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ORIGINAL PAPER

The case of PRO

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Abstract Icelandic case agreement suggests that nominative case is active in PRO infinitives in much the same way as in finite clauses, thus posing a difficult and a long-standing problem for generative (GB and minimalist) case theory and the PRO Theorem. In this article, I examine the Icelandic facts in detail, illustrating that the unmarked and common nominative morphology in Icelandic PRO infinitives is regular structural nominative morphology, suggesting that PRO cannot be reduced to a copy. What went wrong in the GB approach to PRO was not PRO itself but the binding theoretic and 'Case' theoretic conception of it. PRO is an empty category that is simultaneously a reference variable (like overt pronouns and anaphors) and a phi-feature variable (unlike overt expressions). Due to this unique combination of variable properties, PRO cannot be deduced from other traits of grammar, such as movement, nor can it possibly be lexicalized. Importantly, also, the facts studied here suggest that case is a post-syntactic category, assigned in morphology. In contrast, *Person* is evidently a syntactically active category, having some of the properties and effects that have commonly been attributed to 'Case'.

Keywords Agreement · Case · Case transmission · Control · Icelandic · Person · PRO

1 Introduction

The PRO Theorem (Chomsky 1981, 1982, 1986, etc.) attributed strange properties to PRO. It was defined as 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.

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PRO in the GB-theoretic sense is incompatible with minimalist assumptions, not only because it is a derivative of the abandoned binding principles, but also, and more seriously, because 'anaphoric' and 'pronominal' are labels that only describe the distribution and behavior of different kinds of anaphoric items in GB-theoretic terms. 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 fact that they get no interpretation at the semantic interface.[1]

There are thus good reasons to want to eliminate *GB-theoretic* PRO from syntactic theory.[2] 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 is a copy and that obligatory control arises from movement, whereby an argument is moved from a 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 criticized by Landau (e.g., 2003).[3] Landau bases some of his many arguments on the Icelandic case agreement facts described and discussed in Sigurðsson (1991, see also Sigurðsson 2002). In 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)

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 will 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 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 analyze PRO as a reference and a phi-feature variable, $\theta_{\mathrm{REF}\alpha}/\mathrm{phi}_{\beta}$, i.e., an empty thematic category that has both variable

[1] A reviewer asks whether it is obvious that (non-phonological) features that get no interpretation at the semantic interface must therefore be nonexistent (in syntax). The answer is that it is not obvious or self-evident. However, given minimalist assumptions (Chomsky 2000, 2001, etc.), such features, if existent, must be agreement features, deleted prior to or under transfer to the semantic interface. See further section 5.2, where I discuss this in more detail.

[2] On the other hand, control as such (Agree) is compatible with minimalist assumptions (see Landau 2004, 2007). Infinitives are evidently not full phases, hence control does not violate the Phase Impenetrability Condition (Chomsky 2001: 13, 2005, etc.). See also fn. 31 below.

[3] See also the informative overview and criticism in Bobaljik and Landau (2007). For a different kind of criticism, see Manzini and Roussou (2000), Culicover and Jackendoff (2001, 2006).

reference, like overt pronouns and anaphors, and (fully) variable phi-features, unlike overt expressions. This category is arguably assigned both case and phi-feature values by processes that apply in morphology and *not* in syntax. It follows that its case-marking does not really bear on the abstract 'Case' approach to the silence problem posed by PRO (i.e., the fact that PRO cannot be spelled out as an overt pronoun). That is, much as in the approach of Chomsky (1981), PRO infinitives seem to lack some property or properties that would license the lexicalization of their thematic subject. The silence problem is thus real and needs to be accounted for. I demonstrate that the movement theory of control does *not* remove the problem, instead raising new questions and complications. I then proceed by pointing out that the silence problem is twofold. First, PRO infinitives are 'defective' with respect to (subject) Person and this is presumably the basic reason why PRO cannot be spelled out, that is, Person comes close to being the category that has commonly been referred to as 'Case'. Second, however, PRO infinitives are subject to a more general left edge silence requirement or *Anti-EPP Effect*, blocking not only the lexicalization of PRO itself, but also alternative 'left edge lexicalization strategies', like expletive insertion, topicalization and Stylistic Fronting. A more general theory of the clausal left edge is required if linguistics is to develop any deeper understanding of this second (largely unnoticed) silence problem.

The participants in the ongoing debate on control and PRO deviate from 'standard GB vocabulary' in 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 the standard sense of Chomsky (1981, 1982).

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 made a small informant survey, to which I will occasionally refer.[4]

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

[4] For sharing with me their intuitions, many thanks to my native colleagues: Ásgrímur Angantýsson, Baldur Sigurðsson, Eiríkur Rögnvaldsson, Guðvarður Már Gunnlaugsson, Gunnar Hrafn Hrafnbjargarson, Haraldur Bernharðsson, Jóhannes Gísli Jónsson, Kjartan Ottosson, Kristín Jóhannsdóttir, María Anna Garðarsdóttir, Margrét Jónsdóttir, Sigríður Sigurjónsdóttir, Theódóra Torfadóttir, Thórhallur Eythórsson, and Veturliði Óskarsson.

and discuss the general properties of PRO and PRO infinitives. Section 6 concludes the article.

2 The basic facts

Icelandic is a moderately rich case language (with NOM, ACC, DAT, GEN), but it 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 . . . NP.NOM . . . V_{FINITE} . . . X_{NOM} . . .]
b. [CP . . . PRO.NOM . . . V_{INF} . . . X_{NOM} . . .]

(2) a. [CP . . . NP.QUIRKY . . . V_{FINITE} . . . $X_{QUIRKY/DFT}$ . . .]
b. [CP . . . PRO.QUIRKY . . . V_{INF} . . . $X_{QUIRKY/DFT}$ . . .]

Examples illustrating this will be presented in the following subsections.

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:

(3) Ólafur er **ríkur**/*ríkan/*ríkum/*ríks.[5]
Olaf. N.M.SG *is* *rich.N.M.SG*/**A.M.SG*/**D.M.SG*/**G.M.SG*

[5] For convenience, I use as short abbreviations as possible in most 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) a. Ólaf langar ekki til [að PRO vera **ríkur**].[6]
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 PRO 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.[7] 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.[8] 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):

(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

[6] 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 show' as a lexical pronoun in a comparable finite clause.

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

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

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

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

(10) a. X is blocked from agreeing with an NP_1 *to which it assigns inherent case.*
b. X agrees with a structurally case-marked CP-internal NP_2, if there is one.
c. In the absence of a CP-internal structurally case-marked NP, X 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 1989: 183ff, 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 verða 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.N.M.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.N.M.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).[9]

The relevant generalization is this: Whenever there is a CP-internal NP with structural case, a predicative adjective or a past participle shows up in an agreeing form, otherwise it takes 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 PRO vera **lesin**/*lesið].
*this story.N.F.SG 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.

[9] 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 2006b 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.

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 variation 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):[10]

(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].
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 acceptability when controlled by an agentive subject of a

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

verb like *reyna* 'try'.[11] Second, many speakers are reluctant to embed floating quantifiers in control infinitives, "presumably for scope reasons" (Sigurðsson 1991: 332).[12] 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.[13] 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.

[11] 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 uncontrolled and when embedded under a non-agentive control predicate.

[12] The examples in (18) were ruled grammatical by 14 (18a) and 13 (18b) of my 15 informants. My use of 'brothers' as a subject there 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".

[13] 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 incorrect. There is *no* relevant difference in this respect between the grammar described in Sigurðsson (1991) and the grammar described by Thráinsson (1979: 297ff, 1993: 205ff, 2005: 415ff, 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.

Thus, the indefinite pronoun or semipredicate *einn* 'alone, one (in number)' agrees with its subject in case, number and gender in the following examples:

(20) a. Ólafur fór **einn** í veisluna.
Olaf.N went alone.N.M.SG to party.the
b. Ólaf vantaði **einan** í veisluna.
Ólaf.A lacked alone.A.M.SG in party.the
c. Ólafi 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):

(21) a. Ólafur hafði gaman af [að PRO 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 PRO 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 PRO 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 PRO vanta **einan** í veisluna].
Olaf.A longed not to A lack alone.A in party.the
c. Ólafi leiddist [að PRO 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 PRO leiðast **einum** í veislunni].
Olaf.A longed not to D be-bored alone.D in party.the
c. Ólafi leiddist [að PRO 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 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.[14]

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 ... [$_{CP}$PRO.CASE-β ... **X.AGR-β]**

However, there are certain examples 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):

(25) ... NP.CASE-α ... [$_{CP}$PRO ... **X.AGR-α**][15]

[14] B&H discuss nominative marking of *einn* 'alone' in examples that are similar to (22) and (23). The following clause is among the examples of this sort discussed by B&H (their (18), p. 596); the grammaticality judgments are the ones given by B&H, but the glosses are mine:

(i) Jón vonast til að PRO leiðast ekki **einum**/*einan/*einn.
John.N hopes for to D be-bored not alone.D/A/N
'John hopes not to be bored alone.'

B&H report (2006: 595, fn. 7) that Sigurðsson "indicates that for him, the nominative form...is fully acceptable" and contend that their "interpretation of his judgments is that he has generalized the use of default nominative Case in non-finite contexts". This is incorrect. I have not "indicated" this. I find nominatives of this sort degraded, ?, but not sharply ungrammatical (in contrast to the dative form *einum*, which is perfect, and the accusative form *einan*, which is impossible). As is evident from the description in Thráinsson (1979: 297ff), some speakers (including 4 of my 15 informants) find nominatives of this sort acceptable, presumably because they analyze *einn* 'alone' as a reduced predicate, 'being alone' (nominal predicates normally being nominative in Icelandic).

[15] As will be discussed in section 5.1, 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 ... [$_{CP}$PRO.CASE/PHI-α ... **X.AGR-α**]

That is, the basic nominative case morphology of an infinitive may 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 PRO 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 Ólaf [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) Ólafur fór bara **einn**/*einan í veisluna.
*Olaf.N went just alone.N/*A to party.the*

The acceptability 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:[16]

	ok	*?*	∗
(26)' *a. she asked Olaf.A to go just alone.**N** to party.the*	9	4	2
*b. she asked Olaf.A to go just alone.**A** to party.the*	12	2	1

There do not seem to be any semantic correlates to the optionality of case transmission versus local nominative case, a fact that indicates that the optionality is a shallow morphological phenomenon, rather than a syntactic one (see the discussion in section 5.2).

I will turn to the analysis of case assignment in section 5.2, but here I would like to stress that case transmission is a limited phenomenon. Thus, it *never* applies to quirky PRO infinitives. A factor that contributes to this is that controlled quirky PRO is sometimes low in acceptability, as mentioned above. However, that is clearly not the sole reason, as seen by the contrast between (28) and (29):

(28) a. ?? Við báðum hana [að PRO verða **boðið** **einni**].
we.N asked her.A to D be invited.DFT alone.D.FSG
'We asked her to get invited alone.'
b. ? Við báðum hana [að PRO 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 a stomachache.'

