter for case transmission? Recall that earlier accounts associated the lack of a lexical C with the lack of a CP projection, but this solution was both theoretically dubious (given the uniformity of clausal projections) and empirically untenable, given that a lexical C in Russian (or Icelandic) does not block case transmission – it merely makes it optional.

I would like to suggest instead the the lexicality of C is tied to another syntactic property – whether or not it is a clitic. The idea that null complementizers must cliticize to the higher verb is not new; it is motivated by a range of distributional restrictions exhibited by such complementizers (Pesetsky 1991, Richards 1999, Bošković and Lasnik 2003). Let us state this proposal explicitly.

(42) In Russian, a null C is a clitic, a lexical C is not.

It may be that null complementiziers are universally clitics – a point on which I take no stand at the moment.[17]

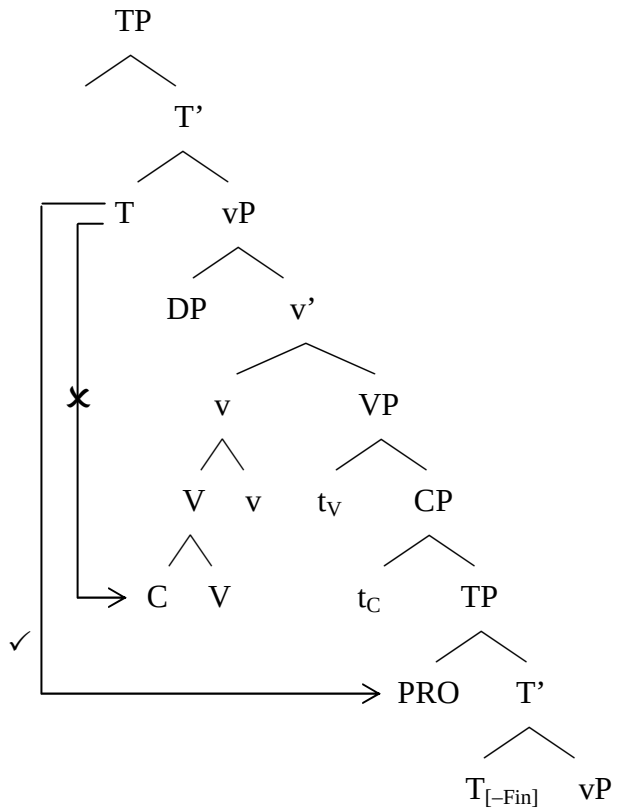
Cliticization of the infinitival C to the matrix clause should have the effect of blocking C-control, but crucially – only in plain subject control. Cases (3)-(5) and (7) in table (41) all involve a null complementizer which *is* accessible to C-control. To understand the difference, we must consider in more detail the different configurations.

Consider first plain subject control, following C-cliticization.[18]

[17] There is considerable evidence that C-cliticization is sensitive to PF-adjacency and prosodic factors. Bošković and Lasnik take this to indicate that null C is a PF-affix, attaching to its host post-syntactically. The conclusion, however, does not follow, since it is perfectly possible for the output of syntactic operations to be subject to further phonological constraints. Indeed, this is how Bošković 2001 handles the placement of second position clitics. Furthermore, the distribution of null complementizers is clearly sensitive to their syntactic environment (relative vs. complement clauses, *wh*-extraction etc.), suggesting that they do, in fact, cliticize in the syntax.

[18] To simplifiy, the diagrams in this section just indicate the Agree relation formed between T/v and the embedded clause, ommitting the Agree relation with the controller DP.

(43) Plain subject control



Let us assume that (44) is a correct condition on C-control.

(44) When dominated by light v, C is an inaccessible goal for Agree.

(44) is clearly a stipulation at this stage. It has the effect of ruling out C-control in (43), leaving PRO-control the only option, thus guaranteeing case transmission (by (40a)). For the moment I will not try to derive (44) from deeper principles, since we are about to discard it in section 4.6 in favor of a different formulation. That formulation will have the effect of blocking C-control in the case at hand, though not in other cases.

(43) depicts plain subject control into a complement. Recall that NOM-transmission is just as mandatory in subject control into rationale clauses with a null C. For these cases, we may either assume that the rationale clause occupies the same position (along the lines of Larson 's (1988) treatment of adverbs in a VP-shell), or that it is an adjunct to VP, with C directly adjoining to the V-v complex. Either way, this case will fall under (44) too. Crucially, the lexical complementizer *čtoby* is, by assumption, not a clitic. It will not adjoin to V and will not be dominated by light v. Thus, C-control will be allowed,

alongside PRO-control, accounting for the availability of independent DAT in case (6) of table (41).

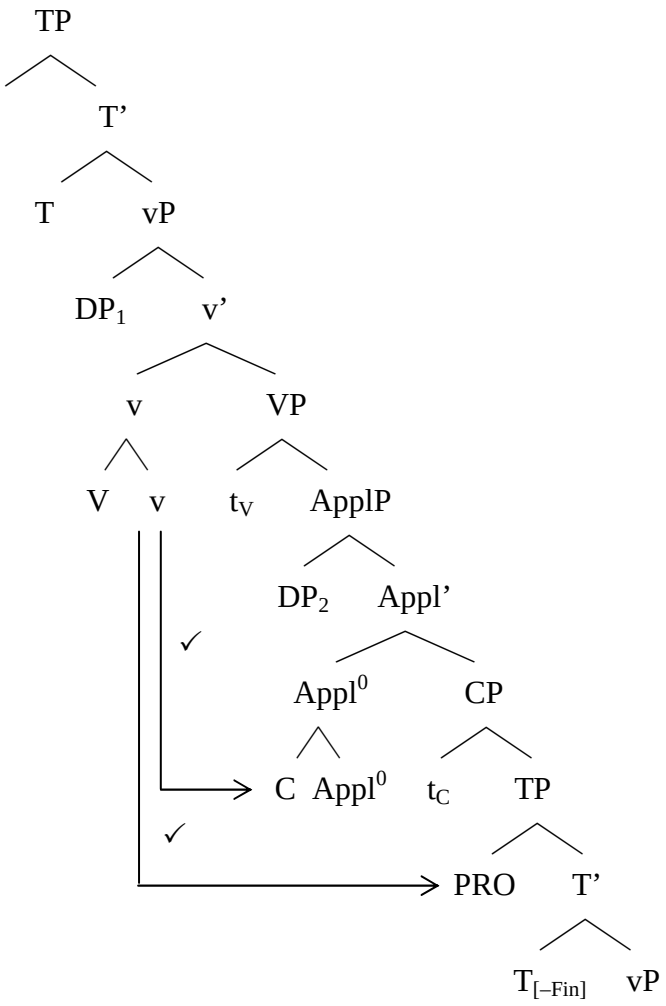
We now solve the apparent look-ahead paradox discussed earlier. The local DAT case is not "suspended" in plain subject control in favor of the non-local, transmitted NOM case; nor is it "overwritten" by the latter. Rather, if we selected the [DAT]-marked C in (43) (recall that this marking is optional, see (37b)), Agree (C,PRO) would have to be formed, to discharge [DAT] from C. But then all the other ϕ-features of PRO would need to be valued by those of C. The latter, however, would remain unvalued, since C is prevented from external valuation by (44). The result crashes, with PRO's features remaining unvalued. In short, instead of a look-ahead derivation, there are two bottom-up derivations – the two control routes – one of which happens to crash.

Consider now object control. These predicates (e.g., *convince*) are semantically ternary, similar to double object verbs. Following familiar treatments (see Marantz 1993, Harley 1995, Pylkkänen 2002), I assume that such structures incorporate an applicative head, which introduces the matrix object in its specifier position.[19] Mulder (1991) argues for essentially the same position (treating the null head as a particle), claiming that this head is responsible for blocking V-raising in Dutch and clitic climbing in Romance object control structures.

$Appl^0$ is of course distinct from light v (applicative morphology and object agreement morphology are distinct, when overt). $Appl^0$ is also lower than light v. Thus, while $Appl^0$ serves as the host for C-cliticization, it is light v that forms an Agree relation with the matrix object. Hence, it is light v that encodes the ϕ-features and case of the object, and it is this head that probes for C.

[19] This could be a principled result of the requirement that each head in a VP-shell be a monadic predicate. The V-node in (43) and (45) could be replaced by a root node (√V), in the spirit of Distributed Morphology. Nothing crucial rests on this choice. Note that subject control ditransitives (e.g., *promise*) also harbor a null applicative head (with a different semantic import, of course), a point that would be crucial in explaining their analogous alternation between case transmission and independence.

(45) Object control



Since C is not dominated by v in (45), condition (44) does not rule out C-control. The alternation between case transmission and case independence in object control – case (4) in table (41) – is thus explained.

