The case of PRO

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Icelandic case-marked PRO has long posed an unresolved problem for syntax theory. Reductionists have generally avoided discussing the Icelandic facts, while these facts have constituted an important argument for their antagonists. Recently, however, the debate has taken a new direction, where reductionists claim that nominative case in Icelandic PRO infinitives is 'default' case that can be assigned as a "rather marked option". If so, the Icelandic case facts would not obviously bear on the question of whether or not PRO can be reduced to a movement copy. Since this issue is of central importance to the field, I re-examine the Icelandic facts in detail, illustrating that this reductionist claim is mistaken. The Icelandic facts stand. In particular, the unmarked and common nominative morphology in Icelandic PRO infinitives is evidently regular structural nominative morphology, showing that PRO cannot be reduced. What went wrong in the GB approach to PRO was not PRO itself but the binding theoretic and 'Case' theoretic conception of it. Abstract 'Case' is unrelated to case and was thus a misnomer, here replaced by the label *Speech Event Grounding*, Grounding for short. I argue that the case borne by Icelandic PRO is *not* an exponent of the syntactic/semantic relation Grounding but plain morphological case, assigned in morphology (PF), for processing-based reasons. It follows that case-marking of PRO is unproblematic for the 'Case' approach to it. In a number of recent works, I have argued that morphology is radically disentangled fom syntax. On this approach, case and agreement morphology exclusively belong to PF and are thus only remote reflections or 'translations' of abstract syntactic relations. This article adds further credibility to this *Radically Disentangled Morphology* approach.

1. Introduction[*]

The GB theoretic notion of PRO had strange properties. It was a category that was both [+anaphoric] and [+pronominal] and thus had to be both bound and free in its governing category. Since this was logically excluded, it 'followed' that PRO could not have a governing category, hence it had to be ungoverned, hence it could not carry case, hence it could not be spelled out. This is like 'inventing' a vowel that is both [+high] and [+low] and then say: "listen, it *is* there, but it is unpronounceable so you cannot hear it, and, of course, it cannot have any overtones."

PRO in the GB theoretic sense (Chomsky 1981, 1982, 1986, etc.) is incompatible with minimalist assumptions, not only because it is derivative of the trashed binding principles, but also because 'anaphoric' and 'pronominal' are labels that only describe the distribution and behavior of different kinds of anaphoric items. That is, these notions are themselves *not* features of language, and hence they are not accessible or visible to syntax as objects or units, as is evident by the simple fact that they get no interpretation at the semantic interface. It is remarkable that PRO as defined within GB theory is invisible to both the interfaces.

There are thus good reasons to want to eliminate *GB theoretic* PRO from syntactic theory. The simplest way of doing so is of course to use Occam's razor, claiming that the whole issue was a misconception and that there is either nothing there or that it reduces to something else. The movement theory of control takes the latter track, claiming that PRO as such is nonexistent and that obligatory control arises from movement, whereby an argument is moved from theta position A in the PRO clause to a distinct theta position B in the control clause. See Hornstein (1999, 2001, 2003) and Boeckx and Hornstein (2003, 2004).

The movement theory of control has been harshly criticized by Landau (e.g., 2003).[1] Landau bases some of his many arguments on the Icelandic case agreement facts described and discussed in Sigurðsson (1991; see also Sigurðsson 2002). In a recent *Linguistic Inquiry* reply to Landau, Boeckx and Hornstein (2006:592) argue:

> that *no* currently entertained theory of control can accommodate the reported Icelandic data without alteration. Thus, these data cannot by themselves argue either *for* a PRO-based account of control or *against* a movement-based account, as is tacitly assumed and occasionally asserted. (original emphasis)

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[1] For a different kind of criticism, see Culicover and Jackendoff (2001, 2006).

Boeckx and Hornstein, henceforth B&H, imply that they have considered "the facts … in their entirety" (2006:604). However, their presentation of the Icelandic facts is inadequate and misleading. Since these facts figure prominently in the ongoing debate on PRO it is important that they be presented correctly. One of my primary aims here is to do so. As we shall see, the simplest interpretation of these facts is that there is indeed 'something' where GB theory postulated PRO and that this 'something' is not only case-marked (structurally or inherently) but also grammatically phi-feature-marked. Thus, we seem to have a paradoxical situation, a clash between a theoretically reasonable conclusion (that GB theoretic PRO was an aberration) and robust facts that seem to lethally contradict that conclusion. However, I will argue that the root of the problem is not PRO itself, but the GB theoretic conception of it in terms of binding and 'Case'. I suggest that PRO is a reference variable, θREF_α, that is assigned case and phi-feature values by processes that apply in morphology ('broad PF') and *not* in syntax. If morphological case is independent of the GB theoretic notion of abstract 'Case', as I have argued in many of my works, it follows that the Icelandic facts do not really bear on the abstract 'Case' approach to PRO. I replace the misnomer 'Case' with the term SPEECH EVENT GROUNDING, Grounding for short, arguing that any referential subject must be (speech event) grounded, that is, interpreted in relation to a unique Fin(iteness) complex. PRO or θREF_α cannot be spelled out, I also argue, because it has no phi-features of its own and cannot be grounded in its local CP domain (since non-finite CPs lack independent speech event features).

The participants in the ongoing heated debate on control and PRO deviate from 'standard GB vocabulary' is several ways. Thus, Landau (2006) refers to empty subjects in Greek and Romanian subjunctives as PRO and B&H refer to empty subjects in non-obligatory control contexts as *pro*. For ease of reference, I will be using the notion PRO in its standard sense, as referring to all and only empty subjects in non-finite clauses.

The relevant Icelandic facts all involve items in PRO infinitives that show distant morphological reflections of case. The items in question are case agreeing elements of roughly three sorts:

- Adjectival and participial (primary) predicates
- Floating quantifiers
- Other case agreeing elements (indefinite pronouns, secondary predicates, …)

I will discuss these elements in section 2. Some of the relevant facts are subject to certain variation among speakers. Icelandic linguists have mentioned some of the variation in their works (e.g., Friðjónsson 1977, 1989, Thráinsson 1979, 2005, Sigurðsson 1991, 2002), but in

order to get a clearer picture of it, I have made a small informant survey, to which I will occasionally refer.[2]

In the next section I describe and discuss the basic facts of case agreement in Icelandic PRO infinitives, and in section 3 I discuss some more variable facts. Section 4 compares the different case properties of raising and control in Icelandic. In section 5 I present my analysis of PRO as a reference and phi-feature variable, developing a new understanding of both 'Case' and the silence of PRO in terms of a syntactic theory of speech event features. Section 6 concludes the article.

2. The basic facts

Icelandic is an unusually rich case-agreement language and it is this property that enables us to see that PRO is indeed case active in this language. The core fact is that PRO usually triggers case agreement in infinitives in the same fashion as overt subjects do in finite clauses. Importantly, also, Icelandic has quirky or non-nominative subjects as well as nominative ones, and it can be shown that quirky PRO and overt quirky subjects trigger the same kind of agreement, whereas nominative PRO and overt nominative subjects trigger another kind of agreement. I sketch the general pattern in (1) and (2), where X is either an element showing case agreement with its subject or showing up in a default, non-agreeing form, DFT, that is nonetheless dependent on the (quirky) case of the subject (the order of the elements may vary in finite clauses):

(1) a. $[_{CP} \ldots \text{NP.NOM} \quad \ldots \text{V}_{FINITE} \ldots \text{X}_{NOM} \ldots]$
    b. $[_{CP} \ldots \text{PRO.NOM} \ldots \text{V}_{INF} \quad \ldots \text{X}_{NOM} \ldots]$

(2) a. $[_{CP} \ldots \text{NP.QUIRKY} \quad \ldots \text{V}_{FINITE} \ldots \text{X}_{QUIRKY/DFT} \ldots]$
    b. $[_{CP} \ldots \text{PRO.QUIRKY} \ldots \text{V}_{INF} \quad \ldots \text{X}_{QUIRKY/DFT} \ldots]$

2.1 Predicative adjectives and past participles

Consider the agreement facts for predicative adjectives illustrated below (the same facts pertain to past participles). For clarity, the agreement triggering item is underlined whereas the agreeing element is set in boldface, a convention I will be using throughout:

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[2] For sharing with me their intuitions, many thanks to my native colleagues: Ásgrímur Angantýsson, Eiríkur Rögnaldsson, Guðvarður Már Gunnlaugsson, Gunnar Hrafn Hrafnbjargarson, Haraldur Bernharðsson, Jóhannes Gísli Jónsson, Kjartan Ottoson, Kristín Jóhannesdóttir, María Anna Garðarsdóttir, Margrét Jónsdóttir, Sigríður Sigurjónsdóttir, Thórhallur Eythórsson, and Veturliði Óskarsson.

(3) Ólafur   er **ríkur**/*ríkan/*ríkum/*ríks.[3]

     Olaf. N.M.SG is rich.N.M.SG/*A.M.SG/*D.M.SG/*G.M.SG/

(4) a.   Ólaf   langar ekki til [að <u>PRO</u> vera **ríkur**].[4]

           Olaf.A.M.SG longs not for to N   be   rich.N.M.SG

           'Olaf doesn't want to be rich.'

    b.   Ólafi   finnst gott [að <u>PRO</u> vera **ríkur**].

