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The No Case Generalization

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This paper argues that syntax has no case features, case instead being an interpretative feature or features operative in the PF morphology of individual languages, where it overtly distinguishes between arguments (or NPs). The paper also argues that the non-syntactic nature of case is to be expected, given Non-Isomorphism, that is, the fundamental non-isomorphic nature of the derivation. Nonetheless, the different PF case-marking strategies in different languages operate on the basis of common syntactic matching relations, including matching of Voice and marked v (v^* , v^{**}). The dependency of structural accusative upon structural nominative (the Sibling Correlation / Burzio's Generalization) is accounted for in terms of double versus single Voice matching.

Keywords: case, Icelandic, German, Voice, little v , argument structure

1. Introduction^{*}

The question of how syntax relates to morphology and word order, that is to say to PF in general, is one of the truly big questions in linguistic research. GB theory (Chomsky 1981) basically suggested that the category of case was responsible for three central properties of language or at least of languages that are in some sense similar to English:

- First, by the Case Filter, it should not be possible to spell out an NP that lacks case.
- Second, NP-movement was suggested to be driven by a 'case-need' – unless an NP moved under certain conditions, it would not get case, hence it would violate the Case Filter and be ruled out.
- Third, an NP had to be governed in order to get case. It followed that PRO had to be caseless, as it had to be ungoverned by the PRO Theorem. Thus, absence of case was made responsible for the silence problem posed by PRO, that is to say, the fact that PRO cannot be spelled out as a pronoun.

^{*} This paper it is partly based on my presentation at CGSW 22 in Stuttgart, 8-9 June 2007, and it was also presented at the Mini-Case Workshop in Stuttgart, 9 October 2007. Thanks to two anonymous reviewers and to Joan Maling as well as to my audiences in Stuttgart for valuable comments and suggestions. Special thanks also to Terje Lohndal for much appreciated discussions and help. Last but not least, I am grateful to Noam Chomsky for an important and enlightening discussion about the nature of case in the fall 2003. The research for this work was supported by a grant from the Swedish Research Council, VR 421-2006-2086.

If this had been on the right track, case would have been a central feature of grammar, both of universal syntax and of the morphology of individual case languages. However, as it turns out a quarter of a century later, case cannot be assumed to have this central position in language. In fact, it has to be *eliminated* from syntactic theory. Thus, I will here argue that the NO CASE GENERALIZATION in (1) holds true (as suggested in Sigurðsson 2009a):

(1) Syntax has no case features

That is, case is an interpretative feature (or features) operated with in PF morphology, where it overtly distinguishes between arguments (or NPs) and enters into disambiguating agreement processes.¹ Case-marking is indeed based on the syntactic (and the morphological) computation, but syntax does not operate with or on case, its assignment taking place after transfer to the expressive (externalizing) component, commonly referred to as PF. It follows that syntactic processes, in contrast to morphological processes, cannot be driven by case or operate with case features (for related ideas see e.g. Marantz 2000, McFadden 2004, Platzack 2006, Landau 2006).

Legate (2008: 62ff) discusses non-finite contexts in ergative languages (Walpiri, Enga, Hindi) where transitive objects (O) can carry default absolutive case, in contrast to intransitive subjects (S). Legate takes this fact to show that the default absolutive represents abstract nominative on S but abstract accusative on O, and argues that these circumstances provide evidence for abstract Case in syntax. However, the facts she discusses only show that certain contexts are blocked from spelling out certain subjects as opposed to objects.²

¹ Syntactic Agree must be sharply distinguished from morphological agreement (Sigurðsson 2004b, 2006b).