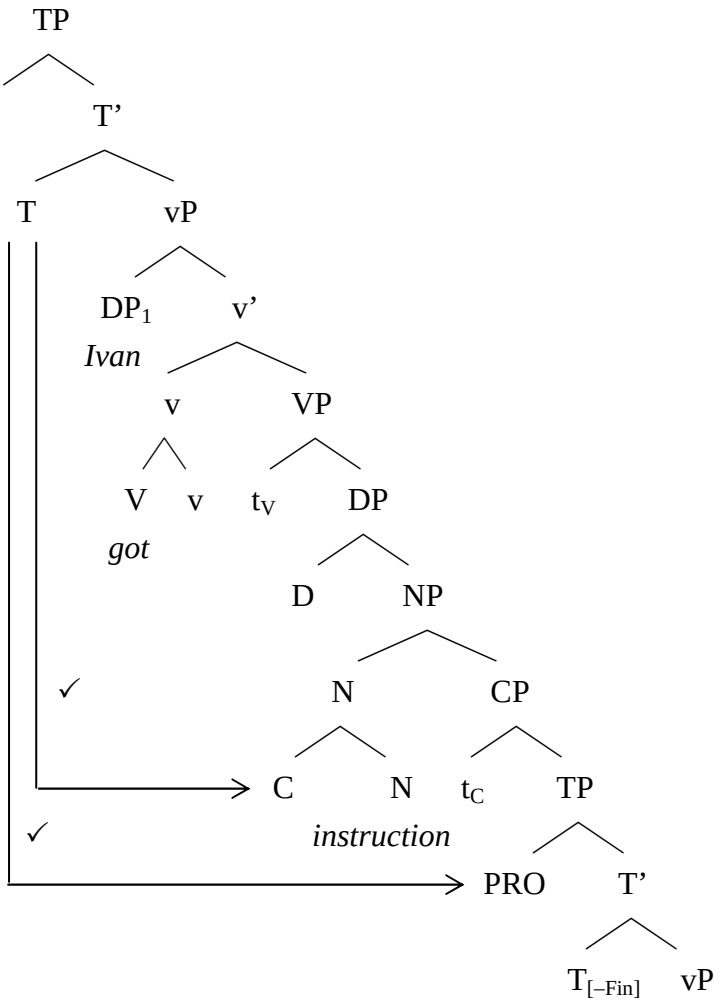
Cases (3) and (5) in the table follow straightforwardly. Subject control across an object (e.g., with *promise*, *vow*) involves the same configuration as (45), except that the matrix T, rather than light v, is the probe for C. Similarly, when an object control verb is passivized, its licensing head is the matrix T. Note that passivization (i.e., the Voice projection) occurs above the ApplP layer of the structure, in which the object is thematically licensed. So again, the intervention of $Appl^0$ allows the cliticized C to be probed by T.

This nearly completes our account of obligatory and optional case transmission in Russian, representeted by cases (1)-(6) in table (41). We now turn to case (7) – subject

control into N-complements – which also displays a case alternation. Example (26c), repeated below, has the structure (47).

(46) Ivan polučil ukazanie prijti odin/odnomu na večerinku.
Ivan.**NOM** got instruction to-come alone.**NOM**/**DAT** to party
'Ivan got an instruction to come alone to the party'

(47)



Notice that in all relevant respects, (47) is parallel to (45). Instead of ApplP, the intervening projection between the infinitival CP and the matrix vP is DP. Again, condition (44) does not apply to C-cliticization to N, so C-control is allowed. The possibility of case transmission into N-complements implies that these complements do not count as phases. Some indication for this is provided by the their relative transparency to extraction, as compared with strong islands. Furthermore, it is not at all obvious that

Agree and Move are subject to identical locality constraints. Pursuing this topic will take us far afield, so we must leave it at that.

4.3 Explaining case independence

Table (41) lists four cases in which case transmission is blocked: Implicit control into N-complements, control into *wh*-complements, control by non-accusative objects and non-obligatory control.

The first case is directly connected to the examples discussed just above. When the matrix subject is not the controller of PRO in the N-complement, only independent DAT is attested. Compare (32b), repated below, with (46).

(48) Ivan dal ukazanie prijti odnim/*odni na večerinku.
Ivan.**NOM** gave instruction to-come alone.**DAT/*NOM** to party
Ivan gave an instruction to come alone to the party'

In this case, the implicit goal of *instruction*, which is linked to PRO, is distinct from *Ivan*. Nothing blocks the formation of an Agree relation between the matrix T and PRO. Such a derivation, however, would give rise to a deviant interpretation. So deviant, indeed, that a speaker confronted with a nominative SemP in (48) simply finds the sentence unacceptable. The sentence thus has the status of examples like *John helped Mary wash himself*, where the agreement pattern is not, strictly speaking, ungrammatical, but rather forces the speaker into a deviant interpretation.

Case transmission fails in two other environments, for obvious reasons. In NOC, PRO does not enter any Agree relation with an antecedent. Since case transmission is parasitic on Agree, PRO cannot inherit case from any antecedent. Notice that this is true even in particular NOC environments that happen to provide a possible controller.

(49) Ivan dumaet čto [PRO pojti domoj odnomu/*odin] važno.
Ivan.NOM thinks that PRO to-go home alone.DAT/*NOM important
'Ivan thinks that it is important to go home alone'

As documented and defended at length (see Landau 2000), PRO in these contexts is a logophor, that picks its antecedent under complex pragmatic conditions. This antecedence relation, which is always optional, is not mediated by Agree, and perforce does not transmit case.

Control by non-accusative objects into complements is another context where the case of the controller is not transmitted to PRO. Recall that this is visible with genitive object controllers (with datives, case transmission and independence are indistinguishable). In fact, the accurate description of the facts is that *structural* genitive case can be transmitted, whereas *lexical* one cannot. The former is available for indefinite accusative objects under the scope of negation; the latter is idionyncratically selected by specific verbs. Compare (20) and (31), repeated below.

(50) a. On ne naučil ni odnogo ditja est' samogo/samomu iz tarelki.
he.**NOM** not taught not-one.**GEN** baby.**GEN** to-eat itself.**GEN/DAT** from plate
'He didn't teach any baby to eat by itself from the plate'

b. Ona potrebovala ot nego pojti samomu/??samogo v magazin.
she demanded from him.**GEN** to-walk himself.**DAT/??GEN** to store
'She demanded of him to walk to the store by himself'

Within current syntax, structural case is assigned by the functional heads T or v, while lexical case is assigned by the lexical verb. This means that the structural case feature is, but a lexical case feature is not, a member of the ϕ-set of T/v. Consequently, only a structural case feature will be transmitted as part of an Agree operation involving T/v.

Notice that beyond NOM and ACC, whether and which particular cases are structural in a given language is open to variation. The Icelandic data to be presented in section 5.1, illustrating transmission of DAT, clearly indicate that DAT is structural in Icelandic.[20] This is probably true in Russian too, if only because the very DAT case locally assigned to PRO is structural. The marginality of GEN in (50) for a few speakers may reflect the partial "structuralization" of this case in some idiolects.

Finally, consider the last case to be explained in table (41) – control into *wh*-complements. Why should case transmission be blocked in this situation? Given the complex picture in table (41), Russian may not be the best language to look at. If the ban on case transmission into *wh*-complements is *universal*, its most dramatic effect will be visible in a language where case transmission is otherwise the norm. According to Comrie 1974, Czech is such a language – SemPs embedded in complements always agree in case with the controller, regardless of context (see section 5.2). Comrie, however, did not test *wh*-complements.

[20] This does not preclude the co-existence in the language of lexically assigned DAT.

The Czech counterparts of (29) appear to reveal a contrast between the two languages (I. Kučerovà, p.c.).

(51) a. *pro* zapomněla mluvit sama se šéfem.
pro.**NOM** forgot.3sgF to-talk alone.**NOM** with boss
'She forgot to talk alone to the boss'

b. *pro* zapomněla jak mluvit sama se šéfem.
pro.**NOM** forgot.3sgF how to-talk alone.**NOM** with boss
'She forgot how to talk alone to the boss'

Thus, while Russian resorts to the independent DAT in a *wh*-complement (29b), Czech maintains the NOM case also found in non-wh subject control (51b). It does not yet follow, however, that NOM is transmitted into *wh*-complements in Czech; the NOM in (51b) could be the default case of the language, assigned to PRO whenever case transmission fails. That NOM, rather thean DAT, is the default case of PRO in Czech, is verified in NOC examples like the following (cf. (49)).

(52) řídit sám/*samého/*samému to nové auto je nebezpečné.
to-drive alone.**NOM/*ACC/*DAT** that new car is dangerous
'To drive alone that new car is dangerous'

The crucial evidence for the (im)possibility of case transmission into *wh*-complements in Czech, then, would come from object control, where the transmitted case is ACC, not NOM. Indeed, minimal pairs like the following demonstrate the blocking effect of *wh*-words on case transmission.