           Olaf.D.M.SG finds good to N   be   rich.N.M.SG

           'Olaf finds it nice to be rich.'

Notice that the matrix subject is accusative in (4a) and dative in (4b), that is, the nominative of the adjective *ríkur* cannot arise by inheritance of the matrix subject's case.[5] The remaining possibilities are local case agreement with nominative PRO or default nominative. B&H (2006) assume the second alternative, but, as we shall see, that assumption is untenable.

    Predicative adjectives and participles that take a quirky subject (and do not also take a nominative object, see below) show up in an *invariable, default form*, regardless of the gender and number of the quirky subject.[6] This is illustrated in (5):

(5) a.   Honum er **kalt**/*kaldur/*köldum.

           him.D   is   cold.DFT/*N.M.SG/*D.M.SG

           'He is (feeling) cold.'

    b.   Hans   er **saknað**/*saknaður/*saknaðs.

           him.G   is   missed.DFT/*N.M.SG/*G.M.SG

           'He is being missed. / He is missing.'

Predicates of this sort show up in this same invariable, default form in PRO infinitives, as illustrated for *kalt* in (7a,b), which should be compared to the finite clause in (6):

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[3] For convenience, I use as short abbreviations as possible in the glosses: capital N, A, D, G for nominative, dative, accusative and genitive, small capitals M, F, NT for masculine, feminine and neuter, and SG, PL for singular and plural. Thus, N.NT.SG denotes nominative, neuter, singular, for instance. Grammatical features that are directly translatable by the English glosses (e.g., the number of most arguments) are not specifically pointed out, as that would only make it harder for the reader to process the glosses.

[4] The infinitive marker *að* is usually taken to be a complementizer, hence its position in front of PRO. For the sake of readability, I explicitly indicate what case PRO 'would have' as a lexical pronoun in a comparable finite clause. That is, my purpose is not to insist that PRO has case but to give the relevant background information on the case properties of the construction when finite.

[5] However, such inheritance is possible in certain cases. I will return to this.

[6] This form is always homophonous with agreeing N/A.NT.SG forms. I mark it as DFT in the glosses.

(6) Henni   er **kalt**/*köld/*kaldri.
     her.D   is cold.DFT/*N.F.SG/*D.F.SG

(7) a. Hana langar ekki til   [að PRO   vera **kalt**].
         her.A longs not for   to   D   be   cold.DFT
         'She doesn't want to be (feeling) cold.'

     b. Hún   sagði að   það gæti ekki verið gott [að PRO   vera **kalt**].
         she.N said   that it   could not   be   good to   D   be   cold.DFT
          'She said that it could not be nice to be (feeling) cold.'

Most predicates of this sort can also be construed with a nominative subject, with different semantics, cf. (8) and (9) (similar case-semantic facts are found in many related case languages, whereas the Icelandic type of correlating agreement facts are much harder to find):

(8) a. Ég   er **kaldur**/**köld**.
         I.N am cold.N.M.SG/N.F.SG
         'I am cool/daring/tough/cold to touch.'   (≠ 'be (feeling) cold')

     b. Mér er **kalt**.
         me.D is.3SG cold.DFT
         'I am (feeling) cold.'   (≠ 'be cool/daring', etc.)

(9) a. Ofninn   er **kaldur**.
         radiator.the.N.M.SG   is cold.N.M.SG

     b. * Ofninum   er **kalt**.
         radiator.the.D.M.SG is (feeling) cold.DFT

The relevant generalizations are as follows, where X_n stands for a predicative adjective or a past participle:

(10) a. X_n is blocked from agreeing with an NP_1 *to which it assigns inherent case*
     b. X_n agrees with a structurally case-marked CP-internal NP_2, if there is one
     c. In the abesence of a CP-internal structurally case-marked NP, X_n shows up in
         an invariable non-agreeing default form

Given that PRO may be assigned either inherent or structural case, just like overt NPs (as argued in Sigurðsson 1991), these generalizations hold for PRO infinitives as well as for finite clauses. This is illustrated in (11) and (12):

(11) a. Hann   vonaðist til   [að PRO   vera nógu   **kaldur**].
         he.N   hoped   for   to N   be   enough   cool/daring.N.M.SG
         'He hoped to be cool/daring enough.'   (≠ 'be (feeling) cold')

    b.   Hann   vonaðist til   [að PRO   verða ekki of   **kalt**].
         he.N   hoped   for   to D   be   not too cold.DFT
         'He hoped not to get (feeling) too cold.'   (≠ 'be cool/daring')

(12) a. Ofninn   var ekki keyptur til [að PRO   vera alltaf **kaldur**].
         radiator.the.NM.SG was not bought for to N   be   always cold.N.M.SG
         'The radiator wasn't bought in order to always be cold.'

    b. * Ofninn   var ekki keyptur til [að PRO   vera alltaf **kalt**].
         radiator.the.NM.SG was not bought for to D   be   always cold.DFT

As stated in (10c), any predicative adjective or past participle shows up in an invariable non-agreeing default form if it has no local structurally case-marked NP to agree with. This is highlighted by numerous pairs of the following sort:

(13) a. Mér   var **sagt**   að fara.
         me.D   was told.DFT   to leave
         'I was told to leave.'

    b.   Mér   var **sögð**   þessi saga.
         me.D   was told.N.F.SG   this story.N.F.SG
         'I was told this story.'

(14) a. Var   ekki **lesið**?
         was   not   read.DFT
         'Didn't people read? / Was there no reading?'

    b.   Var   þessi saga   ekki **lesin**?
         was   this story.N.F.SG   not   read.N.F.SG
         'Was this story not read?'

The participle forms *sagt* and *lesið* in (13a) and (14a) are non-agreeing, default forms, whereas the forms *sögð* and *lesin* in (13b) and (14b) agree with their nominative 'neighbors', an object in (13b) and a subject in (14b).[7]

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[7] In the absence of a nominative subject a nominative object may trigger number and gender agreement in Icelandic, as seen in (13b) (see, e.g., Sigurðsson 2006a and the references there). Notice also that examples like (13) show that assigners of inherent case (like 'told') are not generally blocked from agreeing, but specifically blocked from agreeing with their own case assignees.

The relevant generalization is this: Whenever there is a CP-internal NP with structural case, a predicative adjective or past participle shows up in an agreeing form, otherwise they take a default non-agreeing form. Thus, if PRO *could not* be assigned structural nominative case, we would expect predicative adjectives and participles *to always show up in the non-agreeing default form* – since that is the form they otherwise take in the absence of a structurally case marked NP. That this is not the case is seen in the nominative PRO examples in (4), (11a) and (12a) above and is further illustrated in (15) (cf. (14b) vs. (14a)):

(15) Þessi saga   var skrifuð til [að <u>PRO</u> vera **lesin**/*lesið].
     this story.N.F.SG it. was written for to N   be read.N.F.SG/*DFT
     'This story was written to be read.'

For clarity, I summarize the central observations so far:

(16) a.   Only those predicative adjectives and past participles that agree in finite clauses can show agreement in PRO infinitives.
      b.   Predicative adjectives and past participles agree with a CP-internal nominative NP, if there is one.
      c.   Those predicative adjectives and past participles that assign inherent case to their subjects (and do not take a structurally case-marked object to agree with) exclusively show up in an invariable non-agreeing default form, in PRO infinitives as well as in finite clauses.

These generalizations are *exceptionless*, valid for *all* speakers of Icelandic and describe a *central* trait of Icelandic grammar. They are simply accounted for if Icelandic PRO is assigned structural or quirky case in the same fashion as overt subject NPs in finite clauses. On any other approach, these agreement patterns would be mysterious. B&H do not discuss these patterns. On the other hand, they discuss certain less central facts, where there is some speaker variation. I will now turn to these facts. As we shall see, the varition is limited and in fact irrelevant for the issue at stake, the case-marking of PRO.

2.2 Floating quantifiers

Icelandic floating quantifiers show gender, number and case agreement with their quantified NPs. I illustrate this for subjects in finite clauses in (17):[8]

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[8] Floating quantifiers fully agree with quirky subjects, thus differing from predicative adjectives and past participles in never showing up in a non-agreeing default form (the reason being that floating quantifiers are

(17) a. Bræðurnir   voru   ekki **báðir**   kosnir   í   stjórnina.
          brothers.the.N.M.PL were   not   both.N.M.PL elected   to board.the
          'The brothers were not both elected to the board.'
     b. Bræðrunum   var   **báðum**   boðið   á   fundinn.
          brothers.the.D.M.PL was both.D.PL invited.DFT to meeting.the
          'The brothers were both invited to the meeting.'

When embedded in PRO infinitives, the quantifiers show up in the same subject agreeing forms as in corresponding finite clauses:

(18) a. Bræðrunum   líkaði illa [að PRO   vera ekki **báðir**   kosnir].[9]
          brothers.the.D.M.PL liked ill to   N   be   not   both.N.M.PL elected
          'The brothers disliked not being both elected.'
     b. Bræðurnir   æsktu   þess [að PRO   vera **báðum**   boðið].
          brothers.the.N.M.PL wished(for) it to   D   be   both.D.PL invited
          'The brothers wished to be both invited.'