² According to Legate (2008: 63, 65), some of the non-finite contexts where absolutive S is disallowed in Walpiri and Hindi allow dative (Walpiri) or genitive (Hindi) subjects. However, both the Walpiri and the Hindi contexts are nominalization constructions, and Legate does not offer any analysis of their structural properties (i.e., it is not obvious whether or how the ungrammaticality of absolutive S in these constructions is different from the ungrammaticality of *John* in **John investigation* as compared to *John's* in *John's investigation*). Legate's presentation of the data is also rather incomplete. No examples showing the ungrammaticality of absolutive S in the Hindi construction are given (suggesting that it may be difficult to come up with relevant minimal pairs, with absolutive vs. genitive S). The Walpiri examples with an ungrammatical absolutive S are said to "become grammatical when the dative case suffix is added" (Legate 2008: 63), but this is not exemplified, that is, no minimal pair is given here either (whereas an example with a dative transitive subject (A) is given). The facts mentioned by Legate are potentially interesting, but they do not warrant any conclusions about case in syntax. Nominative-accusative languages have certain inflectional paradigms with syncretic NOM/ACC forms, cf. the Icelandic name *Jón*.NOM/ACC as compared to *Ólafur*.NOM, *Ólaf*.ACC. The fact that the form *Jón* is grammatical as an object form in PRO infinitives but excluded from the subject position (of both infinitives and nominalized verb phrases) has no bearing on the question of whether syntax has case features. It demonstrates a well-known and an easily observable fact, namely that the subject position in PRO infinitives cannot be lexicalized regardless of the form of the subject.

Commonly, claims that case is syntactic are unspecific about what it means to be ‘syntactic’ and hence difficult to assess and discuss. If such a claim only means that morphological case is derivative of the syntactic and the morphological computation, then it is a very weak claim, if indeed it is a claim and not just a trivial factual statement. In the following, I will argue against two more specific and interesting standpoints: 1) that case features are syntactic primitives, input to (and driving) the syntactic derivation, or 2) that case features are discrete syntactic objects ‘produced’ or ‘activated’ in the course of the syntactic derivation, thus accessible to some syntactic processes (and not only to morphological processes).

In the approach pursued here (and argued for in previous work), morphology is radically divorced from syntax, interpreting it rather than being part of it.³ More specifically, I argue that linguistic processes are *non-isomorphic*, and that there can thus be no one-to-one mappings between syntax and morphology (or any other levels or derivational stages in language). If so, syntax cannot operate with or on morphological features, such as ‘nominative case’, ‘1st person’ or ‘past tense’. Morphological categories are PF interpretations of abstract matching relations, such as: ‘an event participant that is identical with the speaker’ and ‘an event time prior to the time of speech’. In all such relations, at least two distinct elements, e.g. ‘event participant’ and ‘speaker’, ‘event time’ and ‘speech time’, ‘NP’ and ‘little v^* ’, are matched and valued in relation to each other, yielding a single output in morphology: ‘1st person’, ‘past tense’, ‘accusative’, etc. (Sigurðsson 2004a *et seq.*). In this paper, I will be focusing on case from this perspective, arguing that syntactic structures are not interpreted in terms of case features until in morphology.

2. Case, NP-movement, PRO

It is a well-known and a widely discussed fact that case has no general positional effects.⁴ This is especially well-established for Icelandic, due to its quirky subjects (e.g., Zaenen et al. 1985,

³ I have occasionally referred to this approach as Radically Disentangled Morphology. It has some properties in common with mainstream Distributed Morphology, but it is also rather different from it, assuming ‘lexical interpretation’ of syntax rather than ‘lexical insertion’ and denying that there are any one-to-one mappings between syntax and morphology (the two operating with different elements). Following Sigurðsson 2004b, 2006a, I assume that the ‘initial lexicon’ accessible to and operated on by narrow syntax, i.e., the initial input to Agree and (external) Merge, does not contain any composite items (not even clusters of abstract features), all ‘physical clustering’ taking place in PF. Adopting a fairly standard view, I assume that some abstract feature clustering takes place in syntax, but exactly how grammar divides the ‘segmentation labor’ between syntax and PF is an intriguing and, in my view, a largely open question. I will not discuss it further here.

⁴ There are well-known positional differences between NPs, PPs and CPs that have commonly been taken to boil down to case in the generative literature (Stowell 1981 and many others, e.g. McClosky 1996). The argument is circular, losing force if one does not adopt the axiomatic assumption that CPs and PPs are caseless (cf. Thráinsson 1979, Sigurðsson 2006b: 29).