(29) a. *Við báðum hana [að PRO verða **boðna** **eina**].
we.N asked her.A to D be invited.A.FSG alone.A.FSG
b. *Við báðum hana [að PRO verða ekki **illa** í maganum].
we.N asked her.A to D be not bad.A.FSG in stomach.the

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

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:[17]

1. Transmission under object control is more common and neutral than transmission under (quirky) subject control (see the examples in (30) below).
2. Depending on agreeing items and on predicates, PRO infinitives are variably transparent to case transmission.[18]
3. Transmission of ACC is more common and neutral than transmission of DAT (compare (26b) above and (30a) below).
4. Transmission of GEN is impossible (see (32b)).

Thus, while many or most speakers readily accept ACC transmission under object control in examples like (26b) above, the examples in (30) below have more variable acceptability, as illustrated by the informant judgments to the right of the examples:[19]

(30) *ok* *?* ***

a. Við sögðum Ólafi [að PRO vera **rólegum**]. 8 2 5
we told Olaf.D to be calm.D

b. Ólaf langaði [að PRO vera **fyrstan**]. 2 2 11
Olaf.A longed to be the-first-one.A

c. Ólafi fannst gaman [að PRO vera **fyrstum**]. 3 3 9
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.

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

[18] I do not have any clear picture of this effect since it varies from speaker to speaker and from construction to construction. At least for some speakers and some constructions the copular verbs *vera* 'be' and *verða* 'will be, become' are more transparent to case transmission than more contentful verbs. Also, it seems, case transmission is the more likely (other things being equal), the more local it is.

[19] 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 *unusually* broad range of verbs that take dative objects ("quirky" in B&H's terms), with various thematic and aspectual properties (e.g., Barðdal 2001; Maling 2002; Jónsson 2005; Thráinsson 2007; Sigurðsson 2007d). Some common verbs with a dative object controller: *banna* 'forbid', *bjóða* 'offer', *gera* 'make, oblige', *kenna* 'teach', *leyfa* 'allow', *lofa* 'allow', *meina* 'hinder', *ráðleggja* 'advise', *segja* 'tell', *skipa* 'order', *skrifa* 'write to'.

Depending on speakers, then, nominative is normally either the only possible form or the unmarked form in examples of this sort, as illustrated in (31):

(31)									*ok*	*?*	*
a.	Við	sögðum	Ólafi	[að	PRO	vera	**rólegur**].		12	1	2
	we	*told*	*Olaf.D*	*to*	*N*	*be*	*calm.N*				
b.	Ólaf	langaði	[að	PRO	vera	**fyrstur**].			15	–	–
	Olaf.A	*longed*	*to*	*N*	*be*	*the-first-one.N*					
c.	Ólafi	fannst	gaman	[að	PRO	vera	**fyrstur**].		15	–	–
	Olaf.D	*found*	*pleasurable*	*to*	*N*	*be*	*the-first-one.N*				

In addition, as mentioned above, transmission of genitive is never an option. This is illustrated by the minimal pair in (32):[20]

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

b. Við kölluðum til Ólafs [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 (33), for the simple reason that the optimal conditions for case transmission only apply to a small minority of such infinitives:

(33) a. Hann reyndi [að PRO verða **ríkur**].
he.N tried to N become rich.N

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

B&H's claim that nominative case in Icelandic PRO infinitives is "default" and "can be assigned indirectly 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 1989, 1991). This

[20] The genitive in (32b) was judged ungrammatical by 14 of my 15 informants, while the nominative was judged grammatical by 14 of them (the cases each got a question mark from one (but not the same) speaker). The examples in (32a) were not included in my informant survey (but both variants are acceptable to me, with a slight preference for the nominative).

is further underlined by the obligatory nominative morphology in non-obligatory control infinitives like the following:

(34) 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 (34), it is hard to see how it can, in principle, be excluded from being available in control 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 (35):

(35) a. Við báðum Maríu [að PRO 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 PRO 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 PRO 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 PRO 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 corresponding 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	*?*	*
(35)'	a1. *we asked Mary.A to go not out alone.**A***	5	8	2
	b1. *we asked Mary.A to sing self.**A** in party.the*	9	5	1
	c1. *we asked her.A to be come.**A** clock ten*	9	4	2
	d1. *we asked her.A to be not always so late.**A***	8	4	3

Nominative agreement morphology:

		ok	*?*	*
(35)' a2.	*we asked Mary.A to go not out alone.**N***	11	3	1
b2.	*we asked Mary.A to sin g self .**N** in party.the*	12	2	1
c2.	*we asked her.A to be come.**N** clock ten*	11	2	2
d2.	*we asked her.A to be not always so late.**N***	11	3	1

B&H's claim that the nominative morphology is "rather marked" is thus untrue.

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 do not 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 (36) below; as before, the agreeing element, here a passive participle, is set in boldface while the agreement trigger, here a nominative object, is underlined:

(36) a. Honum mislíkaði [að PRO vera **sýnd** þessi ljóta mynd].
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** þessar ljótu myndir].
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 (36) trigger not only participle agreement but also verb agreement in finite clauses, as illustrated in (37):

(37) a. Honum **var** ekki **sýnd** þessi ljóta mynd.
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** þessar ljótu myndir.
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 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 should 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 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.[21] This holds across the structural/quirky case distinction and can thus be simply sketched as follows:

(38) Control: NP_k.**UPSTAIRS** CASE ... $[_{CP}$ ... PRO_k ...

(39) Raising: NP_k.**DOWNSTAIRS** CASE ... $[_{TP}$ ... e_k ...

This striking difference is illustrated by pairs like the following:[22]

(40) *Control:*

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.'

Raising:

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.'

[21] Andrews (1990: 205ff) 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.

[22] 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.

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

(41) 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*

The fact that control so sharply differs from NP-movement/raising with respect to case preservation would seem to provide a decisive argument against 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. 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 another. Thus, they suggest the following derivation of control examples like (40a), 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:

(42) 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: matrix 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: 600ff) 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 (40b), 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 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.[23]

[23] The movement approach suggested by Kayne (2002: 135ff) escapes this problem, but, without some additional assumptions, it predicts that case transmission should be nonexistent (and faces additional problems, not relevant here). For an alternative approach, where object control as opposed to subject control reduces to movement, see Modesto (2007).

Moreover, raised non-quirky NPs *do* trigger finite verb agreement, just as nominative controllers, illustrating the generally acknowledged fact that raised arguments have more 'matrix errands' than just "to check EPP":

(43) *Control:*

a. Við 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.'

Raising:

b. Við virð**umst**/*virðist báðir [e hafa verið kosnir.
*we.N seem.1PL/*3SG both.N 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*).[24]

5 On the properties of PRO and PRO infinitives

In the previous sections I have described and discussed case-related agreement of predicative adjectives and participles (section 2.1), case agreement of floating quantifiers (2.2) and of indefinite pronouns like *einn* 'alone' (2.3), case transmission into PRO infinitives (section 3), and the different case patterns seen in control and raising constructions (section 4). All these facts illustrate that the challenges posed by PRO are real and cannot be simply eliminated by a movement approach. The question we need to deal with is not how to dispense with PRO but how to understand and accommodate it. I will now address this question, arguing, in section 5.1, that PRO is an empty reference and phi-feature variable that is necessarily a part of grammar. In section 5.2, I discuss morphological case and claim that it does not bear on the 'Case' approach to PRO. In sections 5.3 and 5.4, I take a closer look at the silence problem posed by PRO itself *and*, more generally, the left edge of PRO infinitives, showing that these are two (interrelated) phenomena, rather than a single one. The category that is most directly 'responsible' for the silence of PRO as such is argued to be defective *Person*, case, on the other hand, being irrelevant.

5.1 PRO as a reference/phi-feature variable

Even though the *GB-theoretic* conception of PRO as a [+anaphoric, +pronominal] category must 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

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

indirectly visible *in* PF, through agreement). In the following, I will argue that this 'something' behaves like overt pronouns (both personal pronouns and anaphors) in having *variable reference*, simultaneously being unlike overt expressions in also having (fully) *variable phi-features*. It is this dual variability that sets PRO apart from other pronominal and anaphoric elements.[25] This characteristic of PRO does not seem to follow from other traits or phenomena of grammar, such as movement.

PRO is a thematic element that has variable reference, as simply illustrated in (44):

(44) a. **John** promised Mary PRO to relax. PRO = 'a relaxer'=John
b. John told **Mary** PRO to relax. PRO = 'a relaxer'=Mary
c. It is not easy PRO to relax. PRO = 'a relaxer'
= somebody unspecified

The reference of PRO in examples like (44a,b) is decided under control, where the controller is either the matrix subject, as in (44a), or a non-subject, as in (44b). In (44c), PRO is not controlled by any argument, therefore having unspecified reference. Such PRO is commonly referred to as arbitrary (or generic), a term that I will adopt here. These facts have been widely discussed in the generative literature (see for instance Landau 2000 and his subsequent work).

Since PRO is a thematic element, θ, that has variable reference we may descriptively refer to it as a *reference variable*, as stated in (45):

(45) PRO = $\theta_{\text{REF}_\alpha}$

I do not assign any special theoretical status to the notion reference variable. Rather, it is just a descriptive label that highlights the fact that the thematic element commonly referred to as PRO has variable reference. Overt pronouns are also reference variables in this simple, descriptive sense (see shortly).[26]

As illustrated in (44) above, the reference or the value of $\theta_{\text{REF}_\alpha}$ is either copied under control from one or more overt or construed antecedents, X, or a non-copied, arbitrary (or generic) one:

(46) For $\theta_{\text{REF}_\alpha}$, REF_α = *arb* or identical with REF_X, X one or more overt or construed antecedents

Like (45), the formulation in (46) is just a descriptive statement of generally acknowledged linguistic facts. Thus, it 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.[27]

[25] Many overt anaphoric elements are (or represent structures that are) partly but *not fully* phi-feature underspecified (see Safir 2004).

[26] It can be shown that my simple descriptive notion of variable (bound by a silent, generic/arbitrary operator in the case of non-control) is basically the same one as the traditional variable notion in logic, but this is not of any relevance for what I have to say here.

[27] PRO infinitives are merged above their main clauses in the approach proposed in Sigurðsson (2006c), 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 (but see, e.g., Landau 2004, 2007).

It is evident that language operates extensively with elements that have variable reference, here called reference variables (see further Safir 2004). Thus, as just mentioned, overt pronouns are such variables, as illustrated in the dialogue in (47):

(47) a. John: "**I** saw the cake before **you** did."
b. Mary: "No, **I** saw it first, and **you** better not touch it!"