Any other forms of the quantifiers are impossible here:

(19) a. ... að vera ekki **báðir**.N/*báða.A/*báðum.D/*beggja.G kosnir.
     b. ... að vera **báðum**.D/*báðir.N/*báða.A/*beggja.G boðið.

There are two minor caveats here, though. First, not all predicates can be easily embedded as PRO infinitives under all control predicates. In particular, quirky PRO is usually rather low in

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underlyingly NP-internal and not NP-external assigners of inherent case, in contrast to predicative adjectives and past participles).

[9] These examples were ruled grammatical by 13 of my 14 informants (each got one question mark, from different speakers). My use of 'brothers' as a subject here is not a coincidence. Floating quantifiers in infinitives usually require a (marked) collective rather than a distributive reading, and it is relatively easy to get a collective reading for relational nouns like 'brothers'. Thus, the general acceptability of these examples is in part a consequence of the 'natural collectivity' of the matrix subject. If the quantifiers are instead placed in the matrix clauses, thereby taking scope over the matrix verb, the (unmarked) distributive reading is mandatory (cf. English distributed *Both the brothers were annoyed by not being elected*, as compared to the collective and marked *The brothers were annoyed not to be both elected*). On the distributive reading there are two 'likings' and 'wishings', as it were, but on the collective reading there is only a single but collective 'liking' or 'wishing' (which is marked, given the plurality of the 'likers'/'wishers'). This is the scope effect mentioned in Sigurðsson (1991:332), which B&H (2006, fn. 5) discard as "puzzling", arguing that "something less universal than scope is at issue".

acceptability when controlled by an agentive subject of a verb like *reyna* 'try'.[10] Second, many speakers are reluctant to embed floating quantifiers into control infinitives, "presumably for scope reasons" (Sigurðsson 1991:332), that is, the scope reasons mentioned in fn. 9 here. B&H (2006, fn. 5) refer to these caveats as "important", and from the point of view of a detailed language description they certainly are.[11] However, for the issue at stake here, the case-marking of PRO, they are trivially unimportant. What matters here is this:

- *First*: Quirky PRO is generally acceptable in Icelandic (but agentive control of non-agentive PRO is commonly awkward, not least when PRO is quirky).
- *Second*: Floating quantifiers are grammatical albeit a bit marked in control infinitives (as their narrow scope in relation to the matrix predicate usually requires a collective reading).
- *Third*: When floating quantifiers are embedded in control infinitives they normally comply with the pattern described in (17)-(19) above.

The simplest account of the observed facts is that Icelandic PRO is assigned structural and inherent case in the same manner as overt subjects in comparable finite clauses, hence also triggering quantifier agreement in the same manner as overt subjects.

2.3 Other case agreeing elements

Secondary predicates and 'indefinite pronouns' of various sorts, sometimes referred to as 'semipredicates', show in many ways similar properties as floating quantifiers. Thus, the indefinite pronoun or semipredicate *einn* 'alone; one (in number)' agrees with its subject in case, number and gender in the following examples:

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[10] See Thráinsson (1979, ch. 5), where it is shown that this is also, to an extent, true of nonagentive nominative PRO; see also Eythórsson and Barðdal (2005:851ff). Quirky PRO is usually acceptable when embedded under a non-agentive control predicate.

[11] B&H (2006, fn. 5) claim that my reference to scope is "in fact ... only valid for instances of quirky-Case-marked floating quantifiers", but that is incorrect. In this same footnote B&H indicate that there is some important difference between my and Thráinsson's grammars with respect to case agreement in infinitives, saying: "Despite these rather important reservations concerning the acceptability of the relevant Icelandic data, we will restrict attention to those speakers of Icelandic who have internalized the empirical picture described in Sigurðsson 1991. For other speakers, such as Thráinsson, Icelandic behaves exactly like English." This is a surprising misinterpretation (to say the very least). There is no relevant difference in this respect between the grammar described in Sigurðsson (1991) and the grammar described by Thráinsson (1979:297ff; 1993:205f; 2005:415f; 2007, ch. 8.2), or, for that matter, the Icelandic grammar described by other Icelandic linguists, e.g., Eythórsson and Barðdal (2005). See further below. Also, "exactly" how case agreement behaves in English control infinitives is unclear to me.

(20) a. <u>Ólafur</u>   fór   **einn**   í   veisluna.
       Olaf.N   went   alone.N.M.SG to party.the

     b. <u>Ólaf</u>   vantaði   **einan**   í   veisluna.
       Ólaf.A   lacked   alone.A.M.SG in party.the

     c. <u>Ólafi</u>   leiddist   **einum**   í   veislunni.
       Olaf.D   was-bored alone.D.M.SG in party.the

The same forms are found in control infinitives. I show this for nominative *einn* in (21), for accusative *einan* in (22), and for dative *einum* in (23) (all the forms are M.SG, but for reasons of space, I do not state this in the glosses):

(21) a. Ólafur hafði gaman af [að <u>PRO</u> fara **einn**   í veisluna].
       Olaf.N had   pleasure of to N   go   alone.N to party.the
       'Olaf found it pleasurable to go alone to the party.'

     b. Ólaf   langaði [að <u>PRO</u> fara **einn**   í   veisluna].
       Olaf.A   longed to N   go   alone.N to party.the
       'Olaf wished to go alone to the party.'

     c. Ólafi   leiddist   [að <u>PRO</u> fara **einn**   í   veisluna].
       Olaf.D   was-bored to N   go   alone.N to party.the
       'Olaf found it boring to go alone to the party.'

(22) a. Ólafur hafði ekki gaman af [að PRO vanta **einan**   í   veisluna].
       Olaf.N had   not pleasure of to A   lack   alone.A in party.the

     b. Ólaf   langaði ekki [að <u>PRO</u> vanta **einan**   í   veisluna].
       Olaf.A   longed not to A   lack   alone.A   in   party.the

     c. Ólafi   leiddist   [að <u>PRO</u> vanta **einan**   í   veisluna].
       Olaf.D   was-bored to A   lack   alone.A   in party.the

(23) a. Ólafur hafði ekki gaman af [að PRO leiðast   **einum** í veislunni].
       Olaf.N had   not pleasure of to D   be-bored alone.D in party.the

     b. Ólaf   langaði ekki [að <u>PRO</u> leiðast **einum** í veislunni].
       Olaf.A   longed not   to D   be-bored alone.D in party.the

     c. Ólafi   leiddist   [að <u>PRO</u> leiðast **einum** í veislunni].
       Olaf.D   was-bored to D   be-bored alone.D in party.the

Again, it is evident that the case source is internal to the PRO infinitive. As we shall see shortly, however, there are certain exceptions to this central generalization.

The facts in (20)-(23) are the *central facts*. However, some *less central* and *more variable* facts also exist. I will address the most important of these in the next section. Before proceeding, however, I highlight the relevant generalizations so far:

1. *Predicative adjectives and past participles* that assign *quirky* case to their subject never agree with it, regardless of whether it is an overt NP$_1$ or PRO. Instead, they either show up in a default, non-agreeing form (like *kalt* 'cold'), which is the common pattern, or agree with a structurally case-marked CP internal NP$_2$ (an object), if there is one.
2. *Predicative adjectives* (like *kaldur* 'cold') and *past participles* agree with their *nominative* subject, regardless of whether it is an overt NP or PRO.
3. *Floating quantifiers* show nominative agreement with nominative subjects and quirky agreement with quirky subjects, regardless of whether the subject is an overt NP or PRO.
4. *Semipredicates or indefinite pronouns* like *einn* 'alone, one (in number)' usually agree with their subject, nominative or quirky, regardless of whether it is an overt NP or PRO.[12]

3. Transmission of case

As we have seen, the source of the case of an agreeing element in PRO infinitives is normally infinitive internal, as sketched in (24):

(24) … NP.CASE-α … [$_{CP}$ <u>PRO.CASE-β</u> … **X.AGR-β**]

However, there are certain cases where the active case in a PRO infinitive is inherited or transmitted from its controller. Thus, instead of the general circumstances in (24), we get the more special situation in (25):

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[12] B&H discuss nominative marking of *einn* 'alone' in examples that are similar to (22) and (23), reporting (2006:595, fn. 7) that Sigurðsson "indicates that for him, the nominative form … is *fully acceptable*" (my emphasis) and contend that their "interpretation of his judgments is that he has generalized the use of default nominative Case in non-finite contexts". *In fact*, however, I informed B&H (in an e-mail 30 April 2005) that I have "always found these nominatives … *questionable* ..." (my emphasis), in contrast to regular nominatives in control infinitives – but I added that they are nonetheless "surprisingly "good"", which is obviously not the same as saying that they "are good".

As is evident from the description in Thráinsson (1979:297ff), some speakers (including 4 of my 14 informants) find nominatives of this sort acceptable, perhaps because they analyze *einn* 'alone' as a reduced predicate, 'being alone' (nominal predicates normally being nominative in Icelandic). However, *I am not* one of those speakers and *I have not* "generalized the use of default nominative Case in non-finite contexts" (if I may say so myself), nor do I in fact know of any other speaker of Icelandic who has.