Sigurðsson 1989, 1991, 2000, etc., Marantz 2000, McFadden 2004, 2009, Thráinsson 2007). Thus, inherently case-marked NPs are subject to NP-movement in the same manner as structurally case-marked NPs:

- (2) a. * ... *að þá mundi hafa verið boðið okkur.* DAT
 ... that then would have been invited us.DAT
 b. ... *að okkur mundi þá hafa verið boðið.*
 ... that us.DAT would then have been invited
 ‘... that we would then have been invited.’
- (3) a. * ... *að þá mundum hafa verið kosnir við.* NOM
 ... that then would have been elected we.NOM
 b. ... *að við mundum þá hafa verið kosnir.*
 ... that we.NOM would then have been elected
 ‘... that we would then have been elected.’

In contrast to definite subjects, indefinite, non-specific subjects often do not raise, regardless of their case:⁵

- (4) a. ... *að þá mundi hafa verið boðið fjórum demókrötum.* DAT
 ... that then would have been invited four Democrats.DAT
 ‘... that there would then have been (some) four Democrats invited.’
 b. ... *að þá mundu hafa verið kosnir fjórir demókratar.* NOM
 ... that then would have been elected four Democrats.NOM
 ‘... that there would then have been (some) four Democrats elected.’

As has also been widely discussed in the literature (Andrews 1976, Thráinsson 1979 *inter alia*, including many of my own works, e.g., Sigurðsson 1989, 2003), Icelandic quirky subjects behave like structurally case-marked subjects with respect to other phenomena that were taken to be driven by case in Government and Binding theory. This is illustrated (in part only) in (5)-(8):

SUBJECT RAISING:

- (5) a. *Þá virtist þeim [hafa verið boðið].* DAT
 then seemed them.DAT have been invited
 ‘Then they seemed to have been invited.’
 b. *Þá virtist [hafa verið boðið of mörgum repúblikönum/*þeim].*

⁵ The indefinites in (4) can raise, but then they get a specific reading. Bare indefinites, on the other hand, do not generally raise in Icelandic (in contrast to English), an issue that I will put aside here.

then seemed have been invited too many Republicans.DAT/*them.DAT
 ‘Then there seemed to have been too many Democrats invited.’

- (6) a. *Þá virtust þeir [hafa verið kosnir].* NOM
 then seemed they.NOM have been elected
 b. *Þá virtust [hafa verið kosnir of margir repúblikanar/*þeir].*
 then seemed have been elected to many Republicans.NOM/*they.NOM

ECM:

- (7) a. *Ég taldi [þeim hafa verið boðið].* DAT
 I believed them.DAT have been invited
 ‘I believed them to have been invited.’
 b. *Ég taldi [hafa verið boðið of mörgum repúblikönunum/*þeim].*
 I believed have been invited too many Republicans.DAT/*them.DAT
 ‘I believed there to have been too many Republicans invited.’
- (8) a. *Ég taldi [þá hafa verið kosna].* ACC
 I believed them.ACC have been elected
 ‘I believed them to have been elected.’
 b. *Ég taldi [hafa verið kosna of marga repúblikana/*þá].*
 I believed have been elected too many Republicans.ACC/*them.ACC
 ‘I believed there to have been too many Republicans elected.’

The central conclusions that can be drawn from these and related facts are stated in (9):

- (9) a. Case is irrelevant with respect to NP-movement
 b. Personal pronouns obligatorily undergo NP-movement

It thus seems that Person is the most important factor triggering NP-movement. This follows in the approach to the computation I have developed in previous work (e.g., Sigurðsson 2004a, 2009a, 2009b).⁶

Rather than taking facts of this sort at face value, numerous researchers (Belletti 1988, Jónsson 1996, Chomsky 2000, etc.) have assumed that Icelandic quirky case is exceptional and therefore does not really bear on the GB theory of *abstract Case*. Proponents of this idea, make

⁶ This is strongly supported by the quirky agreement facts, so briefly presented below (but thoroughly studied in previous work). Notice that while Person seems to be the central factor triggering NP-movement, it is evidently not the *only* factor that affects NP-placement. Thus, focus commonly affects it, to an extent, and so does definiteness, it would seem (but distinguishing between Person and definiteness is a nontrivial task, cf. Sigurðsson 2009b). Case, in contrast, is notably far from showing any correlation with NP-placement.

the simple assumption that Icelandic quirky subjects are assigned invisible or abstract nominative ‘Case’, in addition to their inherent morphological case. This double case approach is not a priori implausible, nor is it particularly abstract or far-fetched. However, it is made suspicious by Dat-Nom constructions, where the nominative object controls number agreement of the verb:

- (10) *Honum mundu ekki líka þeir.*
 him.DAT would.3PL not like they.NOM
 ‘He would not like them.’