(53) a. *pro* učil jsem ji řídit samu/*sama to nové auto.
pro.NOM taught AUX.1sg her.**ACC** to-drive alone.**ACC/*NOM** that new car
'I taught her to drive alone that new car'

b. *pro* učil jsem ji jak řídit sama/*samu to nové auto.
pro.NOM taught AUX.1sg her.**ACC** how to-drive alone.**NOM/*ACC** that new car
'I taught her how to drive alone that new car'

Notice that the sole difference between (53a) and (53b) is the presence of a *wh*-word (*jak* 'how') in the latter's complement. The effect is the blocking of ACC-transmission and emergence of a default NOM case. Absent any evidence to the contrary, I will take these facts as evidence that the Russian pattern is not idiosyncretic and that case transmission into *wh*-complements should be excluded on universal grounds.

Within our analysis, obligatory case independence reflects the unavailability of the PRO-control route. The question, then, is this: What blocks PRO-control into *wh*-complements? Recall that throughout, we have been tacitly assuming that control complements are not strong phases, being penetrable to external valuation. Strictly speaking, however, this assumption is only necesary for PRO-control. In order for a matrix probe to access PRO inside a CP, that CP must not be a strong phase. C-control, however, places no such restrictions, since even the head of a strong phase is accessible to outside operations (by the Phase Impenetrability Condition).

Suppose, then, that unlike non-wh infinitives, *wh*-infinitives are strong phases. This could be made to follow from a definition of phasehood by which a filled edge-specifier is sufficient (though not necessary) to guarantee a strong phase status. In effect, a *wh*-clause is a syntactic unit whose complement (=TP) is no longer accessible to operations from outside the clause. Given this, PRO-control would be impossible into *wh*-complements, C-control being the only option. The result would be that case transmission is blocked in these contexts, precisely the pattern we observe.

4.4 Partial Control: New evidence for C-control

The two-route system of control presented in (40) neatly accounts for the distribution of case transmission in Russian infinitives. It expresses a tight, simple connection between the element probed for control – PRO or C – and the case marking of PRO (transmitted or independent case). In particular, the option of C-control explains why case transmission depends on the shape of the complementizer, on the assumption that zero complementizers are clitics. Yet one may still remain skeptical about the role of C in control, given that the observable effect never directly involves C – it is always a referential dependence between PRO and a matrix DP.

Independent support for the role of C comes from the interaction of case transmission and partial control, a topic that is studied here for the first time. Before we present the findings, here is a brief reminder of what partial control is.

Partial control (PC) is a subtype of OC, in which the relation between the controller and PRO is a subset relation, rather than identity. Such cases are perfectly natural when the context – either linguistic or deictic – provides the "remainder" part of PRO.

(54) a. We$_j$ thought that the mayor$_i$ planned [PRO$_{i+j}$ to gather in the town square].
b. Sue$_j$ couldn't believe that Bil$_i$ regretted [PRO$_{i+j}$ kissing in front of her parents].
c. Fred$_j$ understood that Mary$_i$ wasn't sure [whether PRO$_{i+j}$ to apply together for the grant].

Although standard control sentences (e.g., *John wanted to leave*) are ambiguous between PC and exhaustive control (EC), the former reading is enforced when the controller is singular and the infinitival predicate is collective; these two elements cannot be directly combined without the mediation of PC (e.g., **The mayor gathered in the town square*).

Landau (2000, 2004) highlighted two crucial aspects of PC. First, the controller and PRO differ in their semantic plurality, a privative feature identified as [Mer] (from mereology). Second, PC complements are tensed, that is, their time reference need not coincide with the time reference of the matrix event. Verbs that select untensed control complements (e.g., *manage, dare, begin*) necessarily select EC complements (that is, they cannot occur in contexts like (54)).

The way these two aspects are theoretically connected is the following. A tensed complement bears a [+T] feature on its C head (serving to mediate tense selection). Parasitic on [+T] is an Agr feature bundle (a ϕ-set). In C-control, a matrix F head (the licensor of the controller DP), which is semantically singular (no [Mer]), can probe an embedded C, which is semantically plural (with [Mer]); the resulting Agree relation will simply consist of {[person],[number],[gender]}, ignoring [Mer], as it were. Agree (C,PRO) will provide PRO with the necessary ϕ-values, as well as assign PRO the [Mer] feature (note that with privative features, valuation amounts to assignment). Thus we obtain a configuration where a [Mer]-less DP controls a [Mer]-specified PRO – the PC effect.[21] By contrast, if control is not mediated by C, a [Mer] feature on PRO unmatched by a corresponding feature on the matrix F head will remain unidentified and crash the derivation. Thus, PRO-control is necessarily EC.[22]

[21] The opposite scenario cannot arise; if F is specified for [Mer], Agree will transfer this feature to C and unltimately to PRO. For this reason, PC is always referentially expansive, not reductive.
[22] This implementation is slighltly modified from Landau (2004). It is simpler in that we dispense with the tripartite distinction between [Mer], [–Mer] and no [Mer], as well as other auxiliary assumptions.

Based on these theoretical considerations, Landau concluded that PC is mediated by C whereas EC can involve direct control of PRO. Putting this idea together with the present conclusions, we obtain a striking prediction.

(55) *PC and independent case in Russian*

a. PC ⇒ C-control (Landau 2000, 2004)

b. C-control ⇒ independent DAT ((40b), repeated)

c. ∴ PC ⇒ independent DAT
(i.e., PRO under PC must be dative)

Given that independent DAT is nearly always an option, the force of this prediction will be visible in the one case where case transmission is obligatory – plain subject control. Examples (18) and (22), and in fact, all the similar examples in the literature, involve EC. What (55) implies is that the appearance of obligatory case transmission in plain subject control was an artifact of the failure to take PC into account. The same examples under a PC interpretation should exhibit obligatory case independence.

This prediction was put to test in the present study. The results were crystall clear: EC forces NOM-transmission, PC forces independent DAT. The case-bearing element in the examples below is the floating quantifier *ves'* 'all', which, like the two other SemPs, is subject to obligatory concord with its associated NP (Babby 1998).

(56) a. My predpočli sobrat'sja vsje/??vsjem v šest'.
we.**NOM** preferred to-gather all.**NOM**/??**DAT** at six
'We preferred to all gather at six'

b. Predsedatel' predpočel sobrat'sja vsjem/*vsje v šest'.
Chair.**NOM** preferred to-gather all.**DAT/*NOM** at six
'The chair preferred to all gather at six'

(56a) illustrates control by a plural subject. Even though the embedded predicate is collective, the dominant reading is EC ("we preferred that we would all gather at 6"). All 30 speakers accepted NOM-transmission, though a surprising minority of 6 speakers also accepted independent DAT; this could represent an uncontrolled-for "second-order" PC reading, in which PRO is understood to properly contain the controller 'we' (this effect plausibly underlies the exceptions reported in fn. 8 too). The PC example, however,

yielded a sharp reversal: NOM-transmission was marginally accepted by a single speaker, whereas DAT was accepted by all 27 speakers who allowed PC in their grammar.[23]

A similar result was obtained in object control. Since independent DAT is generally available in this configuration, the effect of PC on case transmission could be detected only with those speakers for whom ACC-transmission was obligatory in EC.

(57) a. Ona poprosila ix sobrat'sja vsex/vsjem v šest'.
she.**NOM** asked them.**ACC** to-gather all.**ACC**/**DAT** at six
'She asked them to all gather at six'

b. Ona poprosila predsedatelja sobrat'sja vsjem/*vsex v šest'.
she.**NOM** asked chair.**ACC** to-gather all.**DAT**/***ACC** at six
'She asked the chair to all gather at six'

Of the speakres who permitted object PC in their grammar, 18 forced ACC-transmission and rejected independent DAT in the EC example (57a). In the PC example (57b), however, all these speakers accepted independent DAT, while only two marginally allowed ACC-transmission.

4.5 The final analysis

At this point we must address an obvious question. To explain why independent DAT is normally ruled out in subject control configurations like (43), we invoked condition (44), which stipulated that a C dominated by v is inaccessible to Agree from a higher probe. On the other hand, to explain how independent DAT is possible (and even mandatory) in examples like (56b), we must allow the cliticized C to be probed by the matrix T. This is so because independent DAT is strictly linked to C-control in our system. How can these conflicting demands be simultaneously met?

The solution must lie in a deeper understanding of the precise reason why C-control is blocked in EC and allowed in PC (in subject control constructions). The relevant difference is the presence of [Mer] on C in the latter case vs. its absence in the former. Furthermore, this difference becomes effective only when C is cliticized onto V-v (subject control), and not when it is cliticized onto $Appl^0$ (object control). What is the relevant difference between light v and $Appl^0$? Whereas the function of $Appl^0$ is purely

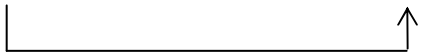
[23] The few speakers who did not permit PC in their grammar were excluded from the count in (56b) and (57b).

thematic – it expands the valency of the root by one argument – light v carries both a thematic function (introducing the external argument) and a formal one – checking the ϕ-features of the direct object. In other words, light v is ϕ-specified, $Appl^0$ is not.