(25)   … <u>NP.CASE-α</u> … [$_{CP}$ PRO … **X.AGR-α]**[13]

That is, the basic nominative case morphology of an infinitive my be overwritten by the case of the controller of PRO. The kind of variation that arises is illustrated in (26):

(26) a.   Hún   bað   Ólaf   [að <u>PRO</u> fara bara **einn**   í   veisluna].
           she.N asked Olaf.A to   N   go   just alone.N to party.the
           'She asked Olaf to just go alone to the party.'
     b.   Hún   bað   <u>Ólaf</u>   [að PRO fara bara **einan** í   veisluna].
           she.N asked Olaf.A to   go   just   alone.A to party.the

Compare this to the corresponding finite clause, where only the nominative is possible:

(27) <u>Ólafur</u>   fór   bara **einn**/*einan   í   veisluna.
      Olaf.N went just alone.N/*A   to party.the

The acceptablity of ACC transmission in examples like (26) varies among speakers, as well as in the grammars of individual speakers, depending on a number of factors, as we shall see. For the examples in (26), the results of my small informant survey were as follows:[14]

		OK	*?*	***
(26)' a.	she asked Olaf.A to go just alone.**N** to party.the	8	4	2
b.	she asked Olaf.A to go just alone.**A** to party.the	11	2	1

I will turn to the analysis of case transmission in section 5, but here I would like to stress that the phenomenon is rather narrow in scope. Thus, it *never* applies to quirky PRO infinitives. A factor that contributes to this is that controlled quirky PRO is often low in acceptability, as mentiond above. However, that is clearly not the sole reason, as seen by the contrast between (28) and (29):

(28) a. ??Við   báðum   hana   [að <u>PRO</u> verða **boðið**   af öðrum].
            we.N   asked   her.A to   D   be   invited.DFT by others

---

[13] As will be discussed in section 5, PRO inherits the phi-features of its controller. Hence, these structures can be analyzed as in (i), where PRO triggers CP-internal agreement:

(i)   … NP.CASE/PHI-α … [$_{CP}$ <u>PRO.CASE/PHI-α</u> … **X.AGR-α**]

[14] Some of my informants used more fine grained judgements and comments, but I present all the answers in terms of only OK, ? and *.

b. ?Við báðum hana [að <u>PRO</u> verða ekki **illt** í maganum].
    we.N asked her.A to D be not bad.DFT in stomach.the
    'We asked her not to get stomach ache.'

(29) a. *Við báðum hana [að <u>PRO</u> verða **boðna** af öðrum].
    we.N asked her.A to D be invited.A.F.SG by others

 b. *Við báðum hana [að <u>PRO</u> verða ekki **illa** í maganum].
    we.N asked her.A to D be not bad.A.F.SG in stomach.the

Examples like (28) are not good, but their anomaly is far from being as sharp as the ungrammaticality in (29) and it is also of a different type. The extra factor, making (29) much worse than (28), is illicit case transmission into quirky control infinitives (which would force a change in the morphology of the infinitive internal quirky case assigner and thus mask the inherent case/theta assignment information).

Case transmission, then, applies into 'basically nominative' PRO infinitives *only*. Also, within the domain of 'basically nominative' PRO infinitives, case transmission is subject to variation:[15]

1. Transmission under object control is more common and neutral than transmission under (quirky) subject control
2. Depending on agreeing items and on predicates, PRO infinitives are variably transparent to case transmission[16]
3. Transmission of ACC is more common and neutral than transmission of DAT
4. Transmission of GEN is impossible

Thus, while many or most speakers readily accept ACC transmission under object control in examples like (26b) above, the examples in (31) have more variable acceptability, as illustrated by the informant judgements to the right of the examples; the minus sign in front of the examples indicates variable and commonly degraded acceptability:[17]

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[15] For an instructive cross-linguistic study of similar (but variable) case transmission phenomena, see Landau (2007).

[16] I don't have any clear picture of this effect since it varies from speaker to speaker. At least for some speakers and some constructions the copular verbs *vera* 'be' and *verða* 'be, become' are more transparent to case transmission than more contentful verbs.

[17] B&H (2006, fn. 6) claim that "Instances of object control constructions where the object controller bears quirky Case are very limited (we suspect that this is due to the very narrow semantic range of verbs taking quirky objects (mostly experiencer predicates)." *In fact*, however, Icelandic has an *unusally* broad range of verbs that take dative objects, with various thematic and aspectual properties (e.g., Barðdal 2001, Maling 2002).

	OK	?	*
(31) a. – Við sögðum <u>Ólafi</u> [að PRO vera **rólegum**].	7	2	5
we told Olaf.D to be calm.D			
b. – <u>Ólaf</u> langaði [að PRO vera **fyrstan**].	2	2	10
Olaf.A longed to be the-first-one.A			
c. – <u>Ólafi</u> fannst gaman [að PRO vera **fyrstum**].	3	3	8
Olaf.D found pleasurable to be the-first-one.D			

Examples of this sort were common in Old Norse (Friðjónsson 1977, 1989:47ff), and they are evidently also attested in Modern Icelandic, at least sporadically. I myself find them all acceptable but marked.

Depending on speakers, then, nominative is normally either the only possible form or the unmarked form in examples of this sort:

	OK	?	*
(32) a. Við sögðum Ólafi [að <u>PRO</u> vera **rólegur**].	11	1	2
we told Olaf.D to N be calm.N			
b. Ólaf langaði [að <u>PRO</u> vera **fyrstur**].	14	-	-
Olaf.A longed to N be the-first-one.N			
c. Ólafi fannst gaman [að <u>PRO</u> vera **fyrstur**].	14	-	-
Olaf.D found pleasurable to N be the-first-one..N			

In addition, as mentioned above, transimission of genitive is never an option. This is illustrated by the minimal pair in (33):[18]

(33) a. Við kölluðum á <u>Ólaf</u> [að PRO vera **rólegur/rólegan**].
      we shouted on Olaf.A to be calm.N/A
      'We shouted to Olaf to be calm.'

   b. Við kölluðum til <u>Ólafs</u> [að PRO vera **rólegur/*rólegs**].
      we shouted to Olaf.G to N be calm.N/*G
      'We shouted to Olaf to be calm.'

In fact, it is trivially obvious that 'basically nominative' PRO infinitives normally retain their nominative morphology, as exemplified in (34), for the simple reason that the optimal conditions for case transmission only apply to a small minority of such infinitives:

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[18] The genitive in (33b) was judged ungrammatical by 13 of my 14 informants, while the nominative was judged grammatical by 13 of them (the cases each got a question mark from one (but not the same) speaker).

(34) a.   Hann   reyndi   [að   <u>PRO</u>   verða   **ríkur**].
          he.N   tried   to   N   become rich.N

     b.   Honum   gengur ekki   vel   [að   <u>PRO</u>   verða   **ríkur**].
          him.D   goes   not   well   to   N   become rich.N
          'He is not sucessful in becoming rich.'

– and so on, and so forth. B&H's claim that nominative case in Icelandic PRO infinitives is "default" and "can be assigned indirecly in control *as a rather marked option*" (2006:601; original emphasis) is incorrect and remarkable. It is the opposite that is true: case transmission, overwriting basic nominative morphology, is either marked or excluded, with the exception of ACC transmission under object control (see further below).

     B&H (2006:596) take nominatives in Icelandic PRO infinitives to be default case "as there is no source for structural nominative in the embedded clause". However, what the Icelandic facts illustrate is *precisely* that there *is* an independent source for structural nominative case in infinitives (as argued in Sigurðsson 1991). This is further underlined by the obligatory nominative morphology in non-obligatory control infinitives like the following:

(35) a.   [Að vera **ríkur**]   er   ágætt.
          to   be   rich.N   is   nice

     b.   Það er ekki alltaf   leiðinlegt [að   ferðast   **einn**].
          it   is   not   always boring   to   travel   alone.N

The movement theory of control does not extend to uncontrolled empty subjects, which B&H therefore assume to be *pro* rather than PRO. However, since structural nominative case is obligatory in infinitives like the ones in (35), it is hard to see how it can in principle be excluded from being available in PRO infinitives as well.

     To repeat: Basic nominative morphology in Icelandic infinitives is most commonly *not* overwritten by external case transmission, and in most types of examples the external case is either ungrammatical or a marked option, depending on speakers (and examples). There is *only one* exception to this general picture, namely ACC transmission under object control, which is quite generally accepted. However, even for this kind of examples, infinitive internal nominative agreement is acceptable or preferable to many speakers in at least many cases. We saw an example of this in (26a). More examples are given in (36):

(36) a.   Við   báðum Maríu   [að   <u>PRO</u>   fara ekki út   **ein**].
          we.N   asked   Mary.A to   N   go   not   out   alone.N
          'We asked Mary not to go out alone.'

b. Við báðum Maríu [að <u>PRO</u> syngja **sjálf** í veislunni].

we.N asked Mary.A to N sing self.N in party.the

'We asked Mary to sing in the party herself.'

c. Við báðum hana [að <u>PRO</u> vera **komin** klukkan tíu].

we.N asked her.A to N be come.N clock ten

'We asked her to be there at ten o'clock.'

d. Við báðum hana [að <u>PRO</u> vera ekki alltaf svona **sein**].

we.N asked her.A to N be not always so late.N

'We asked her not to always be so late.'