The singular pronouns *I* and *you* are variables denoting the SPEAKER and the HEARER, whoever they happen to be in a given utterance situation or SPEECH EVENT (see further shortly), that is, there is nothing that could be referred to or understood as a constant 'I-meaning' or 'you-meaning'. Similarly, there is no constant 'he-meaning', 'they-meaning', etc., pronouns like *he* and *they* instead being variables, denoting an individual or individuals the speaker assumes to be known/given in the speech event or in the recent discourse. *Pro* in non-agreement languages like Chinese illustrates the same point for silent pronouns, and so does PRO. Reflexives and reciprocals are reference variables par excellence, of course.

Blocking syntax from operating with empty reference variables (or empty categories/pronouns, if one likes) is not only stipulative, thereby violating the Strong Minimalist Thesis (cf. Chomsky 2005), it is also empirically refuted. As we have seen, Icelandic case facts bear on this issue, illustrating that PRO usually carries 'its own' case, thereby rendering the movement approach to PRO unattractive. Moreover, case is not the only morphological feature carried by Icelandic PRO. It is also phi-feature specified. This is for instance suggested by overt gender and number agreement, as illustrated in (48) for *einn* 'alone' (the same facts apply to other infinitive internal agreeing elements):

(48) a. Henni líkaði ekki [að PRO syngja **ein**].
*her.D.F.SG 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.M.SG liked not to N sing alone.N.**M.SG***
c. Konurnar lofuðu mér [að PRO syngja **einar**].
*women.the.N.F.PL promised me.D to N sing alone.N.**F.PL***
'The women promised me that they would sing alone.'
d. Mennirnir lofuðu mér [að PRO syngja **einir**].
*men.the.N.M.PL promised me.D 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:

(49) ... Y … (W) … [$_{CP}$ PRO.NOM+Phi-Y ... **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 violate minimality, at least on some accounts (cf. B&H: 603; see also the example in (73) below), and it

would also 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 agreement, that is, agreement arises in spite of an absent controller. This is illustrated by examples like (34) above, repeated here as (50):

(50) a. [Að vera **ríkur**] er ágætt.
to be rich.N.M.SG is nice
b. Það er ekki alltaf leiðinlegt [að ferðast **einn**].
it is not always boring to travel alone.N.M.SG

The N.M.SG agreement features are the same as triggered by impersonal *maður* 'one' (see (78a) below).

In fact, uncontrolled PRO is not always arbitrary or generic, but may instead be *speaker inclusive*, referring either to the speaker alone or to a group of humans including the speaker. Thus a female speaker may opt for feminine agreement, singular or plural, as illustrated in (51):[28]

(51) a. [Að vera **ríkar**] er ágætt.
to be rich.N.F.PL is nice
'(Us) being rich is nice.'
b. Það er ekki alltaf leiðinlegt [að ferðast **ein**].
it is not always boring to travel alone.N.F.SG
'(Me) traveling alone is not always boring.'

Like arbitrary uncontrolled PRO, speaker inclusive uncontrolled PRO demonstrates that gender and number agreement in infinitives is not necessarily contingent on an overt controller.

Person differs from gender and number agreement in this respect, that is, PRO cannot carry 1st or 2nd person except under control.[29] This is illustrated in (52); as seen, *mig* 'me, myself' cannot be bound by the uncontrolled PRO in (52b):

(52) a. Ég$_1$ reyndi [að PRO$_1$ meiða **mig**$_{1/*2}$/*sig ekki].
*I tried to N hurt myself/*oneself not*
'I tried not to hurt myself / *oneself.'
b. Það er ekki gaman [að PRO$_1$ meiða **sig**$_1$/mig$_2$/*$_1$].
*it is not pleasurable to N hurt oneself/me/*myself*
'It is not pleasurable to hurt oneself / me / *myself.'

[28] Speaker inclusiveness of this sort has a colloquial flavor and is perhaps not fully acceptable to all speakers. The same is true of Partial Control in examples like the following (from Landau 2007):

(i) a. We$_1$ thought that the major$_2$ planned [PRO$_{1+2}$ to gather in the town square].
b. Sue$_1$ couldn't believe that Bill$_2$ regretted [PRO$_{1+2}$ kissing in front of her parents].

Partial Control is inclusive (but not necessarily speaker inclusive).

[29] There are more reasons to believe that Person is a truly syntactic category, as opposed to formal Gender and Number, that are arguably assigned in morphology (in contrast to semantic number and gender, see Sigurðsson 2004b, 2007b).

First and second person reflexives are homophonous with first and second person pronouns in Icelandic (and the other Scandinavian languages), but, as shown, *mig* 'me, myself' can only function as a reflexive in (52a) and only as a non-reflexive pronoun in (52b) (yielding the somewhat strange but grammatical reading 'it is not pleasurable for people in general to hurt me'). As seen, it is not a problem to have the first person feature, as such, in (non-subject position in) the infinitive in (52b). However, PRO itself cannot carry 1st or 2nd person except under 1st and 2nd person control, as in (52a).[30]

This observation about the special status of person is important and I will return to it in section 5.4. In the present context, however, it is a bit of a sidetrack. The central point I wish to make in this section is that PRO has variable reference and variable phi-features, and that these variable properties of PRO are sometimes copied from an overt controller and sometimes decided by other means, independently of overt control. In simple cases of exhaustive (rather than partial) obligatory control, and where there is also no case distinction between the controller and PRO, a movement approach could derive the observed facts. In all other cases, it has no account to offer.

Even B&H assume that uncontrolled infinitives like (50), (51) and (52b) have an empty category, but, as previously mentioned, they refer to it as *pro* rather than as PRO (raising questions about *pro* that I will not address here). Whatever we call this category, it is evident that grammar operates with an empty category, EC, that has variable reference and variable phi-features as sketched in (53), even in the absence of an overt controller or 'feature sharer' (usually, α and β co-vary but I do not indicate this):

(53) EC = $\theta_{\text{REF}\alpha}$/$\text{phi}_{\beta}$

Given this fact, there is no gain in specifically blocking this EC from occurring in control contexts. On the contrary: Such a ban does not follow from any general principles of grammar, as far as can be seen, and is thus stipulative, marking a setback and not a progress in the development of syntactic theory and our understanding of language.[31]

5.2 Case is assigned in post-syntactic morphology

Two fundamental problems remain. First, case does not seem to even relate to the question of why PRO must not be spelled out. Second, no other obvious account of the silence of PRO seems to offer itself. Notice that this silence problem is *not* resolved by the movement theory of control. It raises the (unanswered) question of why controllers should have to move, which is essentially the same question as the question of why PRO cannot be spelled out *in situ*.

[30] Some speakers of English accept at least some examples like *It was necessary to hurt myself* (as opposed to **It is necessary to hurt myself*, (Joan Maling, p.c.)). Possibly, it is harder to construe a silent 'free dative' in Icelandic than in English (*It was necessary [for me] to hurt myself*), free datives being rather restricted in Icelandic (see Thráinsson 2007: 218ff).

[31] Notice that phi-feature inheritance or copying under control, e.g., in examples like (48) above (/*the women promised me to sing* ***alone.*** *N.F.PL*/, etc.) illustrates that PRO infinitives can be externally probed. That is, as mentioned in fn. 2 above, control infinitives are not full phases, hence the EC is not blocked from occurring in control contexts by the Phase Impenetrability Condition.

In this section, I will argue that syntax has no case features and that case, including the case of Icelandic PRO, is assigned in post-syntactic morphology (thus not really bearing on the 'Case' approach to PRO). In sections 5.3 and 5.4, I will argue that the silence problem posed by PRO is real, but that there is also another more general left edge silence requirement or an Anti-EPP Effect in PRO infinitives (largely unnoticed in the literature). Since the silence problem posed by PRO cannot be accounted for in terms of case, an alternative understanding of it needs to be developed. I propose that the relevant category is *defective Person*, compatible with a phi-feature variable (PRO) but incompatible with phi-specified items.

Case poor languages like English and French show a considerable overlapping of morphological case and the licensing and distribution of arguments. The idea that case is a syntactic feature, controlling or licensing the lexicalization of arguments, is thus suggestive for such languages. However, only a cursory glance at moderately rich case languages like Icelandic, German and Russian indicates that case does not really have any syntactic effects, while it has morphological agreement correlates. Case is *telling* about both morphology and syntax, but it does not seem to be *a driving force* in the (syntactic) derivation.

Facts bearing on this issue have been thoroughly discussed in the generative case literature so thoroughly that specific references become almost pointless. Since I cannot do any justice to all the important contributions to this research field, I only refer the reader to some of my own work (see, in particular, Sigurðsson 1989, 1991, 2003, 2006a, 2006b, 2006c, 2007a, 2007b, 2007d) and to Zaenen, Maling, and Thráinsson (1985), Marantz (2000), McFadden (2004), Nomura (2005), and the numerous references cited in these works. I cannot review but a part of the relevant observations and facts here, so I will only mention a few of the most central ones. In the interest of space and readability, I will partly illustrate the facts with only English glosses.

Icelandic quirky subjects show the same behavior as nominative subjects in the language with respect to regular definite NP-movement, reflexivization and other well established 'subjecthood tests' (in finite clauses, ECM infinitives, etc.). This fact has been so widely discussed and described (since Andrews 1976 and Thráinsson 1979) that I will not review it here. SUBJECT FLOATING is not as well known (although discussed in, e.g., Sigurðsson 1989, 1991, 1992, 2000, 2003, 2004d). It immediately illustrates that there is *no* correlation between case and the distribution or licensing of overt arguments. Consider the following Icelandic patterns (for the Icelandic examples, see Sigurðsson 2003: 253):[32]

(54) a. *there would some boats.DAT then probably be stolen at auction.the*
b. *there would then some boats.DAT probably be stolen at auction.the*
c. *there would then probably some boats.DAT be stolen at auction.the*
d. **there would then probably be some boats.DAT stolen at auction.the*
e. *there would then probably be stolen some boats.DAT at auction.the*

[32] As seen in these and the following patterns the floating subject cannot show up between non-finite verb forms, and as also seen, this holds true irrespective of the case of the subject. One can think of several accounts of this intriguing fact, but case is not among the likely explanations.

(55) a. *there would some boats.**NOM** then probably be sold at auction.the*
b. *there would then some boats.**NOM** probably be sold at auction.the*
c. *there would then probably some boats.**NOM** be sold at auction.the*
d.* *there would then probably be some boats.**NOM** sold at auction.the*
e. *there would then probably be sold some boats.**NOM** at auction.the*

The dative form of 'some boats' is *einhverj**um** bát**um***, whereas the nominative form is *einhverj**ir** bát**ar***. The case distinction between these forms does *not* affect their syntactic distribution or licensing.