To see how these assumptions interact in the analysis, let us run through the different syntactic configurations. The diagrams below only contain the structural information relevant to the control relations: This includes C-cliticization and feature (ϕ,Mer) specifications of the various heads.

(58) *Singular subject EC: obligatory NOM-transmission (ex. (18))*

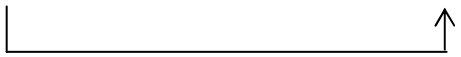
T_ϕ ..... $[_v$ C-V-v$]_\phi$ ..... t_C ..... PRO_ϕ



This derivation obtains both for obligatory EC complements, whose untensed C head is necessarily ϕ-less, and for tensed (potentially PC) complements whose PRO subject is nonetheless semantically singular. In the latter case, C is simply selected without a ϕ-set. Since PRO's features are externally valued, a [Mer] feature on PRO cannot arise without the controller being also specified for [Mer]. Both the EC effect and the impossibility of DAT, then, follow from the non-participation of C in the control relation.

(59) *Plural subject EC: obligatory NOM-transmission (ex. (56a))*

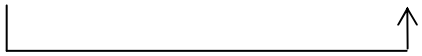
$T_{\phi,Mer}$ ..... $[_v$ C-V-v$]_\phi$ ..... t_C ..... $PRO_{\phi,Mer}$



(59) is identical to (58) except that the controller transfers, via the matrix T, a [Mer] feature to PRO. This is still EC, given the referential identity between the controller and PRO.

(60) *Object EC: optional ACC-transmission (ex. (19))*

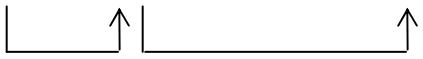
v_ϕ ..... $[_v$ C-$Appl^0]$ ..... t_C ..... PRO_ϕ



This derivation, with a ϕ-less C, yields the option of ACC-transmission in object control. If the matrix object is specified [Mer] as well, it transfers this feature (via light v) to PRO, as in example (57a). If we replace v_ϕ by T_ϕ, (60) also represents optional NOM-transmission in passive of object control and subject control across an object (ex. (21),(23)).

(61) *Object EC: optional independent DAT (ex. (19))*

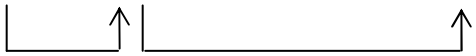
v_ϕ ..... [$_v$ C_ϕ-$Appl^0$] ..... t_C ..... PRO_ϕ



This derivation obtains when C is selected with a ϕ-set, not including [Mer]. The choice between (60) and (61) is free, explaining why case trasmission is optional in object EC. Note the absence of a ϕ-set from $Appl^0$, the head dominating the cliticized C. This will become crucial for the contrast with subject control via C, to be discussed below.

(62) *Object PC: obligatory independent DAT (ex. (57b))*

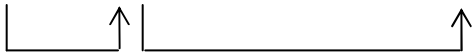
v_ϕ ..... [$_v$ $C_{\phi,Mer}$-$Appl^0$] ..... t_C ..... $PRO_{\phi,Mer}$



(62) differs from (61) in C's ϕ-set being supplemented by a [Mer] feature, which is transferred to PRO via Agree. Recall that such a mismatch between the controller (and light v) and PRO in semantic plurality may only arise through the mediation of C, given that PRO's features, being anaphoric, necessarily match its probe's. Since C is necessarily involved, case transmission is blocked and DAT is the only option.

(63) *Subject PC: obligatory independent DAT (ex. (56b))*

T_ϕ ..... [$_v$ $C_{\phi,Mer}$-V-v]$_\phi$ ..... t_C ..... $PRO_{\phi,Mer}$

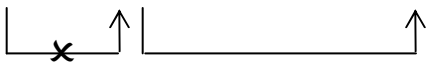


Here again, the immediate probe of PRO, C, is specified for [Mer], while the probe of C, the matrix T, is not. This is legitimate since it is only PRO's features, not C's, which are anaphoric. The necessary mediation of C is reflected in the obligatory DAT.

We now come to the heart of the puzzle of case transmission in Russian. That is, the asymmetry between subject control, where case transmission is obligatory, and object control, where it is optional. Specifically, what must be explained is why C-control is blocked in subject EC, so that a derivation parallel to (61) is unavailable.

(64) *Subject EC: * independent DAT (ex. (18))*

T_ϕ ..... [$_v$ C_ϕ-V-v]$_\phi$ ..... t_C ..... PRO_ϕ



I would like to propose that the offending step in this derivation is Agree (T_ϕ, C_ϕ). This operation cannot take place since the goal ϕ-set is dominated by an identical ϕ-set ([person], [number], [gender]) which is closer to the probe. In other words, light v acts as an A-over-A intervener between T and C. The intervention is defective, since the features of light v in themselves play no role in the derivation; presumably, in the absence of a direct object, these features are assigned default values. Nevertheless, being more local to T than those of C, they block C-control.

More formally, the notion of locality at play here is stated in (65) (see Fukui 1999 for a similar view).

(65) *Featural A-over-A*
Given [X .... [$_Y$ Y_α .... Z_β]$_\alpha$], where X,Y,Z are heads and α,β are feature sets:
Y is an intervener for Agree (X,Z) iff $\beta \subseteq \alpha$.

That is, a potential goal "buried" inside a closer potential goal becomes an actual goal if its feature set is sufficiently different from that of the closer potential goal; being a subset of, or identical to, the intervening feature set is obviously not sufficiently different.

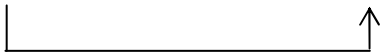
It is worth pointing out that traditional conceptions of A-over-A presupposed some tacit reference to features, even when this was not explicitly acknowledged. The competition between a DP candidate for promotion to subject and some internal DP it properly contains, for instance, only arises because both share the same relevant feature – namely, [D]. Likewise for subextraction of *wh*-phrases from larger *wh*-phrases. On the other hand, when the contained phrase is featurally distinct from the containing phrase, A-over-A does not block dependency formation. Condition (65) is an attempt to formalize this traditional tacit notion of feature distinctness, in a way that fits rather naturally with the basic minimalist machinery of feature checking.

Condition (65) properly draws the right empirical distinctions. It explains why C-control is sensitive both to the features of C and the features of its host. Since the host of the cliticized C in object control is the ϕ-less $Appl^0$, it trivially fails to prevent C-control. The result is that DAT is always available, both for EC and PC. In subject control, by contrast, the host of the cliticized C is the ϕ-specified light v. This host will block C-control, according to (65) – but only when the feature set of the dominated C is non-distinct; in effect, when it is an identical ϕ-set. When C contains the additional [Mer] feature, its feature set is no longer contained in light v, and Agree (T,C) is consequently permitted. The result is that DAT in subject control is inevitably linked to PC.

Finally, condition (65) successfully explains the optionality of case transmission in our last syntactic configuration – N-complements.

(66) *Control into N-complement: optional NOM-transmission (ex. (26))*

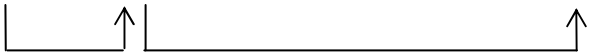
T_ϕ ..... $[_N$ C-N] ..... t_C ..... PRO_ϕ



In this derivation, a ϕ-less C is selected, and PRO-control guarantees case transmission.

(67) *Control into N-complement: optional independent DAT (ex. (26))*

T_ϕ ..... $[_N C_\phi\text{-}N_{[Num,Gen]}]_{[Num,Gen]}$ ..... t_C ..... PRO_ϕ



In this derivation, a ϕ-specified C is selected, and probed by T. What allows C-control here (as opposed to (64))? Note that the intervening head – the N head selecting the infinitival CP – is only specified for [number] and [gender] (common nouns being unspecified for [person]). Thus its ϕ-set is smaller than the ϕ-set of the dominated C, failing to activate A-over-A intervention.[24]

In sum, we proposed a principled explanation for why C-control is unavailable in subject EC, based on the Featural A-over-A condition (65). This condition replaces the stipulation in (44), which is now superflous. A rather intricate array of data, involving many distinct syntactic configurations, naturally falls into place.

5 Crosslinguistic variation

In this section I will briefly look at patterns of case transmission in other languages. Although the phenomenon has been most extensively studied in Russian, it is also known to exist elsewhere, both within and outside the Slavic family. The patterns of case transmission observed in these languages offer interesting variations on the Russian pattern. It will therefore be instructive to consider how these variations fit into the general analytic framework developed in this paper.

The reader should be aware, though, that the amount of data available from other languages, as well as its fine-grained resolution, is extremely limited, compared to what

[24] N-complements also allow PC; this would be represented by adding the feature [Mer] to C and PRO in (67).

we know about Russian. Except for Icelandic, where case transmission is extensively documented, we only have scattered bits of data on other languages. This empirical poverty, no doubt, underscores the tentative nature of the conclusions drawn in this section. In fact, everything we say here might be falsified by future research, which will delve deeper into these crosslinguistic issues. Nonetheless, even this tentative discussion will enable us to isolate and appreciate the points of parametric variation allowed within the current model.