I myself find these regular nominatives perfect, whereas the correpsonding accusative forms (*eina*, *sjálfa*, *komna*, *seina*) are all marked for me, albeit a bit varyingly so (on the borderline between a question mark and just 'marked'). Most of my informants reported similar intuitions, as illustrated below:

Accusative agreement morphology:

		ok	*?*	***
(36)' a1.	we asked Mary.A to go not out alone.**A**	4	8	2
b1.	we asked Mary.A to sing self.**A** in party.the	8	5	1
c1.	we asked her.A to be come.**A** clock ten	6	4	2
d1.	we asked her.A to be not always so late.**A**	8	4	2

Nominative agreement morphology:

		ok	*?*	***
(36)' a2.	we asked Mary.A to go not out alone.**N**	10	3	1
b2.	we asked Mary.A to sing self.**N** in party.the	11	2	1
c2.	we asked her.A to be come.**N** clock ten	10	2	2
d2.	we asked her.A to be not always so late.**N**	10	3	1

B&H's claim that the nominative morphology is "rather marked" is thus untrue, and, in fact, remarkable.

It is worth pointing out, however, that B&H could always claim that these nominatives are 'default', assigned by some last resort mechanism. The reason why they can make such a claim without any cost or risk is that they don't have any theory of 'default case', as should be clear from the following passage (B&H 2006:602):

We speculate that the marked default nominative Case on the floating quantifier … is a distance effect. That is, … the NP and the floating quantifier are separated by an infinitival clause boundary. … This is just a speculation, and clearly not a deep

explanation. … Treating nominative assignment … as …resulting from the distance between the two targets of Agree is one way of capturing marginal facts without deriving them in a deep way.

Obviously, there is no way of putting these speculations to any theoretical test so I will not try to. Let me however point out that DAT-NOM constructions may be embedded under control verbs. That is, there are cases where the nominative is in fact *an overt full argument*, as in (37); as before, the agreeing element, here a passive participle, is set in boldface while the agreement trigger, here a nominative object, is underlined:

(37) a.   Honum mislíkaði [að PRO vera **sýnd**   <u>þessi ljóta mynd</u>].
        him.D   disliked   to   D   be   shown.N.F.SG this ugly picture.N.F.SG
        'He disliked to be shown this ugly picture.'
     b.   Honum mislíkaði [að PRO vera **sýndar**   <u>þessar ljótu myndir</u>].
        him.D   disliked   to   D   be   shown.N.F.PL these ugly pictures.N.F.PL

Crucially, nominative objects in examples of this sort trigger obligatory agreement of passive past participles (which in turn assign dative case to PRO). However, if the notion of 'default nominative' is to make sense as a different notion than 'structural nominative', one would expect it to differ from the latter precisely in being an elsewhere case, invisible to agreement.

    Notice further that nominative objects like the ones in (37) trigger not only participle agreement but also verb agreement in finite clauses, as illustrated in (38):

(38) a.   Honum **var**   ekki   **sýnd**   <u>þessi ljóta mynd</u>.
        him.D   was.3SG not   shown.N.F.SG this   ugly picture.N.F.SG
        'He was not shown this ugly picture.'
     b.   Honum **voru**   því   **sýndar**   <u>þessar ljótu myndir</u>.
        him.D   were.3PL thus shown.N.F.PL these ugly pictures.N.F.PL
        'Thus, he was shown these ugly pictures.'

That is, these nominatives seem indeed to be examples of "true structural nominative", to use B&H's own words (2006:595), where they base their argumentation on the assumption that finite verb agreement correlates with "true structural nominative" (but see further section 6).

    Icelandic is unusual in overtly marking many of its nominatives in morphology. Even so, it is reasonable to analyze nominative as the syntactically unmarked case in Icelandic, as in many other languages. However, that is generally true of the nominative, in finite clauses as well as in non-finite clauses and also in non-clausal structures. What matters here is that the Icelandic nominative is evidently *the same case* in infinitives as in finite clauses. Thus, if it does not count in infinitives, then it does not count in finite clauses either and the question of

whether or not PRO differs from overt subjects with respect to nominative case-marking becomes categorically impossible to test – an unscientific question.

4. Control versus raising

Icelandic raising and control constructions display very different case properties (as first pointed out by Thráinsson 1986:252). The case of the overt member of a 'control chain' is decided 'upstairs', by some element or property of the matrix clause, whereas the case of the overt member of a raising chain is decided 'downstairs', in the infinitive raised from.[19] This holds across the structural/quirky case distinction and can thus be simply sketched as follows:

(39) Control: NP$_k$.**UPSTAIRS** CASE … [$_{CP}$ … PRO$_k$ …

(40) Raising: NP$_k$.**DOWNSTAIRS** CASE … [$_{TP}$ … e$_k$ …

This striking difference is illustrated by pairs like the following:[20]

(41) a.   **Mennirnir**/*Mönnunum vonast til   [að   PRO verða báðum   hjálpað].
          men.the.N/*D   hope for to   D   be   both.D helped.DFT
          'The men hope to be both helped.'
      b.   **Mönnunum**/*Mennirnir virðist báðum [e hafa   verið hjálpað].
          men.the.D/*N   seem   both.D   have been   helped.DFT
          'The men seem to have both been helped.'

Thus, Icelandc raising is like Icelandic passive in always 'preserving' inherent case (Zaenen, Maling and Thráinsson 1985, and many others, e.g., Jónsson 1996):

(42) a.   Við   höfðum hjálpað báðum   **mönnunum**.
          we.N   had   helped   both.D   men.the.D
      b.   **Mönnunum**/*Mennirnir hafði   báðum   verið hjálpað.
          men.the.D/*N   had   both.D   been   helped.DFT

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[19] Andrews (1990:205f) reports that 2-3 of his 17 informants accept some control examples with the overt case coming from downstairs and that one of his informants accepts a raising example with an upstairs case instead of the regular downstairs case. All such examples are utterly ungrammatical to me and I don't think I have ever seen or heard any such examples except in Andrews' paper.

[20] Landau cites examples (2003:492, his (41a-c)) that are supposed to show this, attributing them to O'Neil (1997). Unfortunately, these examples are ungrammatical (for independent reasons), but the argument is valid.

The fact that control so sharply differs from NP-movement/raising with respect to case preservation would seem to be lethal to the movement theory of control. However, B&H (2006, fn. 19) argue that this is not the case, the reason being that control movement is distinct from raising (which, by the way, is a retreat from their earlier position in, e.g., B&H 2003). Remarkably, though, B&H do not explain the difference nor do they present any analysis of case preservation under NP-movement/raising.

Let us nonetheless consider B&H's story for 'non-preservation of case' under control and try to find out what it predicts for 'preservation of case' under raising. Recall that control in B&H's approach involves movement from one theta position to the other. Thus, they suggest the following derivation of control examples like (41a), with a nominative morphology in the matrix clause and a quirky morphology downstairs; X denotes an assigner (V or A) of θ-role/quirky case:

(43) NP_i T …NP_i V … [… T_{Inf} …. X NP_i …]
        Type: "The men.**N** hope [to be both.**D** helped]"

    a.   Step 1: NP is assigned downstairs θ-role/DAT by X (NP sharing DAT with '*both*')
    b.   Step 2: matrix V attracts NP and assigns a θ-role to it
    c.   Step 3: marix T assigns structural Case to NP, which moves to check EPP

The 'control chain', thus, is assigned two cases, one quirky downstairs and one structural in the matrix clause. B&H contend (2006:600f) that the "Case value that surfaces on the moving element … is always the highest Case value" and that it is "plausible to assume that Case is morphologically realized only once (just as only one member of a chain is pronounced), according to the context in which the NP is pronounced (highest copy)."

Given this approach to case marking in control constructions, one would have to assume that quirky raising, as in (41b), moves an NP to the matrix left edge, "to check EPP", without being assigned structural case by the matrix T (and also without passing through any matrix θ-position). This, as such, is not inconceivable, but, crucially, the traditional explanations, that inherently case-marked NPs either 'absorb' or 'repel' structural case, would *not* account for the absence of overt structural case-marking in quirky raising, since the opposite is precisely what happens to controlled quirky NPs on B&H's account. What their analysis thus boils down to is a claim to the remarkable effect that assignment or matching of a 'nominative' matrix θ-role, i.e., a θ-role that does *not* relate to inherent case, suppresses inherent (θ-related) case.

Moreover, raised non-quirky NPs *do* trigger finite verb agreement, just as nominative controllers:

(44) a. <u>Við</u>   von**umst** til [að PRO verða báðum   hjálpað].
       we.N hope.1PL for to   D   be   both.D   helped
       'We hope to be both helped.'

   b. <u>Við</u>   virð**umst**/*virðist báðir hafa   verið kosnir.
       we.N seem.1PL/*3SG   both   have   been   elected
       'We both seem to have been elected.'