Similar facts obtain for ECM infinitives, as illustrated by the following pattern (for Icelandic examples, see, e.g., Sigurðsson 2003: 254). The accusative form of 'some boats' is *einhverj**a** bát**a***:

(56) a. *I believed [some boats.**ACC** have.INF been sold at auction.the]*
b.* *I believed [have.INF some boats.**ACC** been sold at auction.the]*
c.* *I believed [have.INF been some boats.**ACC** sold at auction.the]*
d. *I believed [have.INF been sold some boats.**ACC** at auction.the]*

Exactly the same pattern is found for quirky case arguments, as sketched in (57):

(57) a. *I believed [some boats.**DAT** have.INF been stolen at auction.the]*
b.* *I believed [have.INF some boats.**DAT** been stolen at auction.the]*
c.* *I believed [have.INF been some boats.**DAT** stolen at auction.the]*
d. *I believed [have.INF been stolen some boats.**DAT** at auction.the]*

Subject raising shows a similar pattern, the difference being that the subject position of the infinitive cannot be lexicalized (for Icelandic examples, see again Sigurðsson, e.g. 1989, 1991):

(58) a. *there would some boats.**NOM** then seem [have.INF been sold at auction.the]*
b.* *there would then seem [some boats.**NOM** have.INF been sold at auction.the]*
c.* *there would then seem [have.INF some boats.**NOM** been sold at auction.the]*
d. *there would then seem [have.INF been sold some boats.**NOM** at auction.the]*
e. *there would then seem [have.INF been sold some boats.**NOM*** at *auction.the]*

Another piece of evidence comes from ECM-like infinitives with an optional dative matrix experiencer (Sigurðsson 1989, etc.). When the dative matrix experiencer is present, it blocks the infinitival subject from raising, irrespective of its case, as illustrated by the patterns in (59) (the dative form of 'the boats' is *bát**unum*** whereas the nominative form is *bát**arnir***):

(59) a. *me.DAT seemed [boats. the.**DAT** have.INF been stolen]*
'It seemed to me that the boats had been stolen.'
b. *me.DAT seemed [boats. the.**NOM** have.INF been sold]*
'It seemed to me that the boats had been sold.'

In the absence of a matrix experiencer, however, the (definite) subject of the infinitive has to raise, as in (60) (for a discussion of facts of this sort, see, for instance, Sigurðsson 1989, 1992, and Boeckx 2000):

(60) a1. *boats.the.*DAT *seemed [e have.*INF *been stolen]*
'The boats seemed to have been stolen.'
a2. * *it seemed [.boats.the* DAT *have.*INF*.been stolen]*
b1. *boats.the.*NOM *seemed [e have.*INF *been sold]*
'The boats seemed to have been sold.'
b2. * *it seemed [boats.the.*NOM *have.* INF *been sold]*

The empirical problems that have been attributed to case or the lack thereof are of course real, including nominative raising, as in the Icelandic (60b1) and in English *He seems to be sick*, as compared to **It seems he/him/his to be sick*. However, as we see by comparing (59) and (60), the problem does not seem to relate to case - the infinitival subject position being a legitimate nominative case position, as seen in (59b).

The presence of the dative matrix subject in (59b) evidently licenses the infinitival nominative subject, and it arguably does so by entering a matching relation R within the matrix clause, thereby exempting the nominative from entering that relation (a Minimal Link Condition effect). In the absence of the matrix dative, on the other hand, the nominative has to raise, as in (60b1), presumably because it has to 'stand in' for the dative by entering the matrix matching relation R. As I have argued in previous work (Sigurðsson 2003, 2004b, 2007a, 2007d, etc.), and as I will discuss in section 5.4, the matching relation in question is arguably Person matching. If so, English **It seems he to be sick* is ill-formed because expletive *it* is not a legitimate matcher of Person in the presence of the 'stronger' Person matcher *he* (i.e., the expletive is superfluous, cf. Richards 2004, and the discussion in Sigurðsson 2007c). The same effect is seen (in both languages) in ECM examples like **It considers he/him to be sick* (on an expletive reading of *it*) as opposed to *We consider him to be sick*, where *we* matches Person. Case offers no account of this, and appealing to Burzio's Generalization does not help, as further confirmed by the Icelandic facts in (61):

(61) a. Þá mundi **honum** virðast [**hún** vera löt].
*then would him.*DAT *seem she.*NOM *be.*INF *lazy*
'Then she would seem (to be) lazy to him.'
b. Þá mundi **hún** virðast [__ vera löt].
*then would she.*NOM *seem be.*INF *lazy*
'Then she would seem (to be) lazy.'
c. * Þá mundi virðast [**hún** vera löt].
*then would seem [she.*NOM *be.*INF *lazy*

It is evident that the case-marking of an overt NP does not matter for its positioning. Similarly, as we have seen, case has no bearing on whether or not PRO is licensed, that is, case is *irrelevant* with respect to the distribution and licensing of overt vs.

silent arguments. In particular, as we have seen, there is no inherent correlation between finite Tense and nominative case.[33]

The fact that case is not a driving force in the derivation falls into place if it is not a syntactic feature. This claim is coined as the NO CASE GENERALIZATION in recent work (Sigurðsson 2007b, 2007d), saying, simply: *Syntax has no case features*. If that is correct, case cannot be operated on or operated with in syntax (Narrow Syntax, NS, in the sense of Chomsky 2000, *et seq*.), and then its irrelevance for the distribution and licensing of arguments, overt and empty, is not surprising.

Saying that syntax does not have access to case features is a different and a more radical claim than just saying that morphological case is assigned post-syntactically. However, as I have argued for this understanding in previous work, I will only present a few of the arguments in favor of it below.

In generative approaches, syntax is the module or the part of grammar that mediates between meaning and surface (PF) form, and the received understanding (in Chomsky 2000, etc.) is therefore that there are basically two types of syntactic features: features that are legible to both the interfaces, and features that are legible or interpretable to only one of the interfaces. In the latter case, the derivation crashes unless something further happens (i.e., Agree has to take place, see below), because the interfaces cannot operate with features they cannot 'interpret' or 'handle'. To use a simple metaphor, this would be something like sending aeroplane parts through the production line in a car factory - the production would crash.

Formal agreement features, like number agreement on verbs and participles in Germanic and Romance languages are contentless in the sense that their presence does not contribute anything to interpretation. This is neatly illustrated by examples like the following (see also, e.g., Sigurðsson 2004a):

(62) a. They would be elected. English

b. Sie **würden** gewählt werden. German
they would.3PL elected be

c. De skulle bli **valda**. Swedish
they would be elected.PL

d. Þeir **mundu** verða **valdir**. Icelandic
they N.M.PL would.3PL be elected.N.M.PL

Verb and/or participle agreement in German, Swedish and Icelandic does not convey any meaning that is absent in the English clause in (62a).[34] The same point can be made within English (or, e.g., within earlier stages of Swedish, cf. Falk 1993: 155). Thus, inasmuch as speakers accept clauses like *The girls is here*, *Them is here* (cf. Henry 1995), the singular verb form does not lead to poorer or different semantics than the

[33] This is not restricted to Icelandic. See Sigurðsson (2006a) for examples from, e.g., German and Swedish, of the type *Es ist nicht leicht **ich** su sein* and *Det är inte lätt att vara **jag*** 'it is not easy to be I. **NOM**'.

[34] In contrast, overt agreement distinctions sometimes relate to semantics language-internally, that is, individual languages seem to 'use' or 'grasp' the disambiguating opportunities they have at their disposal. Not having the same options is evidently not a problem in other languages (see Sigurðsson 2007b for discussion).

plural in the standard *The girls are here*, *They are here*. The plural subject *they* is the only semantically plural element in the clauses *They are here / Them is here*. Repeating or copying the subject's plurality on the verb is a grammatical requirement in most varieties of English, but it does not add anything to the interpretation of the clause.

It is evident from these simple observations that some features are purely formal agreement features, with no semantic import of their own. In the approach developed by Chomsky (2000, *et seq*.), such features enter an Agree correlation (for instance between a verb and its subject) and are subsequently transferred to the phonological interface but deleted prior to or under transfer to the semantic interface - hence they get no semantic interpretation. In the approach in Sigurðsson (2004c, 2006b), formal agreement features are post-syntactic, preconditioned by syntactic Agree but added in morphology by abstract agreement (copying) processes (see further below). Either way, such features never enter the 'production line' of the semantic interface, and the derivation converges instead of crashing.

Case is arguably not a contentless agreement feature in this sense.[35] That it is not is suggested by many studies of case semantics, revealing interesting (or curious), albeit language-specific form-meaning patterns (for a general overview, see Blake 2001; on Icelandic specifically, see Jónsson 2003, 2005). Thus, we might seem to be forced to assume that case is a syntactic feature, and that is indeed the generally received understanding. However, the problems that arise under a syntactic approach to case are numerous and serious.

First, as we have seen, case has no bearing on the distribution and licensing of arguments, whether overt or silent, that is, it is syntactically inert (and, thus, evidently invisible to the syntactic computation).[36]

Second, individual cases could not be unitary features or primitives in syntax. This is seen by the fact that the cases typically express or represent numerous complex syntactic relations. Thus, the Icelandic NOMINATIVE is used to mark NPs in the following rather heterogeneous syntactic relations:

(63) a. agentive subjects (in finite clauses)
b. numerous non-agentive subjects (of various kinds of predicates)
c. subjects of ECM-like infinitival and small clause complements of certain matrix verbs that take a dative subject (the type in (59b) above)
d. objects of certain verbs that take a dative subject ('me would like *these ideas*.NOM')
e. predicative NPs (in finite clauses and PRO infinitives)
f. many left dislocated NPs
g. many right dislocated NPs
h. vocatives and other addressing expressions
i. certain exclamative NPs
j. most listed NPs (in dictionaries, etc.)

[35] But for a suggestion that the structural cases actually are Agree markers, see Platzack (2006).

[36] Assuming that an NP has to have an 'unsatisfied' syntactic case feature in order to be syntactically active is redundant, hence vacuous (i.e., it is non-distinct from saying that the *n*-feature makes NPs syntactically active or from simply saying that NPs are syntactically active until they have been fully matched).