5.1 More languages with non-uniform case transmission

Both Comrie (1974) and Franks (1995) briefly discuss Polish in conjunction with Russian, and point out that in this language too, case transmission is allowed in some contexts but not in others; when blocked, an independent case – also DAT – is assigned to PRO. The little data cited by Comrie and Franks indicates that ACC-transmission to an embedded SemP from an object controller is impossible; yet this matter merits further study, given that the parallel claim for Russian was shown to be false. Tentatively, we group the two languages together.[25]

An alternation between case transmission and case independence is also found in Ancient Greek. The independent case for subjects of infinitives in this language – be they lexical or not – is ACC. Andrews (1971) observed that this case optionally shows up on agreeing predicates inside infinitives under object control, the other option being case transmission (either DAT or GEN, depending on the case marking of the matrix object). Quicoli (1982), surveying the authoritative sources on Ancient Greek grammar, noticed that independent ACC is not available under subject control. Thus, we find an exact parallel of the Russian pattern. Example (6), repeated below, illustrates the asymmetry with minimal pairs.

(68) a. Dareios bouletai PRO polemikos/*polemikon einai.
Darius.**NOM** want.3sg PRO.**NOM/*ACC** war-like.**NOM/*ACC** to-be
'Darius wants to be war-like'

[25] Przepiórkowski and Rosen (2005) also report that case transmission from object controllers in Polish is impossible. However, their evidence consists solely of embedded main (adjectival) predicates, whose non-agreeing case is instrumental. The distribution of instrumental case is notoriously complex, and might reflect usage preferences (rather than impossible agreement). For this reason, as far as the patterns of case transmission in Slavic languages are concerned, we restrict attention to the behavior of SemPs.

b. sumbouleuō soi PRO prothumōi/prothumon einai.
advise.1sg you.**DAT** PRO.**DAT/ACC** zealous.**DAT/ACC** to-be
'I advise you to be zealous'

As in Russian, we conclude that independent ACC for PRO is not available in subject control due to the A-over-A effect induced by light v on the cliticized C. The implication is that the case feature of infinitives resides in C, not in T.

(69) For C in Ancient Greek : [–Fin] → ([ACC])

In principle, languages may deposit the case feature in T, rather than C. Since the infinitival T does not interact syntactically with matrix elements, nothing would ever prevent the local case of the infinitival T from being assigned to PRO in such a language. In particular, no asymmetry between subject control and object control is expected – both would display optional case transmission. In fact, Icelandic instantiates this pattern.

It is well-known that Icelandic makes common usage of lexical case marking of subjects. A series of studies has established that these so-called quirky subjects can also be realized as PRO in infinitives (Andrews 1976, 1982, 1990, Thráinsson 1979, Sigurðsson 1991, 2002). Furthermore, Icelandic marks case on a range of elements, including main predicates, secondary predicates, SemPs, FQs, etc. The combination of these two properties allows detection of case on PRO in a wide range of constructions.

Consider the space of possibilities. PRO may either bear structural or quirky case, and the controller may either bear structural or oblique/quirky case.[26] Theoretically, the relation between the controller's case and PRO's could be independence, transmission or percolation. In fact, control infinitives only display the first two options, case-percolation being restricted to raising complements.[27] We first discuss case-independence and then turn to case-transmission.

Uncontroversially for Icelandic speakers, if PRO is assigned quirky case by the embedded predicate, this case cannot be "overwritten" by that of the matrix controller, be it structurally or lexically case-marked. In other words, case transmission to a quirky PRO is blocked.[28] Examples (70) illustrate this with a quirky controller, examples (71)

[26] We will see below that oblique non-subject controllers fall together with quirky ones.
[27] This is almost true; see fn. 5 for some rare exceptions.
[28] I have found three exceptions to this generalization – two in Thráinsson (1979, p. 302) and one in Andrews (1990, p. 224). Both authors, however, provide much more evidence for the resistance of quirky case to overwriting, suggesting that these are isolated exceptions. Other Icelandic speakers do not allow these exceptions (H. Sigurðsson, p.c.).

with structurally case-marked controllers. Notice that main and non-main predicates do not differ – all show case independence.[29]

(70) Q-case … Q-case

a. Mig langar að PRO verða kastað einum út um gluggan.
I.**ACC** long to PRO.**DAT** be thrown.**dflt** alone.**DAT** out of window-the
'I long to be thrown out of the window alone'

b. Ólafi leiddist að PRO vanta sjálfan / *sjálfum á fundinum.
Olaf.**DAT** annoyed to PRO.**ACC** lack self.**ACC** / ***DAT** at meeting-the
'Olaf was annoyed by being absent from the meeting himself'

(71) S-case … Q-case

a. Stelpurnar vonast til að PRO verða hjálpað.
girls-the.**NOM** hope for to PRO.**DAT** be helped.**dflt**
'The girls hope to be helped'

b. Strákarnir vonast til að PRO verða allra getið í ræðunni.
boys-the.**NOM** hope for to PRO.**GEN** be all.**GEN** mentioned in speech-the
'The boys hope to be all mentioned in the speech'

Why is quirky PRO resistant to case transmission? The simplest account would use the defining feature of quirky case – namely, that it is lexically determined by the main predicate. In terms of valuation, this means that the case feature of PRO (i.e., DAT in (70)/(71a), GEN in (71b)) is already valued by the infinitival verb, within the embedded VP, before the infinitival T is merged. By the time the matrix clause is constructed and PRO enters the control-establishing Agree relation, its case feature has already been valued and is inaccessible to revaluation.

When the embedded predicate assigns no quirky case, PRO may be assigned structural nominative case by the infinitival T (Sigurðsson 1991). In this situation, however, case transmission from the controller also becomes possible. The data suggest that case transmission is optional, although subject to certain fluctuations.[30] Examples (72)

[29] Examples are cited as given by the authors. Whenever a single option of case-marking is given, it is understood that all alternatives are ungrammatical.

[30] There is also a dialect split: While all authors agree that case transmission is possible to an embedded main predicate, some extend this option to embedded SemP/SP (Thráinsson 1979, Andrews 1976, 1982, 1990) whereas others do not (Sigurðsson 1991, 2002). As discuss below, I will take the inclusive dialect to

illustrate optional case transmission from oblique/quirky controllers, examples (73) illustrate it with structurally case-marked object controllers. Subject control is uninformative, since the transmitted NOM would be indistinguishable from the NOM internally assigned in the infinitive.

(72) Q/Oblique-case … S-case

a. Hann Satan bauð honum að PRO verða vinsæll/vinsælum.
the devil.NOM offered him.**DAT** to PRO be popular.**NOM** / **DAT**
'The devil offered him to be popular'

b. Hana langaði til að PRO verða fyrst/fyrsta.
she.**ACC** longed for to PRO be first.**NOM** / **ACC**
'She wanted to be number one'

(73) S-case ... S-case

a. Við skoruðum á hana að PRO verða fyrst/fyrsta.
we.NOM dared on her.**ACC** to PRO be first.**NOM** / **ACC**
'We exhorted her to be number one'

b. Hún bað hann að PRO drepa skessuna einn/einan.
she.NOM had him.**ACC** to PRO kill giantess-the alone.**NOM** / **ACC**
'She had him kill the giantess alone'

It should be noted "the conditioning of the process is complex, "squishy", and variable from speaker to speaker" (Andrews 1982:452). First, there is a hierarchy of case bearing elements, such that case is most easily transmitted to predicate adjectives, less so to to predicate nominals, and least to passive participles. Second, ACC-transmission is more common than DAT-transmission. Finally, case transmission is easier into *að*-less infinitives. Interestingly, hardly any variation is attested with raising infinitives, where case percolation (preservation of the lower case) is the only option.[31]

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be the target of explanation. Notice that the option of independent NOM is quite robust in Icelandic subject control, contrary to Hudson's (2003) description;.

[31] Boeckx and Hornstein (2006) claim that inherent/quirky case can never be transmitted to PRO in Icelandic, and that ACC-transmission is favored over independent NOM, the latter being a "marked" default option (see also Hudson 2003). Both claims are factually inconsistent with the rich literature cited above. Indeed, examples like (72)-(73) were taken by the cited authors as incontrovertible evidence that PRO exists and that it recieves standard structural case. For an extensive critique of Boeckx and Hornstein 2006, on these and related issues, see Bobaljik and Landau 2007.

The near-uniformity of judgments on raising infinitives, as opposed to its variation with control infinitives, was taken by Andrews as evidence for the fundamentally different grammatical mechanisms underlying the two types of constructions (in LFG terms, functional vs. anaphoric control). In fact, Andrews relegated case transmission to PRO to performance strategies, beyond the reach of any formal analysis.