The movement theory of control greatly complicates the analysis of all these facts. The plain generalization is that the matrix NOM is activated whenever the matrix clause contains a non-quirky NP, irrespective of control or raising, and that structural case *never* suppresses or overwrites inherent case once it has been assigned, as has long been the received understanding (Zaenen, Maling and Thráinsson 1985, inter alia).[21] This is simply accommodated if quirky PRO does *not* move into the matrix clause.

5. Reference and Grounding ('Case')

5.1 PRO is a reference/phi-feature variable

Even though the *GB theoretic* conception of PRO as a [+anaphoric, +pronominal] category should arguably be dispensed with, it is evident that PRO neither reduces to nothingness nor to a movement copy. What the Icelandic facts demonstrate, beyond doubt, is that there *is* 'something' there, visible to both the interfaces (albeit only indirectly visible *in* PF, through agreement).

What *is* there is a thematic element, call it simply θ, that is simultaneously a reference variable:

(44) PRO = θREF$_\alpha$

This is a plain fact, not a theory, and hence this is not an extra cost. Rather, a claim to the effect that syntax cannot have access to and operate with a reference variable is stipulative, thereby violating Minimal Design (Chomsky's Strong Minimalist Thesis).

The value of θREF$_\alpha$ is either copied from one or more overt or construed antecedents, X, or a non-copied, arbitrary (or generic) one:

(45) For θREF$_\alpha$, REF$_\alpha$ = *arb* or identical with REF$_X$, X one or more overt or construed antecedents

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[21] As also supported by the fact observed above that case never transmits into quirky PRO infinitives.

Again, this is not a theory but a fact. Thus, (45) is true regardless of how we analyze the mechanism of reference copying or inheritance, that is, the syntax of control does not matter here, however interesting it may be in other contexts.[22]

An important fact that has not been generally highlighted is that case is not the only morphological feature carried by Icelandic PRO. Controlled PRO arguably inherits not only the reference but *also the phi-features* of its controller. This is suggested by several kinds of facts, for instance overt gender and number agreement, as illustrated in (46) for the semipredicate *einn* 'alone' (the same facts apply to other infinitive internal agreeing elements, e.g., predicative adjectives):

(46) a.   Henni   líkaði   ekki   [að   PRO   syngja   **ein**].
            her.D   liked   not   to   N   sing   alone.N.F.SG
            'She did not like to sing alone.'
      b.   Honum   líkaði   ekki [að   PRO   syngja   **einn**].
            him.D   liked   not   to   N   sing   alone.N.M.SG
      c.   Konunum   líkaði   ekki [að   PRO   syngja   **einar**].
            women.the.D   liked   not   to   N   sing   alone.N.F.PL
      d.   Mönnunum   líkaði   ekki   [að   PRO   syngja **einir**].
            men.the.D   liked   not   to   N   sing   alone.N.M.PL

The simplest account of these facts is that PRO inherits both the reference and the phi-features of its controller and then triggers CP-internal agreement, in the same fashion as overt nominative phi-featured subjects do in finite clauses:

(47)   ... Y … [_{CP} <u>PRO.NOM+Phi-Y</u> ... **X.Case&Phi of PRO** ...]

Alternatively, one might want to assume that the agreeing elements inherit their phi-features directly from their controller, across PRO, but that would complicate the overall analysis of Icelandic agreement and leave certain facts unexplained. For instance, it would not account for the fact that arbitrary PRO triggers N.M.SG agreement (i.e., agreement arises in spite of an

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[22] In the approach proposed in Sigurðsson (2006c), PRO infinitives are merged above their main clauses, such that PRO can be analyzed as a probe, probing and agreeing with its controller prior to raising of the matrix clause (where an object controller is merged higher than a potential subject controller). For simplicity, however, I will not pursue this 'reverse' approach here or any other of the many technically sophisticated approaches to control that have been proposed, syntactic and/or semantic. My goal here is to develop a better understanding of the 'PRO phenomenon' in general terms, and therefore I keep the discussion as non-technical as possible. For partly similar but more technically elaborated ideas, see Landau (2001, 2004, 2006).

absent controller, the agreeing features being the same as triggered by impersonal *maður* 'one').

5.2 Formal features are assigned in (radically disentangled) morphology

As PRO in fact inherits the reference of its controller, it is not surprising that it also inherits its phi-feature values, since the reference of an argument is largely contingent on its phi-feature values (and cannot generally contradict these values).[23] However, this feature inheritance is not syntactic but transmitted by an agreement process taking place in morphology, *after* transfer to PF (see also Landau 2007, independently). Recent inquiry into the nature of case and agreement (Sigurðsson 2003, 2004c, 2006a, 2007, etc., see also McFadden 2004, Platzack 2006, Bobaljik 2006, Boeckx 2007) suggests that morphology is even more radically disentangled from syntax than assumed in distributed morphology (Halle and Marantz 1993, etc.). On this approach, call it *Radically Disentangled Morphology*, morphology 'sees' syntax but not vice versa. Syntax, plainly, does not operate with or on morphological entities like NOM(inative) or FEM(inine). That is, syntax exclusively opertates with abstract features and abstract roots, ROOT$_{99}$, etc., all morphology and all phonologization or combination of sounds and semantic/syntactic features being post-syntactic, taking place on the expressive PF side of language (hence out of sight for the semantic interface).[24] If so, both the case-marking and the phi-feature inheritance of PRO happens post-syntactically, like any other case and agreement phenomena.

Semantic/syntactic gender (sex differentiation) and number must be sharply distinguished from *formal* gender and number marking, as seen by numerous cases where there is no coherence between gender/number semantics and gender/number form. Formal gender and number markings belong to the PF of individual languages, where they function as disambiguating identificational indexes in discourse, reducing ambiguity and thereby facilitating processing, rather than making any syntactic difference (Sigurðsson 2007; cf. also Corbett 1991:320ff and references cited there).[25] Thus, formal (non-semantic) pronominal

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[23] Also *pro* in finite clauses is or at least may be a feature/reference variable, inheriting its values from other elements (see Sigurðsson and Maling 2007).

[24] Which means that the 'lexicon' in the traditional sense is stored on the PF side, hence inaccessible to syntactic operations (as in DM). The 'lexical items' accessible to syntax are abstract entities like Tense, Person, etc. It is perhaps worth pointing out here, also, that even though syntax has no access to the content of a root like TABLE or CHAIR, *the mind* has. 'We' or our minds can obviously look ahead and plan our sentences or even whole books, whereas syntax is a 'dumb machine' that merges syntactic objects or units and computes sentences. We can only speculate on the correlation between the conscious mind and mechanic, biological subsystems like syntax.

[25] There is no general or universal need for languages to have overt formal categories like gender. Languages do not obviously have gender 'in order to' make overt distinctions, but, if they have gender, then it often serves as an identificational index in discourse. Various other strategies for the same disambiguating purpose are

gender unambiguously identifies the referent of the pronouns in Icelandic examples like (48), rendering them felicitous (as expected, similar facts are found in, e.g., German, in contrast to languages that do not make gender distinctions of this sort):

(48) a. Bíllinn   rakst á <u>rútuna</u>   svo að **hún**   skemmdist.
          car.the.M hit   on buss.the.F so   that she(=it.F) damaged
          'The car hit the bus, so it (i.e., the bus) got damaged.'
      b. <u>Bíllinn</u>   rakst á rútuna   svo að **hann**   skemmdist.
          car.the.M hit   on buss.the.F so   that he(=it.M)damaged
          'The car hit the bus, so it (i.e., the car) got damaged.'

The ability of gender and number values to function as identificational indexes in discourse evidently depends on whether an overt morphological distinction is available or not. Thus, reference tracking of this sort breaks down in Icelandic (and, e.g., German) when both referents happen to have the same number and gender, and, conversely, it is possible in English when it happens to have the right kind of morphology:[26]

(49) A drifting log hit <u>the boat</u>, and as a result, **she** sank.

For various other kinds of evidence that *formal* gender, number and case are non-syntactic, see Sigurðsson (2006a, 2006b, 2007) and the references cited there.

    Since Icelandic PRO is assigned both number and gender it must also be case-marked, for the trivial morphological reason that gender and number marking is preconditioned by case-marking in Icelandic. That is, Icelandic morphology observes the constraint in (50), call it the *morphological case filter*:

(50) *X if X has formal gender and number but has no morphological case[27]

The case-marking of Icelandic PRO is thus a purely morphological phenomenon. That might seem to be a bit curious, as PRO is invisible and thus cannot itself show any morphology.[28]

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available, and we have little knowledge or understanding of why different languages opt for different such strategies.

[26] Thanks to Joan Maling and Matthew Whelpton for this information. Matthew tells me that he would need the reference of the pronoun to the boat to have been set up previously in the context.

[27] The opposite is not true, i.e., Icelandic has a few items that are case-marked without having formal gender. Many other languages show close correlations between case and phi-features, but the morphological case filter as stated in (50) is a language-specific generalization. It does not hold for Romance or Russian, for instance (but it seems to hold, at least largely, for the pronominal system in these languages and even in English, with elements like *it* as a possible exception).