The following is an incomplete list of the Icelandic NP types that show up in the DATIVE:

(64) a. agentive NPs in *af-* 'by' phrases in the passive
b. experiencer subjects of certain predicates
c. theme subjects of certain predicates
d. free benefactives
e. most benefactive indirect (or 'first') objects
f. numerous direct objects (with certain thematic and aspectual readings)
g. complements of many prepositions
h. complements of certain adjectives
i. certain adverbial NPs (instrumental, possessive, comparative)

Many of these functions or relations are quite complex. Thus, it might seem simple enough to see to it that agentive subjects in finite clauses show up in the nominative, but it requires a rule or a statement that takes, roughly, the following form:

(65) $\forall x$: (x ∈ a finite clause & NP(x) & subject(x) & agent(x)) → nominative(x)

Similarly, the formula in (66), where $+\exists$ stands for 'most', would see to it that most benefactive indirect objects are assigned dative case:[37]

(66) $+\exists x$: (NP(x) & indirect object(x) & benefactive(x)) → dative(x)

Notice that there is no way of linking only thematic content like BENEFACTIVE or AGENT directly with the cases, there for instance being both nominative benefactives and dative agents (in *af-* 'by' phrases in passives). That is, the case-marking is essentially based on a combination of thematic and structural information.[38] Moreover, formulas like these can only function if the case assignment mechanism 'knows' what it is 'to belong to a finite clause' and what it is 'to be a subject' and 'to be an indirect object' (in themselves complex relations). The received GB and minimalist understanding is, however, that notions like 'subject' and 'object' (let alone 'finite clause') are not syntactic primitives (cf. Chomsky 1981: 10; McCloskey 1997). If so, syntax does not operate on or with complex entities like subjects and objects. Rather, it 'produces' subjects and objects - which means that formulas like (65) and (66), inasmuch as they are 'real', must be operative *after* 'subject/object production', presumably in post-syntactic morphology.

Third, if case was a syntactic feature (or features), either legible to the semantic interface (inherent cases) or deleted prior to or under transfer to the semantic interface (structural cases), one might expect it to show up in a similar fashion across languages. However, nothing could be further from the truth. Many languages have no case-marking at all (see below) and case languages show profound case variation.

[37] There are more ways to get the same result, but the technical details are not important here. The point I am making is that the cases typically represent complex relations, involving a number of factors.

[38] The relevant thematic information is encoded in syntax by aspect and voice heads in the approach suggested by Svenonius (2006) and further developed in Sigurðsson (2007d).

Consider the following variation of the case inventory in only a handful of Indo-European languages (see, e.g., Comrie 1990; Blake 2001):[39]

(67)								
a. Proto-Indo-European:	Nom	Acc	Gen	Dat	Voc	Abl	Inst	Loc
b. Lithuanian:	Nom	Acc	Gen	Dat	Voc		Inst	Loc (Ill/ Ade/All)
c. Polish:	Nom	Acc	Gen	Dat	Voc		Inst	Loc
d. Latin:	Nom	Acc	Gen	Dat	Voc	Abl		(Loc)
e. Russian:	Nom	Acc	Gen	Dat			Inst	Loc
f. Albanian:	Nom	Acc	Gen	Dat		Abl		
g. Ancient Greek:	Nom	Acc	Gen	Dat	Voc			
h. German/Icelandic:	Nom	Acc	Gen	Dat				
i. Modern Greek:	Nom	Acc	Gen		Voc			
j. Faroese (spoken):	Nom	Acc		Dat				
k. Rumanian:	Nom/ Acc		Dat/Gen		(Voc)			

If syntax operates with a +ABLATIVE feature, for instance, it is puzzling that it can, at some time point, stop doing so in some languages. Also, if syntax operates with a +NOMINATIVE feature, it is unclear why that feature should have different domains in closely related languages and why it should be assigned to NPs with many heterogeneous syntactic functions, like the ones listed in (63) above. In contrast, if the cases are not syntactic features but morphological markers, their variability and historical instability can be analyzed in similar terms as other morphological variation - by no means a trivial task, but at least a conceivable one.

Closely related languages, with basically the same case systems, can show quite different distribution and function of their cases. The dative in Icelandic and German is a clear case in point (see Maling 2001, 2002; Sigurðsson 2007d). Also, relations that are expressed with some particular case in one language are expressed with different cases or by other means in other languages. Thus, while Finnish has PARTITIVE case, Russian and, e.g., the Germanic languages do not. However, partitive and pseudopartitive relations are often marked with the genitive in Russian, and commonly with a preposition in the Germanic languages, but also sometimes with the genitive or with no marking, as in the German pseudopartitive construction *drei Flaschen Wasser* 'three bottles (*of*) water' (see Neidle 1988; Delsing 1993; Vainikka and Maling 1996; Blake 2001; Sigurðsson 2003 for some discussion).

Languages apply various means, other than case or in addition to case, to mark the relation between an NP and its linguistic environment, including suprasegmental marking (see Sigurðsson 2003: 326 on Swedish) and some marking of a non-NP member of the relevant syntactic relation: adpositions, particles, verbs, complementizers, adverbs, ...

Nichols (1992) studied dependency marking with respect to the typological notions of A(gent)-S(ubject)-P(atient). In her sample of 155 (relevant) languages, 148 or 95.5% had some such marking, and these in turn split into about equally large

[39] The case abbreviations used are: Nom(inative), Acc(usative), Dat(ive), Gen(itive), Voc(ative), Abl(ative), Inst(rumental), Loc(ative), Ill(ative), Ade(ssive), and All(ative).

groups, with and without case-marking (see Nichols 1992: 90). This is presumably not very different from the result one might expect if different marking strategies (i.e., NP-marking (=case) vs. non-NP marking) are randomly spread across languages. Moreover, if one looks at constructions (rather than only at languages), the little available evidence there is (including Nichols' study) suggests that no marking (as in *drei Flaschen Wasser*) is a third, highly common alternative.

All these facts are hard to understand, in fact *very* surprising, if individual cases are syntactic features. In contrast, they are compatible with a view where the cases are post-syntactic morphological markers of underlying syntactic structures and correlations. If so, case instructions do *not* take the simple form:

"*Syntactic* $+_{NOM} \rightarrow$ *morphological nominative case;*"
"*Syntactic* $+_{DAT} \rightarrow$ *morphological dative case,*" etc.

Rather, case instructions are complex formulas, where different relations and features combine to yield a morphological case representation. Thus, to mention only one central issue, transitive NOM-ACC constructions in accusative languages like Icelandic and English arguably involve subject matching of Voice and object matching of both Voice and v* (Sigurðsson 2007d). If so, there is no 'mention' or occurrence of case features such as +NOM (or the like, cf. McFadden 2007) until post-syntactically, case being an *output* of the syntactic and the morphological computation, and not its input. Hence, it is not surprising that syntax → PF transfer yields nominative in more constructions than just nominative subject constructions (cf. (63) above), +NOM being a morphological interpretation of *a number* of different syntactic matching relations.

It is also fair to say, I believe, that proponents of generative (GB and minimalist) Case Theory do not generally assume or argue for the simple view that the morphological cases either are or directly represent syntactic features. Rather, most researchers assume that the GB-theoretic/minimalist notion of structural case is not a morphological but an abstract one: *Case*, with a capital *C*, and not the *case* seen in morphology, with a lower-case *c*. Even so, the label 'Case', henceforth *Abstract Case*, is unfortunate and misleading. It suggests that the licensing of overt NPs and the silence of PRO are accounted for by the presence/absence of the same abstract mechanism as the one triggering or underlying morphological case assignment in individual languages.

Overt NP licensing and the silence of PRO are *real issues* and the insight that they need to be theoretically accounted for (Chomsky 1981), rather than merely taken for granted, was groundbreaking. However, the hypothesis that they can be accounted for in terms of case or that they somehow vaguely relate to case was mistaken. As we have seen, case is irrelevant with respect to both phenomena.

Claiming that NP licensing and the silence of PRO can instead be accounted for in terms of Abstract Case, raises the question of how and why Abstract Case offers such an account, and ultimately also the question of what Abstract Case is, and of why one would wish to call it 'Case', rather than 'Tense' (cf. Pesetsky and Torrego 2001), or, e.g., 'Mood'. To my knowledge, current Abstract Case Theory (Chomsky 2000, *et seq*.) offers no answers to these entirely basic and simple questions.

A common reaction to this criticism goes something like this: "We all know that there is some abstract property there, but we don't really know what it is, so let's just call it Abstract Case for convenience, there can be no harm in that." However, this *is*

harmful, as it trivializes the issues at stake and discourages further research into their nature (thereby going against the spirit of intellectual inquiry in Chomsky 1981, *et seq*.). By assigning a label like 'Abstract Case' to some Property X (or Properties X +), we accustom ourselves to it, but being accustomed to it and having a name for it does not amount to understanding it.[40]

Both case-marking and overt agreement take place in morphology, post-syntactically.[41] That is, these processes are not syntactic (and hence they are invisible to the semantic interface, cf. (62) above), but they can 'see' and operate on the syntactic message transferred from Narrow Syntax, NS, to the externalizing, expressive component of language.[42] This component is usually referred to as PF, which is slightly misleading, but regardless of what we call it, it is a complex, layered system, with roughly the following ordered sub-interfaces in oral languages (see Sigurðsson 2006b: 204):[43]

[*NS* →]*Sign formation* → *Morphology* → *Phonology* → *Phonetics*

The units of morphology include roots, feature variables like αCASE, βGENDER and abstract feature values like NOM(inative) and FEM(inine). Thus, agreement is an abstract copying process (much as in Chomsky 1965), roughly:

(68) $[X_{\alpha\text{CASE},\ \beta\text{GENDER}},\ \ldots - Y_{?\text{Case}},\ _{?\text{GENDER}},\ \ldots\ ]$
$\rightarrow [X_{\alpha\text{CASE},\ \beta\text{GENDER}},\ \ldots - Y_{\boldsymbol{\alpha}\text{CASE},\ \beta\text{GENDER}},\ \ldots]$

The resulting abstract feature values, NOM, etc., are subsequently transferred to phonology, which interprets them in terms of phonological features. Thus, when combined with the Icelandic root /gest/ 'guest' the feature complex N.M.PL gets the phonological value /ir/, whereas it gets /ar/ when combined with the root /bát/ 'boat', in the forms *gestir* and *bátar* (roughly [Ir] and [ar] in subsequent phonetics). In contrast to the abstract morphological values, the phonological values are *not* copied under agreement, as illustrated in (69) for NP-internal concord (parallel observations apply to other agreement phenomena, including English subject-verb agreement):

(69) a. þess**ir** bát***ar***
these.N.M.PL *boats.N.M.PL*
b. þess**ar** skút***ur***
these.N.F.PL *yachts.N.F.PL*
c. þess**i** skip
these.N.NT.PL *ships.N.NT.PL*

[40] Consider the discussion of the 'hard problems' in Chomsky (2002: 59-60).

[41] Sigurðsson 2003, 2004c, 2006a, 2006b, 2006c, 2007a, 2007b, 2007c, 2007d; see also, e.g., Marantz 2000; McFadden 2004; Platzack 2006; Bobaljik 2006; Landau 2007.

[42] Accordingly, *language-specific* case and agreement markings can (and commonly do) represent or relate to semantic/syntactic categories, internally to *individual* languages.