While I agree to the categorial distinction between raising and control and have argued for it elsewhere (Landau 2003), the pessimism regarding case transmission to PRO strikes me as unwarranted. We have already witnessed the considerable range of inter-speaker micro-variation in this domain in Russian; at the same time, it was clear that sharp macro-categories of data can be discerned behind this variation. The same is true of the Icelandic data.[32] As in Russian, we will assume that the grammar of case agreement must generate any option that is empirically attested, whether dominant or marginal. Which particular option, among the grammatically licensed ones, is realized in which particular situation, is a choice made on the basis of extra-grammatical factors, on which I have nothing substantive to say.

Is there any evidence as to the source of the local NOM on PRO – T or C? Icelandic has an infinitival complementizer, *að*, which, in fact, can be dropped in a few cases. Thus, we can construct minimal pairs, analogous to those involving the *čtoby-∅* alternation in Russian rationale clauses. Specifically, we may ask whether the null Icelandic complementizer forces case transmission under subject control, as it does in Russian and in Ancient Greek.

Testing the prediction is a delicate matter. Recall that object control is uninformative, given that the intervention of the $Appl^0$ head guarantees the optional character of case transmission. Subject control, on the other hand, transmits NOM, which is indistinguishable from the local, independent case in the Icelandic infinitive. Fortunately, Icelandic also has ECM constructions, where structurally case marked nominative arguments become accusative. If we embed under an ECM predicate a subject control verb that licenses complementizer drop, we can test whether the optionality of ACC-transmission from the subject controller correlates with the overtness of the complementizer.[33]

[32] That said, it would be extremely fruitful to conduct a parallel informant-study in Icelandic and compare the results to Russian, point by point. Presently I had to make do with the published results. Notice, incidentally, that the greater facility of ACC-transmission compared to DAT-transmission (Andrews 1982:453) could be traced to the structural/inherent distinction, along the lines suggested for GEN-transmission in Russian (see (50)).

[33] These constructions were discussed by Andrews (1976, 1982), although the interaction with null complementizers was not explored.

The subject control verb *vilja* 'want' occurs without *að*. A minimal comparison would be with the verb *aetla* 'intend', that does select *að*. The relevant examples are the following (H. Sigurðsson, p.c.).

(74) a. Þeir töldu Harald PRO vilja verða ríkan / ??ríkur.
they believed Harold.**ACC** PRO to-want to-be rich.**ACC/ ?? NOM**
'They believed Harold to want to be rich'

b. Þeir töldu Harald PRO aetla að verða ríkan / ??ríkur.
they believed Harold.**ACC** PRO to-intend to to-be rich.**ACC/ ?? NOM**
'They believed Harold to intend to be rich'

It turns out that the presence of *að* has no effect on the acceptability of case independence. In other words, although case transmission (from the accusative ECM subject) is preferred, the null Icelandic complementizer is also compatible with independent NOM-assignment to PRO. On the (null) assumption that this complementizer cliticizes to v-V, it should not be able to participate in the control relation (see the discussion in section 4.6). Hence, the NOM case on PRO must come from the infinitival T. The factual basis of this reasoning is admittedly thin, so (75) should be taken as a tentative proposal, pending further research.

(75) For T in Icelandic : [–Fin] → ([NOM])

5.2 Languages with uniform Case transmission

Further within Slavic, Comrie (1974) mentions Czech and Slovak – and Franks (1998) adds Slovenian – as languages where case transmission is obligatory, uniform, and applies across the board. Representative examples are given below (only the case markings shown are possible).[34]

[34] Przepiórkowski and Rosen (2005) report that case transmission from direct object controllers in Czech is optional, not obligatory (unless the controller is a numeral NP). This would place Czech together with Russian. However, Przepiórkowski and Rosen's evidence consists solely of adjectival secondary predicates, whose non-agreeing case is instrumental, thus vulnerable to the factors mentioned in fn. 25. See also example (53a) above.

(76) a. Donutil jsem ho PRO přijít samotného. *Czech*
forced AUX.1Sg him.**ACC** PRO.**ACC** to-come alone.**ACC**
'I forced him to come alone'

b. Necháva ju PRO starat' sa o domácnost' samu. *Slovak*
he-leaves her.**ACC** PRO.**ACC** to-look-after housework herself.**ACC**
'He leaves her to look after the housework herself'

c. Zdravnik jo je poslal PRO delat bolno. *Slovenian*
doctor her.**ACC** AUX.3Sg sent PRO.**ACC** work sick.**ACC**
'The doctor sent her to work sick'

Another language that appears to display uniform case transmission is Latin (Cecchetto and Oniga 2004).[35]

(77) a. Ego volo PRO esse bonus.
I.**NOM** want PRO.**NOM** to-be good.**NOM**
'I want to be good'

b. Ego iubeo te PRO esse bonum.
I.NOM order you.**ACC** PRO.**ACC** to-be good.**ACC**
'I order you to be good'

The salient difference between Russian and Polish, on the one hand, and languages with uniform case transmission, on the other hand, is the absence of any evidence for a local, infinitive-internal case for PRO in the latter group. The simplest way of encoding this is by depriving both the infinitival T and C heads of any case features. The case feature of PRO would have to be valued externally, via the Agree relation establishing control.[36]

(78) In Czech, Slovak, Slovenian, Latin:
For T and C: [–Fin] → no case

[35] The absence of negative evidence, of course, weakens the claim that case transmission is obligatory in Latin. Yet as Cecchetto & Oniga observe, this claim is based on a wealth of textual sources, as well as detailed grammatical descriptions, that mention no exceptions.

[36] When Agree is blocked by a strong phase boundary, or simply fails to occur, as in NOC, PRO is predicted to bear the default case of the language. This is presumably the situation in the Czech examples (51b), (52) and (53b).

The crosslinguistic picture that emerges is summarized in table (79).

(79) *Parameters of case transmission*

	Uniform Case transmission	**Non-uniform Case transmission**		
Languages	Latin, Czech, Slovak, Slovenian	Russian, Polish	Ancient Greek	Icelandic
Case specification of T	∅	∅	∅	[NOM] (optional)
Case specification of C	∅	[DAT] (optional)	[ACC] (optional)	∅

Thus, whether a language has case transmission, and its precise scope, is determined by the interplay of several factors. First, universal principles restrict case transmission to certain contexts only (OC, non-*wh* infinitives). Then, the very option of case transmission depends on the availability of a caseless T or C head in the language; if case is necessarily specified on either head, PRO will never have a chance to be valued for case from the matrix clause. On the other extreme, case transmission is obligatory in a language if neither T nor C bears a case feature; in between we find the non-uniform languages, where the case feature in the infinitive is optional.

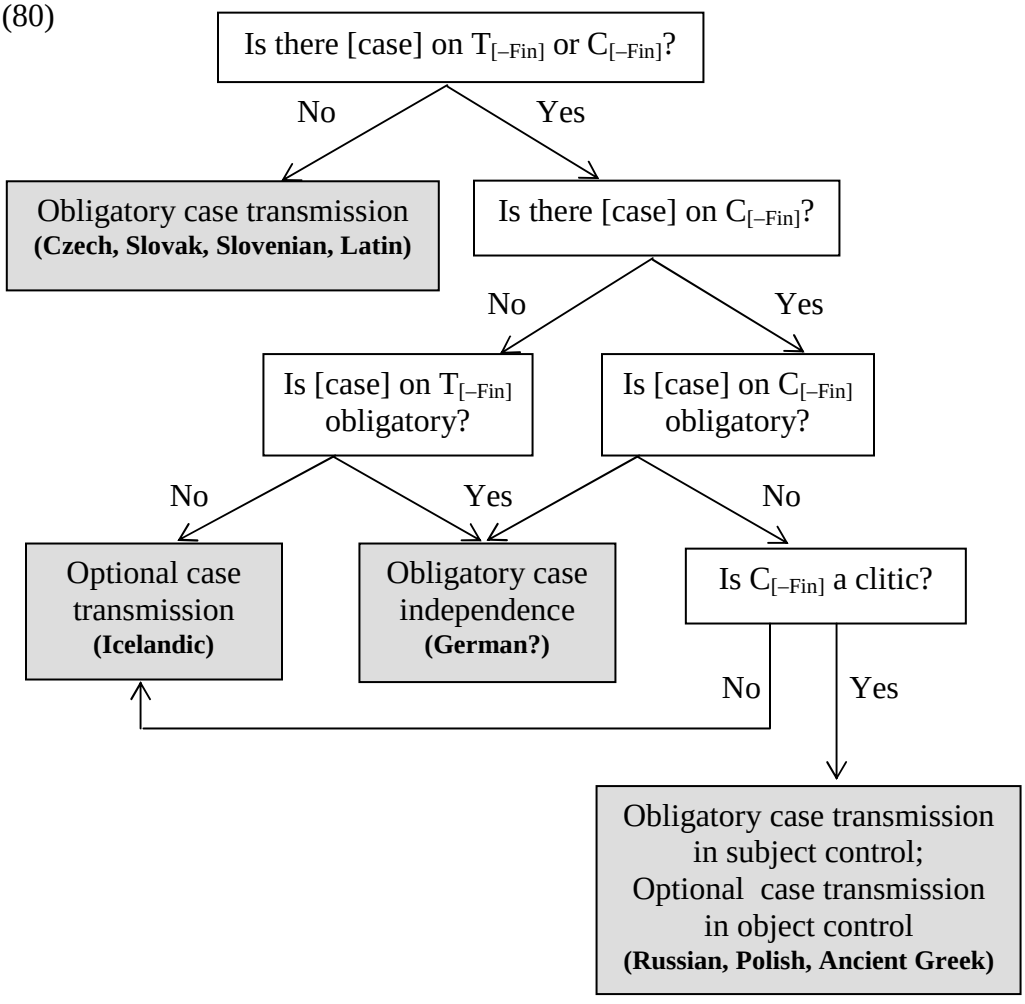
The pattern of transmission is shaped by a second factor – the nature of the infinitival complementizer. Affixal or clitic-like complementizers cannot mediate the control relation for principled reasons (the Featural A-over-A principle). Note that the clitic-nonclitic distinction is often correlated with the null-lexical distinction, but this need not be the case in general. While null complementizers may turn out to be universally affixal, lexical ones could be either affixal or not. Furthermore, a complementizer which is unspecified for case would have no effect at all on case transmission, even if it is affixal; it is the co-occurrence case *and* clitichood on C that yields obligatory case transmission in Russian subject control.