However, silent morphological feature assignment is (obviously) a widespread phenomenon in languages, so this is not radical or peculiar. That is, this is no more controversial than to say that English *you* is accusative singular in one case but nominative plural in another case.

The morphological case filter would suffice to force case-marking of Icelandic PRO. However, if structural accusative assignment (CASE2) is preconitioned by nominative assignment (CASE1), as I have argued in earlier work (e.g., 2003, 2006c), then the accusative of objects in PRO infinitives in case poor languages like English can be interpreted as an indication that PRO in general is case-marked (as suggested in Sigurðsson 1991 and Landau 2006). At any rate, it is evident that any argument in Icelandic, including PRO, has to get a case value or case interpretation in morphology. Exactly what case PRO carries is of less importance than the more general requirement that it carry some case.[29] Thus, as we have seen, PRO may either carry a CP-internal case or the case of its controller, as sketched in (51):

(51) a.   NP.CASE-α … [$_{CP}$ PRO.CASE-β … (X.AGR-β)]

  b.   NP.CASE-α … [$_{CP}$ PRO.CASE-α … (X.AGR-α)]

Evidently, there are two available strategies to decide the case of PRO, either by CP-internal assignment (in the regular way) or by inheritance, in tandem with phi-feature inheritance from the controller of PRO. CP-internal case assignment is the usual strategy, as we have seen, but the inheritance strategy is in principle available in certain cases, above all under ACC object control (perhaps in part modelled on ECM).[30]

The competition between these two strategies does not lead to a morphological clash because PRO is silent and since case-marking is a post-syntactic morphological (PF) process, there can be no syntactic clash either. In short, this is what one might expect if case belongs to (broad) PF only, but it would be truly problematic and mysterious if case was syntactic.[31]

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[28] Alternatively, one might want to assume that the infinitive marker *að* (obligatory in most control contexts, but absent in raising constructions) *is* PRO in PRO infinitives, but I'll not pursue the question here.

[29] Or else its gender and number and hence its reference would not be processable, given the validity of (50). That is, in a language where there is no way of assigning gender and number to an element unless it also has case, there is also no way of processing gender/number, hence reference, without case.

[30] The major exception, as we have seen, is that CP-internal quirky case assignment to PRO always blocks the inheritance strategy (for case, as opposed to phi-features), plausibly because the external case inheritance would mask the semantic/syntactic information that leads to quirky case in morphology in the first place, thereby making the processing of that information more difficult.

[31] There do not seem to be any general structural differences between case-independent and case-dependent infinitives, that is, verb raising applies in the same manner in both types and both types usually require the presence of the complementizer *að*. *Að* can be 'deleted' (i.e., remain silent) and that enhances case transmission, suggesting a connection with ECM, but this is highly exceptional and, as we have seen, overt *að* is in any event not a barrier to case transmission.

If this is on the right track, case-marked PRO does *not* in fact bear on the abstract 'Case' approach to PRO. The reason for that is very simple, namely that morphological case is unrelated to the GB theoretic notion of abstract 'Case' (although it may incidentally co-occur with it, see below). That is, 'Case' is *not* case and case is *not* 'Case'.

5.3 Speech Event Grounding and the silence of PRO

The importance of case has been grossly overestimated in generative theory. It is in fact rather obvious that case is not a syntactic feature – if it was, we would expect it to be visible or legible to the semantic interface, which it is evidently not. This is generally acknowledged with respect to structural case, but this is also true for semantically related inherent cases. Thus, there is evidently nothing like 'the dative feature', +DAT, in syntax. Rather, dative case is a morphological mapping or ´translation' of numerous complex relations between NPs and their syntactic environment, showing up on various elements in various languages. In Icelandic, for instance, the following NP types are among the ones that show up in the dative:

- experiencer subjects of certain predicates
- theme subjects of certain predicates
- free benefactives
- most indirect objects
- numerous direct objects (with certain thematic and aspectual readings)
- complements of many prepositions
- complements of certain adjectives
- certain adverbial NPs

However, let me emphasize that I am *not* denying that case reflects syntactic structures. What I *am* claiming is that case itself is not a syntactic feature or object, that is, it is not operated on or operated with in syntax, since it does not enter the derivation until in the (morphological part of the) PF cycle.[32] The relationship between morphology and syntax is basically symbolic, such that for instance a particular case in a particular language signals (and disambiguates) certain syntactic/semantic relations, much like green color may function as a symbol or a sign without itself having any inherent semantics (such as 'you may cross', 'hot disco', 'an alien', or whatever). In other words, the syntactic instructions to morphology do not take the form +*DAT* > *dative case,* etc., but rather something like *A + B + C* > *dative case, G + H + I* > *dative case*, and so on, were A, B, etc., are syntactic factors and relations.

On the present morphological understanding of case, it is not surprising that many languages lack case and that case systems vary considerably. Even so, the generative notion

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[32] For more detailed arguments in favor of this position, see earlier work (e.g., Sigurðsson 2003, 2006b, 2007).

of 'Case' has been useful as a label for some central *Property X* of language that is present in finite contexts but absent in most non-finite contexts, thus correlating with the fact that PRO must not be spelled out as an overt pronoun. Much as in Chomsky's original conception, it is evident that Property X somehow relates to the impoverished or defective T(ense)-system of non-finite clauses, but there is more than just that to the issue. Chomsky's intuition or insight that the features of the pronominal system somehow relate to Property X was also on the right track, I believe, even if it went wrong when case and binding got involved.

Being a referential variable, PRO is *phi-feature deficient*, that is, it either gets arbitrary (or generic) phi-values or controlled phi-values. Lexical pronouns, in contrast, have specified phi-features, that is, they are overt expressions or exponents of phi-feature combinations.[33] The phi-feature deficiency of PRO in combination with the deictic deficiency of the non-finite T-system are arguably the factors that make PRO 'unspeakable'. I will return to this shortly, but let me first introduce some background information from earlier work.

In the *syntactic* Speech Event Theory outlined in Sigurðsson (2004b), finite clauses introduce the features of a speech event in their CP domain, minimally including speech time, S_T, speech location, S_L, and the inherent speech act participants, usually called the 'speaker' and the 'hearer', but more properly referred to as the logophoric agent and patient, Λ_A and Λ_P for short.[34] For simplicity, I refer to the S_T and S_L features together as the **Fin**(iteness) feature, roughly in the sense of Rizzi (1997).[35]

(52) $[_{CP} \ldots \Lambda_A, \Lambda_P \ldots Fin \ldots [_{IP} \ldots$

In Chomsky (2005) Tense and Agree features are inherited from C to T, which is incidentally rather similar to my approach, the main difference being that I analyze the C-T/Agr relations as matching and valuation relations between features of the C-system and IP-internal elements (rather than merely as an unanalyzable inheritance relation).

Any argument must be matched and valued in relation to the 'speaker' and 'hearer' features, and it is this (syntactic) logophoric matching that yields the person value of the argument (for details, see Sigurðsson 2004b). In addition, the subject, in contrast to other arguments, must link to the Fin complex of the clause, and it is this speech time and speech

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[33] However, the values of these combinations must be computed in syntax, a nontrivial but a different issue (related to the issue of bound variable reading of overt pronouns, see further Sigurðsson 2004b).

[34] Similar approaches have recently been pursued by a number of other researchers (including Bianchi 2003, Schlenker 2003, Di Domenico 2004, Speas 2004, Tenny 2006). As illustrated in Sigurðsson (2004b), not only finite main clauses but also finite subordinate clauses have speech event features in their CP domain (their values sometimes differ from the values of the matrix speech event features). Notice, however, that the my *syntactic* notion of the speech event is much more limited in scope or minimalistic than the speech event notion of Jakobson (1959/1990) and many followers.

[35] But for arguments that the two should in fact be kept apart, see Sigurðsson 2004b.

location anchoring that has been referred to as either EPP or 'abstract nominative Case' in generative syntax. See in particular Pesetsky and Torrego (2001) and much of their subsequent work.[36]

With an eye on the notions *figure* and *ground* (Talmy 1978), and also with the colloquial meaning of the word *grounding* in mind, I refer to this phenomenon as SPEECH EVENT GROUNDING, Grounding for short, defining it as follows:[37]

(53) GROUNDING: A referential subject must be *grounded*, that is to say, it must be interpreted in relation to a unique, specific Fin complex (S_T&S_L)

Since PRO infinitives arguably lack specified speech event features in their CP domain, PRO cannot be interpreted in a local relation to such features, and it is this absence of local Grounding in combination with the phi-feature deficiency of PRO that blocks it from being spelled out as a lexical pronoun. By inheriting the features of its controller, PRO gets indirectly or non-locally grounded and phi-feature valued, but that is evidently not sufficient to license or force its lexicalization.