In contrast, Icelandic nominative objects never control (unambiguous) 1st and 2nd person agreement, as illustrated in (11):⁷

- (11) a. **Honum mundum ekki líka við.*
 him.DAT would.1PL not like we.NOM
 Intended: ‘He would not like us.’
 b. **Honum munduð ekki líka þið.*
 him.DAT would.2PL not like you.NOM.PL
 Intended: ‘He would not like you.’

The agreement contrast between (10) and (11) is understandable if Icelandic quirky subjects are as ‘subjecty’ as they are partly because they enter into a covert Agree relation with the clausal Person head (Pn), Person thus not being able to also overtly agree with the nominative object (in contrast to Number, Nr, see Boeckx 2000, Sigurðsson & Holmberg 2008 and the references cited there). This is illustrated in (10)’ and (11)’:

- | | | | |
|--|--------------|--------------|-------------|
| (10)’ him.DAT would.3PL not like they.NOM | DAT | Pn / Nr | NOM |
| | ↑__covert__↑ | ↑ | ↑__overt__↑ |
| | | | |
| (11)’ a. * him.DAT would.1PL not like we.NOM | DAT | Pn / Nr | NOM |
| b. * him.DAT would.2PL not like you.NOM.PL | ↑__covert__↑ | ↑ | ↑__overt__↑ |
| | | *↑__overt__↑ | ↑ |

Thus, the extra abstract feature matched by raised subjects, quirky as well as nominative, is evidently *Person*, and not extra case. That, in turn, is not surprising if Person is a computational feature, matched by the subject (regardless of whether the subject subsequently triggers uninterpretable verb agreement in morphology), whereas case is not assigned until in

⁷ The intended readings can be expressed by several alternative means, different for different predicates (thus the verb *líka* may take a PP, type /him.DAT would like with us.ACC/ = ‘He would like us’).

morphology. See the theory of abstract Person as a computational feature developed in previous work (e.g., Sigurðsson 2004a, 2009b; cf. also Shlonsky 1989, Rizzi 2008).

As I have also argued previously (Sigurðsson 1989, 1991, 2002, 2008), Icelandic offers pervasive evidence that PRO is case active (see also e.g. Landau 2006 and Bobaljik & Landau 2008). One piece of evidence showing this comes from case agreement of floating quantifiers, as in (12) (from Sigurðsson 2008); the case agreeing quantifiers are set in boldface, whereas the case agreement trigger is underlined:⁸

- (12) 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.G to D be both.D.PL invited
 ‘The brothers wished to be both invited.’

Notice that the matrix subjects are case different from PRO in both examples, that is, the agreeing case of the quantifiers *báðir* (NOM) and *báðum* (DAT) is not transmitted from the matrix clause, instead being triggered by the case of PRO. Parallel facts are found in finite clauses, where the overt (local) subject is the agreement trigger, as shown in (13):

- (13) 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.’

In short, case has no bearing on either NP-movement or the licensing of PRO. That is not surprising if case is not a syntactic category.⁹

The question of why PRO cannot be spelled out as an overt pronoun is an intriguing and a very important issue that I will however not consider here. It is discussed in Sigurðsson

⁸ Other forms of the quantifiers, e.g., *báðum* in (12a) and *báðir* in (12b), are sharply ungrammatical. The abbreviations used in the examples are capital N, D, G for nominative, dative and genitive case, small capital M for masculine, and PL for plural.

⁹ As pointed out in Sigurðsson 2008, the assumption 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).

(2008), where it is argued that PRO infinitives (of the canonical English/Icelandic type) have a defective Person head that cannot be matched by an argument that is lexically φ -specified.

3. More facts

Agreement phenomena are commonly contingent on or triggered by case. If case is not a syntactic category, it follows that case-dependent agreement is not syntactic either. Important conceptual reasons as well as extensive empirical evidence suggests that this is precisely the correct conclusion (Sigurðsson 2004b, 2006a, McFadden 2004, Bobaljik 2006). Like case, however, agreement is *based on* the syntactic computation, but it does not follow that it *takes place* in syntax. It takes place in post-syntactic PF morphology.