The table in (79) leaves many options open. One option that is probably attested (e.g., in German) is uniform case independence (no case transmission). This would simply be the result of an obligatory case feature on T, and no case feature on C. Other

options are possible, but the present state of knowledge does not allow us to determine whether all of them are indeed realized in the languages of the world. It is also quite possible that other, hidden dimensions of variation would have to be added to this relatively simple picture. The methodological preference, however, here as elsewhere, should be to try to accommodate as many patterns of case transmission as possible within the limits imposed by the system, and to enrich its analytic toolbox only under severe empirical pressure.

The following decision tree summarizes the discussion in this section. It shows what parametric choices determine the typological profile of case transmission in any given language.

(80)



Conclusion

Although demoted from the capital letter of syntactic licensing to the small letter of morphological spellout, case has still a lot to offer to the syntactician. The phenomenon of case transmission into infinitives, in particular, is a unique source of evidence bearing on the fine structure of OC dependencies.

This paper reported the results of an informant study of case transmission in Russian, the first of its kind. Our findings were significantly different than the standard data in the literature, which are not based on a comparable database. Thus, they highlight the familiar (but often suppressed) limitations of the traditional methodology of generative linguistics – elicitation of judgments from one or a handful of speakers.

At first sight, the empirical picture of case transmission in Russian looks dauntingly complex. An entire scale of preferences is strecthed between the two extremes – obligatory transmission and obligatory independence. The complexity is significantly reduced once we categorize the data under three types – obligatory case transmission, optional case transmission and obligatory case independence. What immediately transpires is that the optional pattern is much more pervasive than previously thought, covering a broad range of syntactic configurations. Disjunctive statements of the form "Case is transmitted if so and so, elsewhere DAT is assigned" simply fail to capture this central fact.

Upon closer inspection the complexity can be further reduced. Obligatory case transmission is restricted to situations where the infinitival C is a null clitic that attaches to the matrix V-v complex. Optional case transmission occurs when another head – Appl^{o} or N – serves as the host of C, or when C needs no host at all (as a lexical non-clitic head).

The main idea of the analysis is to tie the two patterns to the existence of two control routes, motivated on other grounds in earlier work: PRO-control and C-control. Whenever PRO is controlled directly, it must share the case of its controller. Whenever C mediates the control relation, PRO inherits its case feature from C – which happens to be DAT in Russian. The reason why C-control (and consequently, DAT on PRO) is normally unavailable with subject controllers is that C is inaccessible to Agree when cliticized under v, which is ϕ-specified. This follows from the A-over-A principle, relativized to features: Whenever the containing goal has a feature set identical to or larger than that of the contained goal, intervention takes place. The effect disappears in object control and N-complement contexts, where the host of C is ϕ-less or ϕ-defective, hence not a possible intervener. The alternation between case independence and case transmission simply follows from the choice of selecting C with or without a ϕ-set.

One advantage of the proposed solution is that it is entirely local, invoking no look-ahead properties. In particular, an optional [case] feature on C or T in the infinitive may give rise to an alternatation between case transmission and independence. Specific syntactic contexts may then block this or that option, on the basis of familiar properties of locality and feature matching. Furthermore,the analysis receives striking support from a novel data set illustrating the blocking effect of partial control on case transmission. Building on Landau 2000, 2004, we hypothesized that partial control is mediated by C. Coupled with the present claim that C-control in Russian imposes case independence, the prediction is derived that partial subject control in Russian, as opposed to exhaustive subject control, would only allow independent DAT on PRO. The prediction is fully confirmed. It is far from obvious how these facts can be accommodated in alternative conceptions of control (specifically, why case transmission is blocked, and not just made optional).[37]

Finally, we have shown how the model developed for Russian naturally extends to the main patterns of case transmission documented crosslinguistically. Three dimensions of variation seem to be required: Where the case feature is (C or T), is it optional or obligatory, and whether C is a clitic or not.

This study, I believe, demonstrates the fruitful encounter of a richly articulated syntactic theory with a complex array of facts. It is quite comforting to discover that the existing theory can handle this array with only minor adjustments made and very few assumptions added. It is all too common in syntax to replace one theory by another before a substantive case is built for either. Theoreticians of control should be thankful that a rich source of evidence like case transmission patterns is available to them to evaluate, refine or reject their theories. It is my hope that the generalizations uncovered in this study will nourish more such attempts in the future.

References

Andrews, Avery D. 1971. Case Agreement of Predicate Modifiers in Ancient Greek. *Linguistic Inquiry* 2, 127-151.

Andrews, Avery D. 1976. The VP-Complement Analysis in Modern Icelandic. In *Proceedings of the 6th Meeting of the North Eastern Linguistic Society. Reprinted as Andrews (1990), in Syntax and*

[37] Lexicalist approaches (e.g., Jackendoff and Culicover 2003) deny syntax any role in mediating the control relation. Under this view, the entire control dependency is weaved at the level of lexical or conceptual structure. Given its radical remoteness from syntax, it is not even clear what such an approach has to say about systematic patterns of case transmission and independence, which are standardly taken to reflect agreement mechanisms. Naturally, one can reintroduce these mechanisms into conceptual structure, but in the absence of a concrete proposal, it is hard to see the benefits of such a move.