Seeing silent elements as needing some license is the received way of viewing things in generative grammar. However, looking at things from exactly the opposite point of view is more rewarding. On this view, it is sound rather than silence that needs licensing (as argued in Sigurðsson 2004a, and as seems reasonable on general conceptual grounds). That is, PRO is not spelled out because the *licencing conditions on lexical pronouns are not met*:

(54)   PRONOUN LICENSE
        An overt pronoun has (some) specified phi-features that are valued in relation to local logophoric 'speaker/hearer' features (Λ_A/Λ_P), and it is also either:
   a.   locally grounded, that is, interpreted in relation to a unique, local Fin complex (S_T&S_L), or
   b.   in the scope of another local (i.e., CP-internal) argument that is grounded (locally or by feature inheritance)

In the absence of Pronoun License, AVOID SPELL OUT applies (see Sigurðsson and Maling 2007):[38]

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[36] *Nexus* in Jespersen's work (e.g., 1924) is based on a related intuition.

[37] My notion of syntactic Grounding is strictly confined to Fin matching of referential subjects and is thus much narrower in scope than the general notion of grounding in cognitive grammar, although it is clearly conceptually related to it (see Langacker 2004 and references cited there). Anderson (2006) discusses this general notion of grounding in relation ot case.

(55)   AVOID SPELL OUT: Avoid spelling out any feature or element X of language, that is, do not express X unless you have to (for linguistic or extra-linguistic reasons)

The notion 'interpreted in relation to' in (53) and (54) is a complex one. Arguments are typically either inherently local or distal in relation to the speech event, $[+/-S_L]$, so the Spatial Grounding of a subject can bee seen as a relatively straightforward positive or negative matching relation with S_L (see Sigurðsson 2004b). Temporal Grounding is harder to conceptualize, much as time is harder to conceive of than spatial dimensions, and I will not attempt to develop a more exact or sophisticated formal understanding of it here.

When a pronoun like *she* or *we* is spelled out, its overtly expressed phi-feature combination must be immediately and locally licensed in relation to the speech event features – as being speech local or distal, as being identical with or distinct from the logophoric 'speaker'/'hearer' features, and so on – or else there is no way of processing it. In contrast, an argument that has or represents no independent phi-features and is ungrounded cannot be spelled out: it would just be unprocessable gibberish. This strongly suggests that *CPs are the only complete phases*. Consider usual non-finite subordination (the parentheses around the speech event features apply if the matrix clause is also a non-finite one):

(56) $[_{CP}^1 \ldots (\Lambda_A, \Lambda_P \ldots Fin \ldots) [_{TP} \ldots [_{vP} \ldots [_{CP}^2 \ldots \theta REF/PHI_\alpha \ldots V_{INF} \ldots$

Since PRO, here denoted as $\theta REF/PHI_\alpha$ in CP^2, has no phi-features of its own and cannot either get any phi-features valued in relation to local speech event features (in the CP^2 domain), it either has to settle for non-referential, arbitrary (or generic) phi-features or wait until it has inherited the phi-features of another argument, higher in the structure. However, the arguments in CP^1 cannot themselves have fully computed phi-feature values until after they have done their own speech event feature matching (see Sigurðsson 2004b for details). In other words, CP^2 cannot be spelled out until after CP^1 has been fully computed – only then can PRO possibly 'know' its feature values (which, in turn, trigger overt infinitive internal agreement in languages like Icelandic).

In fact, PRO can inherit its feature values from another PRO, which in turn gets its features by inheritance from some overt argument, as in (57) (this is also evident in the English translation, as has long been recognized):

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[38] Cf. 'Avoid Pronoun' in Chomsky (1981:65). See also, much more generally, Grice (1975, 1978). The built in delay of spell out in Chomsky's phase theory can be seen as a special case of (Delay or) Avoid Spell Out. See further Kayne's (2005) approach to 'principles of pronunciation'.

(57) Maríu   mislíkaði að vera **neydd**   til að leysa vandann   **sjálf**.
      Mary.D disliked   to be   forced.N.F.SG at to solve   problem.the self.N.F.SG
      'Mary disliked to be forced to solve the problem herself.'

That is, only fully speech event feature specified CPs count as complete phases.[39]

Speech Event Grounding is a semantic/syntactic phenomenon, case is not. It is clear that nominative case in case poor languages like English and French largely conflates or co-occurs with local Grounding – it could not possibly escape doing so, the case system is too meagre for anything else. The importance of the Icelandic facts described and analyzed here is that they illustrate that the English type of substantial co-occurrence of nominative case and local Grounding is language-specific and largely coincidental.[40] Nominative case is, plainly, the 'first' non-inherent case (CASE1) in morphology in nominative-accusative case systems.

6. Concluding remarks

Despite much discussion the received understanding of PRO and 'Case' has not progressed markedly over the last quarter of a century. The evidence showing that Icelandic PRO *is* case-marked is overwhelming and in fact quite obvious, and much of it has been widely accessible since the publication of my 1991 *NLLT* article. Repeatedly, however, I have experienced that other linguists simply do not believe that the facts described there *can* be relevant or even correct, perhaps because they are not found in English and other 'big' languages. Rather than discussing these facts, Chomsky and Lasnik (1993) suggested that PRO "can bear null Case", cryptically adding, within parentheses, "though it may have other Cases as well, in non-standard conditions that we will not review here" (Chomsky 1995:119), apparently a rather subtle 'reference' to my article.

Boeckx and Hornstein argue against 'null Case' but they share with Chomsky and Lasnik the belief that nominative morphology in Icelandic infinitives simply cannot be regular nominative morphology "as there is no source for structural nominative in the embedded clause" (B&H 2006:596).

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[39] However, the phase notion is arguably too widely defined even if we limit it to fully speech event feature specified or 'equipped' CPs. Various kinds of facts, including long distance reflexivization and tense agreement phenomena, suggest that even finite subordinate clauses are not always phases. If so, only those CPs that contain *independent* speech event features are complete phases (exactly the same issues arise under the movement theory of control – one can only 'escape' these issues by erroneously ignoring or denying syntactic speech event feature matching).

[40] Cf., e.g., the type 'It is not easy to be I.NOM', found in German, Icelandic, Swedish, etc. (see Sigurðsson 2006a).

At the heart of the misinterpretation lies the belief that structural nominative differs from so-called 'default' nominative in that only structural nominative correlates with finite verb agreement. Evidently, however, there is no inherent correlation between structural nominative case and agreement, just partial overlapping (as suggested by a wide array of facts and also by central theoretical considerations, see Sigurðsson 1996 and subsequent work, e.g., 2003, 2006a, 2006b, 2006c). Rather, finite verb agreement takes place in overt (PF) morphology whenever it can. That is, the following holds for Icelandic and similar languages:

(58) The finite verb agrees if it can probe a CP-internal NP that is not inherently case-marked; otherwise, it takes a non-agreeing default 3SG form.

The structural cases *are* unmarked in the sense that they are only assigned to NPs that are not assigned inherent case in morphology (simply as CASE1 = NOM and CASE2 = ACC), but they are not unmarked or default in any *other* relevant sense. In particular, there is no relevant difference between agreement triggering nominatives and other nominatives. Nominative case simply triggers finite verb agreement when it is 'successfully' probed by a finite verb, otherwise it (naturally) does not. It is quite evident that quirky subjects are also probed by the finite verb, so the fact that they don't trigger verb agreement is a shallow morphological fact and not a reflection of absent syntactic, abstract Agree (cf., Sigurðsson 2003, 2006a, 2006b, Sigurðsson and Holmberg 2007). Thus, there is *no reason* to assume that nominative case is something else when it occurs in non-finite contexts than when it occurs in finite clauses.[41]

Boekx and Hornstein's goal to prune unnecessary theoretical machinery is, as such, an example of natural, not to say 'coerced', minimalistic efforts. However, we should not weed the wheat. What we need to trash is not PRO but the binding theoretic and the 'Case' theoretic understanding of it. Plainly, abstract 'Case', here relabelled (Speech Event) Grounding, is unrelated to case, and hence the fact that Icelandic PRO carries case, quirky or nominative, is unproblematic. The problem is not PRO and its case-marking, but the mistaken belief that Grounding *is* case in some deep sense. It is not, not any more than permission to cross a road *is* green light in some deep sense. The two often co-occur but there is no generic or inherent relation of necessity betwen them.

PRO as a silent reference variable and its case- and phi-feature-marking are just facts that cannot (and should not, of course) be eliminated by theoretic reduction. It is worth noticing, however, that a 'control movement chain' in the sense of B&H is indistinguishable from control in the traditional sense *at the semantic interface*. Only in phonological or perceptible form can we see that the syntactic form must necessarily be distinct from the

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[41] While Grounding involves Fin matching, overt nominative case is independent of the properties of T-system, as I have argued in previous work. Again, I remind the reader of the type 'It is not easy to be I.NOM', found in German, Icelandic, Swedish, etc., as discussed in Sigurðsson 2006a.

semantic form, and it is only because of the Icelandic type of facts that we can see this. Therein lies the great importance of these facts.

These facts strongly support the view that morphology is radically disentangled from syntax (the Radically Disentagled Morphology approach). In addition, the fact that we can gain a deeper understanding of the 'PRO-issue' and the nature of 'Case' or Grounding in terms of speech event features suggests that at Speech Event Theory should be included as an essential part of general syntactic theory.

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