Formal agreement features, like number and person agreement on verbs, are contentless in the sense that they do not contribute anything to interpretation (Chomsky 1995, etc.). Thus, inasmuch as speakers accept non-agreement as in *Them is there* or *The girls is there* (see Henry 1995, cf. also Quinn 2005), the absence of verb agreement does not lead to any poorer or different semantics than in the standard *They are here*, *The girls are here*.¹⁰

Individual cases in individual languages are clearly not entirely divorced from content in this sense. However, it is also rather obvious that they could not be unitary features or primitives in syntax either. Thus, dative case is, for instance, used to mark the following kinds of NP relations in Icelandic:

- (14) 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 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)

The examples in (15) illustrate this; *henni* is the dative form of the third person singular feminine pronoun (NOM, ACC, GEN = *hún*, *hana*, *hennar*, respectively):

¹⁰ Rich agreement languages have certain instances of semantically related agreement, facilitating processing, much as rich case languages have semantically related cases. However, this only shows that morphology is based on syntax – it does not show that morphology takes place in syntax. For further discussion, see Sigurðsson 2006a, 2009a.

- (15) a. *Ég var studdur af henni.*
I was supported by her
'I was supported by her.'
- b. *Henni líður vel.*
her feels good
'She feels good.'
- c. *Henni fór fram*
her went forth
'She made progress.'
- d. *Ég orti henni ljóð.*
I made her poem
'I wrote her a poem.'
- e. *Ég sendi henni bréf.*
I sent her letter
'I sent her a letter.'
- f. *Ég bauð henni.*
I invited her
'I invited her.'
- g. *Ég var með henni.*
I was with her
'I was with her.'
- h. *Ég var henni góður.*
I was her good
'I was nice/kind to her.'
- i. *Ég var henni eldri.*
I was her older
'I was older than she.'

It is also instructive to observe that prepositions with heterogeneous semantics obligatorily assign or require dative case, as illustrated for a few prepositions in (16):

- (16) a. *að mér* 'towards me'
b. *af mér* 'off me' DAT
c. *frá mér* 'from me'
d. *gegn mér* 'against me'
e. *gent mér* 'opposite to me'
f. *hjá mér* 'at me, with me'
g. *út af mér* 'because of me' etc.

The arbitrariness of this becomes rather obvious when it is compared with certain other prepositions that require the genitive, as the ones in (17):

- (17) a. *auk mín* 'in addition to me'
b. *án mín* 'without me' GEN
c. *milli okkar* 'between us'
d. *til mín* 'to me, towards me'
e. *vegna mín* 'because of me' etc.

All the cases are used for multiple purposes (see Barðdal 2001, Jónsson 2005). Thus, nominative is used to mark the following relations:

- (18) 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
d. Objects of certain verbs that take a dative subject

- e. Predicative NPs in finite clauses
- f. Predicative NPs in PRO infinitives
- g. Many left and right dislocated NPs, vocatives and other addressing expressions, most listed NPs, certain exclamative NPs

The examples in (19) illustrate this; *hún* is the nominative form of the third person singular feminine pronoun:

- (19)
- | | | |
|----|--|----------|
| a. | <i>Hún</i> <i>hefur skrifað margar bækur.</i>
she has written many books | +AG subj |
| b. | <i>Hún</i> <i>hvarf.</i> / <i>Hún</i> <i>var kosin.</i>
she disappeared / she was elected | –AG subj |
| c. | <i>Mér hafði virst</i> [<i>hún</i> <i>vera þreytt</i>].
me.DAT had seemed she be.INF tired.
‘It had seemed to me that she was tired.’ | ECM subj |
| d. | <i>Mér hafði alltaf leiðst</i> <i>hún</i> .
me.DAT had always bored she
‘I had always found her boring.’ | Obj |
| e. | <i>Nú hefur þú verið</i> <i>hún</i> <i>þrisvar sinnum.</i>
now have you been she three times
‘You have now been her three times.’ | Pred NP |
| f. | <i>Mig langar ekki</i> [<i>að verða</i> <i>hún</i> <i>í næsta lífi</i>].
me.ACC longs not [to become.INF she in next life
‘I don’t want to become her in my next life.’ | Pred NP |
| g. | <i>Hún</i> <i>forseti!</i>
she president
‘Her for president!’ | Excl NP |