Semantics 24: Modern Icelandic Syntax, ed. by Joan Maling and Annie Zaenen, 165-185: Academic Press Inc.
Andrews, Avery D. 1982. The Representation of Case in Modern Icelandic. In *The Mental Representation of Grammatical Relations*, ed. by Joan Bresnan, 424-503. Cambridge, Massachusetts: MIT Press.
Andrews, Avery D. 1990. Case Structures and Control in Modern Icelandic. In *Syntax and Semantics 24: Modern Icelandic Syntax*, ed. by Joan Maling and Annie Zaenen, 187-234. San Diego, CA: Academic Press Inc.
Babby, Leonard H. 1998. Subject Control as Direct Predication: Evidence from Russian. In *Proceedings of the 6th Meeting of Formal Approaches to Slavic Linguistics*, ed. by Željko Boškovič, Steven Franks and William Snyder, 17-37. Michigan University, Ann Arbor: Michigan Slavic Publications.
Babby, Leonard H., and Franks, Steven. 1998. The Syntax of Adverbial Participles in Russian Revisited. *Slavic and East European Journal* 42, 117-149.
Bobaljik, Jonathan, and Landau, Idan. 2007. Fact and Fiction in Icelandic Control. Ms., University of Connecticut and Ben Gurion University.
Boeckx, Cedric, and Hornstein, Norbert. 2006. Control in Icelandic and Theories of Control. *Linguistic Inquiry* 37, 591-606.
Bošković, Željko. 1994. D-Structure, Theta-Criterion and Movement into Theta-Positions. *Linguistic Analysis* 24, 247-286.
Bošković, Željko. 2001. *On the Nature of the Syntax-Phonology Interface: Cliticization and Related Phenomena*. North-Holland Linguistics Series: Linguistic Variations, Oxford: Elsevier Science.
Bošković, Željko, and Lasnik, Howard. 2003. On the Distribution of Null Complementizers. *Linguistic Inquiry* 34, 527-546.
Carnie, Andrew, and Harley, Heidi. 1997. PRO, the EPP and Nominative Case: Evidence from Irish Infinitivals. *UPenn Working papers in Linguistics* 4, 71-86.
Cecchetto, Carlo, and Oniga, Renato. 2004. A Challenge to Null Case Theory. *Linguistic Inquiry* 35, 141-149.
Chomsky, Noam. 1980. On Binding. *Linguistic Inquiry* 11, 1-46.
Chomsky, Noam. 1981. *Lectures on Government and Binding*. Berlin: Mouton de Gruyter.
Chomsky, Noam. 2001. Derivation by Phase. In *Ken Hale: A Life in Language*, ed. by Michael Kenstowicz, 89-155. Cambridge, Massachusetts: MIT Press.
Comorovski, Ileana. 1985. Control and Obviation in Romanian. In *Proceedings of Eastern States Conference on Linguistics*, ed. by Choi Soonja, Dan Devitt, Wynn Janis, Terry McCoy and Zheng-Sheng Zhang, 47-56. Ohio State University, Ohio.
Comrie, Bernard. 1974. The Second Dative: A Transformational Approach. In *Slavic Transformational Syntax, Michigan Slavic Materials No.10*, ed. by Richard Brecht and Catherine Chvany, 123-150. Ann Arbor: Michigan University Press.
Fleisher, Nicholas. 2006. Russian Dative Subjects, Case and Control. Ms., University of California, Berkeley.
Franks, Steven. 1990. Case, Configuration and Argumenthood: Reflections on the Second Dative. *Russian Linguistics* 14, 231-254.
Franks, Steven. 1995. *Parameters of Slavic Morphosyntax*. New York: Oxford University Press.
Franks, Steven. 1998. Parameters of Slavic Morphosyntax Revisited: A Minimalist Retrorspective. In *Proceedings of the 6th Meeting of Formal Approaches to Slavic Linguistics*, ed. by Željko Boškovič, Steven Franks and William Snyder, 134-165. Michigan University, Ann Arbor: Michigan Slavic Publications.
Franks, Steven, and Hornstein, Norbert. 1992. Secondary Predication in Russian and Proper Government of PRO. In *Control and Grammar*, ed. by Richard Larson, Sabine Iatridou, Utpal Lahiri and James Higginbotham, 1-50. Dordrecht: Kluwer Academic Publishers.
Fukui, Naoki. 1999. An A-over-A Perspective on Locality. In *Linguistics: In Search of the Human Mind*, ed. by Kazuko Inoue, 109-129. Tokyo: Kaytakusha.
Gonzalez, Nora. 1990. Unusual Inversion in Chilean Spanish. In *Studies in Relational Grammar*, ed. by Paul Postal and Brian Joseph, 87-103. Chicago: University of Chicago Press.
Greenberg, Gerald R. 1983. Another Look at the Second Dative and Related Subjects. *Linguistic Analysis* 11, 167-218.
Greenberg, Gerald R. 1989. Dative Subjects and the Second Dative Within Slavic. *Digest for Philology and Linguistics* 32, 45-57.

Greenberg, Gerald R., and Franks, Steven. 1991. A Parametric Approach to Dative Subjects and the Second Dative in Russian. *Slavic and East European Journal* 35, 71-97.
Haeberli, Eric. 2003. Categorial Features as the Source of EPP and Abstract Case Phenomena. In *New Perspectives on Case Theory*, ed. by Ellen Brandner and Heike Zinsmeister, 89-126. Stanford, CA: CSLI Publications.
Harley, Heidi. 1995. *Subjects, Events and Licensing*. PhD dissertation, MIT.
Harley, Heidi. 2000. Irish, the EPP and PRO. Ms., University of Arizona, Tuscon.
Hornstein, Norbert. 1999. Movement and Control. *Linguistic Inquiry* 30, 69–96.
Hornstein, Norbert. 2003. On Control. In *Minimalist Syntax*, ed. by Randall Hendrick, 6-81. Oxford: Blackwell Publishing.
Hudson, Richard. 2003. Case Agreement, PRO and Structure Sharing. *Research in Language* 1, 7-33.
Jackendoff, Ray, and Culicover, Peter W. 2003. The Semantic Basis of Control in English. *Language* 79, 517-556.
Kawasaki, Noriko. 1993. *Control and Arbitrary Interpretation in English*. PhD dissertation, UMASS.
Lakoff, George. 1970. Global Rules. *Language* 46, 627-639.
Landau, Idan. Movement-Resistant Aspects of Control. To appear in *New Horizons in the Grammar of Raising and Control*, ed. by Stanley Dubinsky & William Davies, Springer.
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.
Landau, Idan. 2004. The Scale of Finiteness and the Calculus of Control. *Natural Language and Linguistic Theory* 22, 811-877.
Landau, Idan. 2006. Severing the Distribution of PRO from Case. *Syntax* 9, 153-170.
Larson, Richard. 1988. On the Double Object Construction. *Linguistic Inquiry* 19, 335-391.
Lyngfelt, Benjamin. 1999. Optimal Control: An OT Perspective on the Interpretation of PRO in Swedish. *Working Papers in Scandinavian Syntax* 63, 75-104.
Madariaga, Nerea. 2005. Why Russian Semi-Predicative Items Always Agree. *To appear in Journal of Slavic Linguistics.*
Marantz, Alec. 1993. Implications of Asymmetries in Double Object Constructions. In *Theoretical Aspects of Bantu Grammar*, ed. by Sam A. Mchombo, 113-150. Stanford: CSLI Publications.
Marantz, Alec. 2000. Case and Licensing. In *Arguments and Case: Explaining Burzio's Generalization*, ed. by Eric Reuland, 11-30. Amsterdam: John Benjamins.
McFadden, Thomas. 2004. *The Position of Morphological Case in the Derivation: A Study on the Syntax-Morphology Interface*. PhD dissertation, UPENN.
Mulder, René. 1991. An Empty Head for Object Control. In *Proceedings of the Twenty First Annual Meeting of the North Eastern Linguistic Society*, ed. by Tim Sherer, 293-307. Amherst: UMASS: GLSA Publications.
Neidle, Carol. 1982. Case Agreement in Russian. In *The Mental Representation of Grammatical Relations*, ed. by Joan Bresnan, 391-426. Cambridge, Massachusetts: MIT Press.
Neidle, Carol Jan. 1988. *The Role of Case in Russian Syntax*. Dordrecht: Kluwer Academic Publishers.
Park, Jong-Un, and Park, Myung-Kwan. 2004. Intervention Effects in Experiencer Constructions and Their Implications for the Theory of Move and Agree. *Studies in Generative Grammar* 14, 199-224.
Pesetsky, David. 1991. Zero Syntax II: An Essay on Infinitives. Ms., MIT.
Przepiórkowski, Adam, and Rosen, Alexandr. 2005. Czech and Polish Raising/Control with or without Structure Sharing. *Research in Language* 3, 33-66.
Pylkkänen, Liina. 2002. *Introducing Arguments*. PhD dissertation, MIT.
Quicoli, Antonio C. 1982. *The Structure of Complementation*. Studies in Generative Linguistic Analysis, Ghent-Antwerp-Brussels: E. Story-Scientia Gent.
Richards, Norvin. 1998. The Principle of Minimal Compliance. *Linguistic Inquiry* 29, 599-629.
Richards, Norvin. 1999. Complementizer Cliticization in Tagalog and English. In *Proceedings of The Sixth Meeting of the Austronesian Formal Linguistics Association (AFLA)*, ed. by Carolyne Smallwood and Catherine Kitto, 297-312. University of Toronto.
Rouveret, Alain, and Vergnaud, Jean-Roger. 1980. Specifying Reference to the Subject: French Causatives and Conditions on Representations. *Linguistic Inquiry* 11, 97-202.
San-Martin, Itziar. 2004. *On Subordination and the Distribution of PRO*. PhD dissertation, University of Maryland.

Schein, Barry. 1982. Nonfinite Complements in Russian. In *Papers in Syntax: MIT Working Papers in Linguistics 4*, ed. by Alec Marantz and Tim Stowell, 217-243. Cambridge: MIT.
Sigurðsson, Halldór A. 1991. Icelandic Case-Marked PRO and the Licensing of Lexical Arguments. *Natural Language and Linguistic Theory* 9, 327–363.
Sigurðsson, Halldór A. 2002. To Be an Oblique Subject: Russian vs. Icelandic. *Natural Language and Linguistic Theory* 20, 691-724.
Sigurðsson, Halldór A. 2003. Case: Abstract vs. Morphological. In *New Perspectives on Case Theory*, ed. by Ellen Brandner and Heike Zinsmeister, 223-268. Stanford: CSLI Publications.
Sigurðsson, Halldór A. 2006. PF Is More 'Syntactic' Than Often Assumed. *Working Papers in Scandinavian Syntax* 77, 101-128.
Tallerman, Maggie. 1998. The Uniform Case-licensing of Subjects in Welsh. *The Linguistic Review* 15, 69-133.
Thráinsson, Höskuldur. 1979. *On Complementation in Icelandic*. New York: Garland Press.
Williams, Edwin. 1992. Adjunct Control. In *Control and Grammar*, ed. by Richard Larson, Sabine Iatridou, Utpal Lahiri and James Higginbotham, 297–322. Dordrecht: Kluwer Academic Publishers.
Wurmbrand, Susi. 2003. *Infinitives: Restructuring and Clause Structure*. New York: Mouton de Gruyter.