[43] How much of 'PF' is common to oral languages and sign languages is an intriguing question. At least sign formation and some morphology would seem to have to be common.

The case and phi-features of PRO infinitives (and in general) are thus *abstract* features, even though they are assigned in post-syntactic morphology. The simplest assumption is that they are abstractly assigned to PRO, as sketched in (49) above. Alternatively, one might want to assume that morphology just interprets PRO infinitives as being subject to the same agreement processes as comparable finite clauses (with the obvious exception of finite verb agreement). While this second alternative is often only a notational variant (descriptively) to the first, assignment alternative, it is hard to see how it could be formalized or even only informally stated in linguistic terms. It also has the drawback that it does not easily accommodate agreement under case transmission, as there are no comparable finite clauses which the agreement mechanism could 'imitate'.[44] In short, the agreement properties of Icelandic PRO infinitives are coherently and simply accounted for under an approach where case and phi-features are abstractly assigned to PRO itself in morphology, PRO subsequently triggering morphological agreement in the same fashion as overt subjects do.

Case transmission into PRO infinitives is subject to cross-linguistic variation (see Landau 2007). Even for only Icelandic, developing a formal account of the optionality of case transmission versus infinitive-internal nominative case-marking is not a trivial task. However, if case-marking is decided in post-syntactic morphology, such an account is at least not logically precluded, and it would also be compatible with the fact that case transmission has no discernable semantic effects or correlates (as the case is assigned in morphology, out of sight for the semantic component). If, on the other hand, case was decided in syntax, prior to transfer to the interfaces, case transmission would presumably have semantic correlates and it would also have to involve backtracking, thereby violating cyclicity and the No-Tampering Condition (Chomsky 2005). That is to say, basic nominative case would first be assigned infinitive-internally (see, e.g., (26a) above), and then, when a non-nominative controller is merged later on in the derivation (see, e.g., (26b) above), the computation would need to go back down into the infinitive to overwrite the original nominative with the case of the controller.[45]

Case transmission illustrates that there is a cyclic matching relation between a matrix controller and an infinitival predicate, via PRO: *[PRO ↔ predicate]* and a subsequent *[NP ↔ PRO ↔ predicate]*. In the present approach, post-syntactic case may markedly 'drip down' from NP to (non-quirky) PRO and further to the infinitival predicate. More commonly, however, PRO and hence its predicate gets independent nominative case.

Case 'preservation' under A'-movement (and under quirky A-movement) has commonly been taken to be a strong indication that case is assigned in syntax. The

[44] This second alternative is even less feasible in languages that show general differences between predicative agreement morphology in finite and non-finite clauses, like Russian and Ancient Greek (see Landau 2007).

[45] Alternatively, one might want to say that infinitives either come with or without a NOM head feature (cf. Landau 2007) or a NOM triggering structure, and that case transmission takes place exactly when infinitives do not come with that particular head or structure. However, this is unprincipled and also makes the wrong prediction that case transmission should be randomly spread across infinitives (equally common under quirky subject control as under object control, etc.).

alternative view, argued for in my previous work (e.g., Sigurðsson 2006b, 2007d), is that PF, including morphology, is divorced from syntax, externalizing and expressing it rather than being a part of it, PF spell-out strategies scanning much wider domains than syntactic processes do (as suggested by various long distance phenomena, including case transmission). The question of why PF differs from syntax in this way is an extremely important question, but it is much too big to be addressed in passing in this article. The very least linguistics can do is identify and raise the question.

5.3 The movement theory of control does *not* remove the silence problem

A 'control movement chain' in the sense of B&H is indistinguishable from control in the traditional sense at *the semantic interface*. In both analyses, the resulting structure (in simple exhaustive control configurations) is the one informally sketched in (70) below (recall, that phi-agreement takes place in morphology, hence there is no phi-variable in this semantic representation; the numbering is just a numbering of the different theta roles/features involved, not a coreference index (REF_α corresponds to such an index)):

(70) $\text{NP}/\theta_{2+1}\text{REF}_\alpha \ldots [_{\text{CP}}\ \text{Ø}/\theta_1\text{REF}_\alpha \ldots$

The traditional theta-criterion would exclude (70) from being derived by movement, but if θ is a feature, rather than a 'position filling element', it is not obvious that it should be blocked from probing and attracting arguments, as argued by B&H. As we have seen, however, the movement theory of control, MTC, faces serious empirical and analytical problems, and there are more.

One additional problem is that $\text{Ø}/\theta_1\text{REF}_\alpha$ in (70) is not an exact copy of $\text{NP}/\theta_{2+1}\text{REF}_\alpha$, since the two are partially theta-distinct. This is more clearly seen in examples like (71), illustrating that there is no limit to the number of controlled PROs:

(71) Bill wanted to ask for permission to leave early to be able to buy his tickets in time.

In terms of MTC, the highest theta feature in (71) has attracted and stacked four silent copies of *Bill* in the matrix Spec,IP. Presumably, the lowest copy would be attracted by a theta feature in the next infinitive up, etc., leading to a kind of roll-up, as illustrated in (72) (where only the Spec,vP copies of *Bill* are shown):

(72) $\text{Bill}_{5+4+3+2+1}$ ... to $\textit{Bill}_{4+3+2+1}$ ask ... to $\textit{Bill}_{3+2+1}$ leave ... to $\textit{Bill}_{2+1}$ be able ... to $\textit{Bill}_1$ buy his tickets

In a theory that allows (and requires) movement from one theta position to the other there is no escape from the fact that the copies in 'domino' control structures of this sort all have matched differently many theta-features, thus not being truly identical.[46] In addition, such a theory makes PRO different from other elements of

[46] Given that matching has some content (in the sense that some 'grammatical substance' is matched). On the other hand, the fact that the theta-roles themselves are thematically distinct (for instance the THEME role of the unaccusative *leave* and the AGENT role of the transitive *buy*) is not an issue here. It is just as much a fact in the traditional control approach as under MTC (presumably, thematic content is only interpreted at the semantic interface).

grammar in being 'potentially active' regardless of how often it is probed and matched (raising the question of why it should 'stop' being active whenever it 'hits' a finite clause).

Not only may PRO and its controller be partly theta-distinct under MTC (in the sense that they match differently many theta features). As we have seen, Icelandic illustrates that PRO and its controller are commonly case-distinct as well. As a matter of fact, there is no limit to the number of distinct case-markings in 'control chains', as illustrated in (73):

(73) Ólaf langaði til að PRO verða boðið að PRO verða
*Olaf.**A**.M.SG longed for to **D** be offered.DFT to **G** be*
getið í ræðunni til að PRO verða vinsæll.
*mentioned.DFT in speech.the for to **N** become popular.N.M.SG*
'Olaf wanted to be offered to be mentioned in the speech to become popular.'

All this suggests that PRO and its controllers are distinct units or objects in grammar. Claims to the opposite call for a copy theory that defines *exactly how different* overt and covert copies can be (and what principles and mechanisms control or trigger the differences). There does not seem to be any nonstipulative, let alone reasonable way of achieving that.[47]

Yet another problem is that it is not clear why (case-marked) PRO should have to move. Other arguments can of course stay inside infinitives, e.g., the object *him* in (74), where ~~*Mary*~~ is the putative Spec,vP copy of *Mary*:

(74) Mary promised Bill [to ~~*Mary*~~ help **him**].

Given that *Mary* has to move into the matrix clause, one would need to develop some coherent account of the fact that the object *him* does not move, yielding clauses like (75a) or (75b):[48]

(75) a. * Mary promised Bill **him** to help.
b. * Mary promised **him** to help.

Parallel facts hold in Icelandic:

(76) María lofaði Ólafi [að PRO hjálpa **honum**].
Mary.N promised Olaf.D to N help him.D

(77) a. * María lofaði Ólafi **honum** að hjálpa.
Mary.N promised Olaf.D him.D to help
b. * María lofaði **honum** að hjálpa.
Mary.N promised him.D to help

[47] Notice also that B&H's account of 'non-preservation of case' under control, sketched in (42) above, has no clear bearing on 'multiple quirky control' of this sort.

[48] In the approach of Kayne (2002), both *Mary* and *Bill* in (74) have actually moved out of the infinitive, 'stranding' PRO and the pronoun *him*, respectively (raising questions and problems that I will not discuss here).

Thus, appealing to case is not an option.[49] Spelled out subjects must evidently meet left edge 'criterial conditions' (cf. Rizzi 2004) that both PRO and overt non-subject arguments are exempted from.

Contrary to what one might believe at first sight, MTC offers no account of the silence problem raised by controlled PRO. Since MTC does not extend to uncontrolled PRO, it obviously has no bearing on its silence either. Consider the finite clause in (78a) and the corresponding infinitive in (78b):

(78) a. Maður vill vera **sterkur**.
one.N.M.SG wants.3SG be strong.N.M.SG
'One wants to be strong.'

b. Það er eðlilegt [að (*maður) vilja vera **sterkur**].
*it is natural to (*one.N.M.SG) want.INF be strong.N.M.SG*
'It is natural (for one) to want to be strong.'

In short, the silence problem posed by PRO is real, and MTC does not contribute to its solution at all. On the contrary, MTC raises its own problems and introduces new complications of the theory. The single gain of it is to eliminate the *GB-theoretic* notion of PRO, but that is just what any minimalist approach must do. This is simply accommodated if we admit to the fact that language operates with empty categories that have not only variable reference, like overt pronouns and anaphors, but also (fully) variable phi-features, unlike overt expressions.

5.4 The silence problem(s): a closer look

While case is notably far from showing any correlation with the licensing and distribution of overt and silent arguments, *person* is a category that does show a close correlation with subject licensing. Reconsider the Icelandic patterns in (54) and (55), repeated below as (79) and (80), showing that case does not correlate with NP licensing:

(79) a. *there would some boats.**DAT** then probably be stolen at auction.the*
b. *there would then some boats.**DAT** probably be stolen at auction.the*
c. *there would then probably some boats.**DAT** be stolen at auction.the*
d. **there would then probably be some boats.**DAT** stolen at auction.the*
e. *there would then probably be stolen some boats.**DAT** at auction.the*

(80) a. *there would some boats.**NOM** then probably be sold at auction.the*
b. *there would then some boats.**NOM** probably be sold at auction.the*
c. *there would then probably some boats.**NOM** be sold at auction.the*
d. * *there would then probably be some boats.**NOM** sold at auction.the*
e. *there would then probably be sold some boats.**NOM** at auction.the*

[49] Icelandic can embed obligatory control infinitives under impersonal passives (type: *it was promised to help **him*** = 'Somebody promised to help him', see Sigurðsson 1989: 64ff), but even in such cases the embedded argument does not move (i.e.: **it was promised **him** to help* / ***he** was promised to help*).

Personal pronoun subjects, in contrast, have to raise to the highest subject position, Spec,IP, irrespective of their case-marking. Consider (81)–(82) (and compare them to (79) and (80)).[50]

(81) a. Þá mundi **þeim** sennilega verða stolið á uppboðinu.
then would.DFT them.D probably be stolen at auction.the
'Then, they would probably be stolen at the auction.'
b. * Þá mundi sennilega **þeim** verða stolið á uppboðinu.
then would probably them.D be stolen at auction.the
c. * Þá mundi sennilega verða **þeim** stolið á uppboðinu.
then would probably be them.D stolen at auction.the
d. * Þá mundi sennilega verða stolið **þeim** á uppboðinu.
then would probably be stolen them.D at auction.the

(82) a. Þá mundu **þeir** sennilega verða seldir á uppboðinu.
then would.3PL they.N probably be sold at auction.the
'Then, they would probably be sold at the auction.'
b.* Þá mundu sennilega **þeir** verða seldir á uppboðinu.
then would probably they.N be sold at auction.the
c.* Þá mundu sennilega verða **þeir** seldir á uppboðinu.
then would probably be they.N sold at auction.the
d.* Þá mundu sennilega verða seldir **þeir** á uppboðinu.
then would probably be sold they.N at auction.the

The same facts apply to 1st and 2nd person subjects, as illustrated in (83) for the 1st person:

(83) a. Þá mundum **við** sennilega verða kosnir.
then would.1PL we.N probably be elected
b. *Þá mundum sennilega **við** verða kosnir.
then would probably we.N be elected
c. *Þá mundum sennilega verða **við** kosnir.
then would probably be we.N elected
d. *Þá mundum sennilega verða kosnir **við**.
then would probably be elected we.N

[50] Further movement to the preverbal Spec,CP position is also possible (and even more common), but then the adverbial *þá* 'then' has to be post-verbal, due to the verb-second property. As is well known, *focus* (and phonological heaviness) sometimes affects the positioning of pronominal NPs, but it cannot exempt pronominal subjects from NP-movement (cf. **Did seem HE and not SHE to be unhappy*?). Another much discussed fact is that *definiteness* interacts with NP-movement in languages like English and Icelandic. The interaction is often quite complex, with many apparent exceptions (for a comprehensive overview of many of the Icelandic facts, see Thráinsson 2007: ch. 6). Plausibly, though, definiteness and 'true' person (as opposed to default, arbitrary or generic 3rd person) are related, both linking participants (theta roles) of the propositional event described in a clause to participants that are known or given in the speech event or in the discourse (speech event/discourse participants). I will not pursue this further here, though (but for an analysis where 3rd person is ambiguous between being 'true person' and 'no person', see Sigurðsson 2004b, 2007c).

Thus, there seems to be a general requirement that 'active' or 'true' subject person, in some sense, is visualized in a high position ('Spec,IP').[51]

Another fact that suggests that person plays a crucial role in 'overt subject licensing' is that quirky subjects block 1st and 2nd *person* agreement with nominative objects in Icelandic DAT-NOM constructions, as opposed to number agreement. This is illustrated in (84) (where Pn = Person, Nr = Number):

(84) a. * Honum *líkum* **við.** DAT Pn / Nr NOM
him.DAT like1PL we.NOM ↑__*covert*__↑ ↑__**overt**__↑
Intended: 'He likes us.' *↑____**overt**____↑

b. * Honum *líkið* **þið**.
him.DAT like.2PL you.NOM.PL as in (84a)
Intended: 'He likes you.'

c. Honum *líka* **bílarnir**. DAT Pn / Nr NOM
him.DAT like.3PL cars.the.NOM ↑__*covert*__↑ ↑__**overt**__↑
'He likes the cars.'

As indicated in the diagrams to the right, this pattern is accounted for if the quirky subject enters an abstract person agreement relation with the finite verb (Boeckx 2000, *inter alia*), the verb thus being blocked from also agreeing in 'true' person (as opposed to number) with the nominative object. Icelandic quirky agreement facts of this sort have been widely discussed (see, most recently, Sigurðsson and Holmberg 2007 and the references there), and I cannot go into any details regarding it here. What matters for my present purposes is the mere observation that person matching seems to be intimately related to 'subjecthood', whereas case-marking is evidently unrelated to it.

In view of all this, it is suggestive that 'true person' is incompatible with uncontrolled PRO, as we saw in (52) above, repeated here as (85); as seen, *mig* 'me, myself' cannot be bound by the uncontrolled PRO in (85b):

(85) a. Ég$_1$ reyndi [að PRO$_1$ meiða **mig**$_{1/*2}$/*sig ekki].
*I tried to N hurt myself/*oneself not*
'I tried not to hurt myself / *oneself.'

b. Það er ekki gaman [að PRO$_1$ meiða **sig**$_1$/mig$_{2/*1}$].
*it is not pleasurable to N hurt oneself/me/*myself*
'It is not pleasurable to hurt oneself / me / *myself.'

[51] Curiously, personal pronoun subjects in Swedish and Norwegian (as opposed to Icelandic, Danish, English, German, etc.) are exempted from this requirement, i.e., these languages have grammatical examples of the sort /... *that not I knew it*/ 'that I didn't know it' (see Holmberg 1993; Haeberli 2002: 235ff). This might relate to the fact that Norwegian and Swedish have no person agreement, but that could not be the only factor, as that also applies to Danish. I leave the issue aside here.

This is also illustrated for the 2nd person plural in (86):

(86) a. Þið$_1$ reynduð [að PRO$_1$ meiða **ykkur**$_{1/*2}$/*sig ekki].
*you.PL tried to N hurt yourselves/*oneself not*
'You tried not to hurt yourselves / *oneself.'

b. Það er ekki gaman [að PRO$_1$ meiða **sig**$_1$/ykkur$_{2/*1}$].
*it is not nice to N hurt oneself/you/*yourselves*
'It is not nice to hurt oneself / you / *yourselves.'

That is, uncontrolled PRO cannot 'bind' or co-refer with a 'true person' anaphor, whereas it can bind anaphors in the default 3rd person. This follows if PRO is never person independent, instead always carrying either the default (arbitrary/generic) 3rd person ('no person') or inheriting person from a CP external argument, typically under control (Agree).

As indicated in (84) above, and as illustrated and analyzed in considerable detail in Sigurðsson and Holmberg (2007), the Tense, Number (Nr) and Person (Pn) features of the T-complex, T/Nr/Pn, are independently active in syntax, the spelling out of the T, Nr and Pn markers being a later morphological/PF process.[52] Following Sigurðsson (2000, *et seq*.), I thus adopt the hypothesis that Person is a clausal head: [$_{CP}$ ... [$_{IP}$ ... **Pn** ... Nr ... T ... *v* ...]].

If the Person head of PRO infinitives is inherently 'defective' or anaphoric, as opposed to the Person head in finite clauses, the silence of PRO can be understood as follows:

(87) An inherently anaphoric subject Person cannot be matched by a locally (CP-internally) spelled out NP.

The reason why this is the case is presumably that any lexical NP has some (positive or negative) person specification that has to match an independent or a non-defective Person head in the clausal structure.[53] As we have seen, PRO, in contrast, is a phi-feature variable, hence compatible with an inherently unspecified Person head. That is, regardless of which person value controlled PRO inherits from its controller, the value will not violate any specification or requirement of the defective Person head of the infinitive. If this is on the right track, Person has some of the properties that have commonly been attributed to 'Case' and the EPP (see further Sigurðsson 2007d).

Conceiving of PRO infinitives as Person-defective is close to the line of reasoning pursued by Borer (1989), Huang (1989), and later by Landau (e.g., 2004), even

[52] Syntactic Person is not an uninterpretable feature, hence not a contentless Agr element in the sense of Chomsky (1995, *et seq*.). What is uninterpretable is the overt morphological agreement reflection of Person, not the Person category itself. Going into further details here would take me too far afield, but I refer the reader to Sigurðsson (2004a, 2004b, 2004c, 2006b, 2007c) and to Sigurðsson and Holmberg (2007).

[53] I.e., NPs are Person Phrases in the sense of Platzack 2004 (but for an approach where certain NPs are not Person or Phi Phrases, see Déchaine and Wiltschko 2002).

though these researchers do not distinguish between syntactic Person and morphological Agr features. However, the present understanding raises a new question, namely why Person should have this special status. Plausibly, this stems from the fact that person values are decided in relation to the SPEAKER and HEARER features of the speech event (located in the CP-domain).[54] See Schlenker (2003), Sigurðsson (2004b, 2007c), Speas (2004), Bianchi (2006), among many. Another important feature of the speech or utterance event is SPEECH TIME in the sense of Reichenbach (1947), that is, a T feature, call it T_S, in the CP-domain.[55]

Given that, as we saw above, PRO cannot independently represent the 1st or the 2nd person, and given also that infinitives are Tense dependent (Landau 2004: 819ff; Sigurðsson 2007e), it is warranted to conclude that PRO infinitives have a CP domain that has no active speech event features of its own, including the SPEAKER and the HEARER features and the SPEECH TIME or the T_S feature. Accordingly, PRO infinitives are anaphoric or dependent with respect to both grammatical subject Person and (speech time related) Tense, hence incompatible with independent, local spelling out of these categories.[56]

However, not only subject, Person, and Tense are blocked from being spelled out in PRO infinitives. Rather, such infinitives (in languages like Icelandic) are subject to a general left edge silence or an Anti-EPP Effect, as it were.[57] The left edge (or the leftmost 'Spec') of declarative finite clauses can be lexicalized in various ways in Icelandic (see, e.g., Rögnvaldsson and Thráinsson 1990), for instance by a regular subject, the (non-subject) expletive *það* 'there, it', topicalization or 'full XP

[54] In the sense of Sigurðsson (2004b, 2007c), where the speech event is a syntactic and a much more restricted notion than in Jakobson (1959/1990). As I argue there, 'logophoric agent' and 'logophoric patient' are more pertinent terms than the common 'speaker' and 'hearer', but the latter are sufficiently accurate here.

[55] The assumption that the notions 'speaker', 'hearer' and 'speech time' are not just entities of the external, 'real world' but also internalized features of language is traditional and, as far as I am aware of, uncontroversial. On the other hand, it is a matter of debate to which module of the language faculty these features belong (cf. Huang 2007). In the absence of any clear evidence to the contrary, and since it is arguably the simplest possible approach, I assume that they are features of the syntactic (finite) CP domain, matched by Person, Tense and other grammatical features of the IP domain. See Sigurðsson (2004b, 2007c), where it is illustrated how this can be implemented in a minimalistic, cartographic approach to clausal structure (in the spirit of Rizzi 1997 and Cinque 1999). However, *any principled* account of the lexical and syntactic activity of these features would be compatible with my purposes. Thus, the common assumption or claim that they are 'pragmatic' would be unproblematic if it could be placed within an accurate and economic theory of pragmatics and of lexicon-pragmatics and syntax-pragmatics interfaces.

[56] As pointed out by a reviewer, infinitives can be 'tensed' in the sense of Stowell (1982). However, this Stowellian type of tense relates to (non-past) event time, and not to (finite) speech time. Infinitives are indeed untensed or defective with respect to speech time, in contrast to regular finite clauses (although embedded infinitives *indirectly* relate to speech time, via the matrix clause). A commonly unnoticed fact is that past participles are like infinitives in being 'event time tensed' (non-future) but 'speech time untensed' (Sigurðsson 2007e).

[57] Where EPP effects are understood to be of two different but interacting types: NP-movement vs. the Filled Left Edge Effect (see Sigurðsson 2007c).

fronting', and so-called Stylistic Fronting, which fronts various non-topical non-subjects, including light adverbs, participles and particles.[58] These different left edge lexicalization strategies are illustrated for subordinate *að*- 'that' clauses in (88):[59]

(88) a. … að **málfræði** var mikið rædd á föstudaginn
… *that linguistics was much discussed on Friday.the*
… 'that linguistics was discussed a lot last Friday'

b. … að **það** var sagt frá málfræði á föstudaginn
… *that it.EXPL was told of linguistics on Friday.the*
… 'that somebody spoke about linguistics last Friday'

c. … að á **föstudaginn** var sagt frá málfræði
… *that on Friday.the was told of linguistics*
… 'that last Friday, somebody spoke about linguistics'

d. … að s**agt** var frá málfræði á föstudaginn
… *that told was of linguistics on Friday.the*
… 'that somebody spoke about linguistics last Friday'

The clause in (88d) demonstrates Stylistic Fronting, SF, of the participle *sagt* 'told'. The same clause is given as a main clause in (89):

(89) **Sagt** var frá málfræði á föstudaginn.
told was of linguistics on Friday.the
'Somebody spoke about linguistics last Friday.'

SF is sometimes rather formal, but it applies commonly in finite clauses with a 'subject gap', that is to say in clauses where the canonical subject positions, Spec,IP / Spec,CP, are not occupied by a lexical subject (Maling 1980; Rögnvaldsson and Thráinsson 1990; Holmberg 2000; but see also Hrafnbjargarson 2004). It may even apply in clauses with a thematic silent subject, such as relative clauses and interrogatives:

(90) a. Konan sem **sagt** hafði frá málfræði …
woman.the who told had of linguistics ...
'The woman who had spoken about linguistics …'

b. Það var óljóst hver **sagt** hafði frá málfræði.
it was unclear who told had of linguistics
'It was unclear who had spoken about linguistics.'

[58] Languages like Finnish, see Holmberg (2005), Russian and Czech display somewhat similar variability of left edge lexicalization.

[59] The same basic facts hold in main clauses, but, in general, the left edge is more variable in main clauses than in subordinate clauses, if anything.

As illustrated in (91), however, SF is categorically excluded in PRO infinitives, in spite of their 'subject silence':

(91) a. [Að vera sagt frá málfræði] er fróðlegt. ok no SF
to be told of linguistics is interesting
b. *[Að **sagt** / **Sagt** að vera frá málfræði] er fróðlegt. * SF
to told / told to be of linguistics is interesting

None of the alternative left edge lexicalization strategies illustrated in (88) are available in PRO infinitives either. Thus, PRO infinitives are subject to a *general* left edge silence requirement or an Anti-EPP Effect (which has gone largely unnoticed in the literature, but see Thráinsson 1993 on some aspects of the phenomenon).

An alternative worth considering is that the infinitive marker or complementizer *að* (obligatory in most control contexts, but absent in raising constructions) *is* PRO in PRO infinitives (cf. Manzini and Savoia 2006 on Albanian *të* and Roussou 2007 on English *to*). This would immediately account for the impossibility of SF in PRO infinitives (since they would then not have the required 'subject gap'). However, this would also seem to predict that SF should apply freely in those (exceptional) cases where the infinitive marker can be dropped. This is not borne out, as seen below.[60] The examples in (92) illustrate grammatical SF in finite clauses, and the examples in (93) illustrate that SF is excluded in PRO infinitives, regardless of whether *að* is dropped or not.

(92) a. **Rétt** var sagt frá málinu.
truthfully was told of case.the
'People/Somebody accounted truthfully for the case.'
b. Hann bað um að **rétt** væri sagt frá málinu.
he asked for that truthfully was told of case.the
'He asked that people would account truthfully for the case.'

(93) a. Hann bað mig (að) segja rétt frá málinu.
he asked me to tell truthfully of case.the
b. * Hann bað mig (að) **rétt** (að) segja frá málinu.
he asked me to truthfully to tell of case.the

This does not disprove the 'PRO = *að* hypothesis', which has virtues, not discussed here,[61] but it shows that more is needed to account for the general left edge silence in PRO infinitives. This conclusion gains further support from the above mentioned fact that all alternative ways of lexicalizing the left edge are excluded in PRO infinitives. The examples in (94) and (95) below are instructive in this respect. The example in (94a) shows grammatical topicalization of the object *þetta mál* 'this case' in a finite subordinate clause, (94b) shows a grammatical PRO

[60] Also, to my knowledge, languages like Russian (see Landau 2007) that do not generally have an overt infinitive marker in PRO-infinitives do not allow 'left edge lexicalization' in such infinitives, any more than Icelandic. However, this issue clearly calls for a cross-linguistic study (that I cannot undertake here).

[61] Thus, dropping the infinitive marker in modal infinitives (as opposed to typical control infinitives) does render SF of the infinitival verb grammatical (as noted in Sigurjónsdóttir 1988 and Sigurðsson 1989).

infinitive without topicalization and (94c) shows that the topicalization is excluded in the PRO infinitive (dropping the infinitive marker would not make (94c) any better, and dropping it is in any case excluded in (94b)):

(94) a. Ég veit að **þetta mál** vann hann.
I know that this case won he
'I know that this case he won.'
b. Hann reyndi að vinna þetta mál.
he tried to win this case
c. *Hann reyndi að **þetta mál** vinna.
he tried to this case win

The example in (95a) below shows grammatical (and preferable) expletive insertion in a finite subordinate clause, (95b) shows a comparable PRO-infinitive without an expletive, and (95c) illustrates that the expletive is excluded from the infinitive (again, dropping the infinitive marker would not make things any better, and dropping it is also excluded in (95b)):

(95) a. Ég veit að **það** má gera þetta.
I know that it.EXPL may do this
'I know that one is allowed to do this.'
b. Það er gaman að mega gera þetta.
it.EXPL is nice to may do this
c. *Það er gaman að **það** mega gera þetta.
it.EXPL is nice to it.EXPL may do this

Icelandic expletive *það* 'there, it' is not a subject. Thus, it does not invert with the finite verb in V1 and V2 contexts, nor does it seem to be case-marked or to ever affect agreement,[62] or show any other clear subject properties, in contrast to, e.g., the Mainland Scandinavian expletive *det* 'there, it' (see the seminal study of *það* in Thráinsson 1979 and the discussion and references in Sigurðsson 1989, 2004b, 2004c). Rather, it is an optional 'left edge lexicalizer' (possible when the clause does not contain a topical constituent), competing with other elements for the preverbal, initial position, in both main clauses and most types of subordinate clauses. In spite of this 'grammatical neutrality' of *það*, it is categorically excluded from PRO infinitives.[63]

A more elaborated theory of the CP domain is needed if linguistics is to develop any deeper understanding of this Anti-EPP Effect in PRO infinitives. It suggests that PRO infinitives are 'smaller' than finite clauses, either structurally (Thráinsson

[62] It is interpreted as default N/A.NT.SG in morphology, arguably as a result of absent case and phi-features (Sigurðsson 2004c, etc.).

[63] A detailed comparison with ECM infinitives and small clauses would be interesting here, but it would take us too far afield. Let me just mention that ECM constructions take an intermediate position between finite clauses and PRO infinitives, as it were. Thus, regular (accusative or quirky) infinitival subjects are, of course, compatible with ECM, and at least some instances of Stylistic Fronting are acceptable in at least certain ECM constructions, whereas *það* is generally degraded and topicalization is always sharply ungrammatical.

1993) or in the sense that the left edge functional domain of PRO infinitives is featurally defective or 'inactive' (in the spirit of Cinque 1999: 127). It seems plausible to assume that the CP domain of PRO infinitives does not contain any independently active 'context-linkers' (Top(ic), Speaker, Hearer, T_S, etc.) - hence its lexicalization induces an intervention or a Minimal Link Condition effect such that anaphoric elements like infinitival T and Person cannot match and inherit values from infinitive external elements across a spelled out left edge, much as argued for Germanic topic drop in Sigurðsson and Maling (2007a, 2007b). I leave it at that.

6 Concluding remarks

Despite much discussion, the received understanding of PRO, 'Case' and EPP has not progressed markedly over the last 30 years. The evidence showing that Icelandic PRO *is* case-marked is overwhelming, and much of it has been widely accessible since Sigurðsson (1991). Nonetheless, Chomsky and Lasnik (1993) suggested that PRO "can bear null Case", adding, within parentheses, "though it may have other Cases as well, in non-standard conditions that we will not review here" (see Chomsky 1995: 119).

Boeckx and Hornstein (2006: 603ff) 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" (2006: 596).

At the heart of the misinterpretation lies the belief that structural nominative differs from putative so-called 'default' nominative in that only structural nominative correlates with finite verb agreement. Evidently, however, there is no inherent correlation between nominative case and agreement, just partial overlapping. Rather, finite verb agreement takes place in morphology whenever it can. That is, the following holds for Icelandic and similar languages:

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

This is understandable if inherent case *is* an agreement of a kind (Sigurðsson 2003), NPs commonly (but not universally) being blocked from signaling more than one morphological agreement relation (i.e., this is a common morphological restriction, not a syntactic one). Nominative case, in turn, triggers finite verb agreement when it is 'successfully' probed by a finite verb, otherwise it naturally does not.

Boeckx and Hornstein's goal to prune unnecessary theoretical machinery is, as such, an example of natural, not to say 'coerced', minimalistic efforts. However, what we need to prune is not PRO but the 'Case' theoretic understanding of it. Plainly, the silence of PRO is unrelated to case and movement, and hence the fact that Icelandic PRO is abstractly assigned case in morphology, quirky or nominative, is derivationally irrelevant. The problem is not PRO and its case-marking, but the mistaken belief that left edge lexicalization *is* nominative 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, in particular in case poor languages like English, but there is no inherent relation between them.

Person, in contrast, is a meaningful and a syntactically active category, having some of the properties and effects that have mistakenly been attributed to 'Case'. PRO infinitives are Person defective, not case defective.

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