Saying that syntax operates with a (single) +NOM feature amounts to saying that this feature is syntactically assigned not only to many subjects in Icelandic but also to some objects, certain ECM subjects, NP predicates, certain exclamative NPs, etc. It is unclear, to say the least, why that would or should be the case and what kind of syntactic case assignment or case decision mechanism would be required. Such an approach is not just an innocent or a neutral mainstream assumption: It actually claims that all the NP functions listed in (18) have some *syntactic* property in common, and it also makes the prediction that the +NOM feature should have much the same distribution across nominative-accusative languages, contrary to fact (nominative being rare on objects and ECM subjects, predicative NPs commonly being non-nominative in many languages, etc.).

Any approach claiming that +NOM is a (single) syntactic feature has to come up with a syntactically unifying analysis of all the nominatives in (19) and it also has to offer some account of the fact that nominative case has different domains and functions in even closely related languages, like Icelandic, German and the Mainland Scandinavian languages (see further shortly).

Many of the functions or relations listed in (14) and (18) are quite complex, a fact that suggests that the cases are not atomic features or primitives in language. Thus, seeing to it that agentive subjects in finite clauses show up in the nominative requires a rule or a statement that takes, roughly, the following form:

$$(20) \quad \forall x: (x \in \text{a finite clause} \ \& \ \text{NP}(x) \ \& \ \text{subject}(x) \ \& \ \text{agent}(x)) \rightarrow \text{nominative}(x)$$

Similarly, the formula in (21), where the quantifier \exists stands for ‘most’, would see to it that most benefactive indirect objects get assigned dative case:¹¹

$$(21) \quad \exists x: (\text{NP}(x) \ \& \ \text{indirect object}(x) \ \& \ \text{benefactive}(x)) \rightarrow \text{dative}(x)$$

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 different kinds of information, as seen in the formulas.¹² Moreover, formulas like these are just descriptive generalizations stated in terms of traditional notions that are themselves not syntactic primitives, such as ‘subject’ (cf. Chomsky 1981: 10; McCloskey 1997), ‘object’ and ‘finite clause’. I will return to the issue of case assignment in section 4, where I consider the question of how syntax ‘feeds’ morphological case-marking.

As mentioned above, the cases differ from formal agreement features in typically relating to semantics (in different ways in different languages). It might seem to follow, and it is commonly assumed to follow, that at least the inherent cases are legible to the semantic interface (cf. Chomsky 2002: 113). If that was the case, however, we would expect cases to show up in more or less the same fashion across languages. Nothing could be further from the truth. Consider this for only a handful of Indo-European languages (see, e.g., Comrie 1990, Blake 2001):¹³

¹¹ There are more (and probably better) ways to get the same result, but the technical details are not important here. The point I’m making is that the cases typically represent complex relations, involving a number of factors.

¹² This holds true, even if thematic information is encoded by Voice and little *v* heads, see below.

¹³ The case abbreviations are: Nom(inative), Acc(usative), Dat(ive), Gen(itive), Voc(ative), Abl(ative), Inst(rumental), Loc(ative), Ill(ative), Ade(ssive), and All(ative). As pointed out by a reviewer, comparing case systems in terms of traditional case labels is often misleading (‘genitive’ for instance having a larger domain in

(22) a.	Pr-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:	N/A		G/D		(Voc)			

If syntax operates with an +ABLATIVE feature, for instance, it is unclear why it should, at some time point, stop doing so in some languages. In contrast, if the cases are morphological markers, their variability and historical instability can be analyzed in similar terms as other morphological variation – not a trivial task, but at least a conceivable one. On such a morphological approach to case variation, languages can be understood to have clusters of semantic and structural properties that are marked by different, language specific PF strategies, including for example ablative marking in Latin, dative or accusative marking in corresponding constructions in Icelandic, prepositional marking or no marking in English, etc.

Related languages, with basically the same case systems, can show quite different distribution and function of their cases. This is even true to an extent of case-poor ‘sisters’ like Danish and Swedish, as illustrated in (23) (facts of this sort across the Germanic languages are discussed in Sigurðsson 2006b, see also Maling & Sprouse 1995):

(23) a.	<i>Deter os/*vi.</i>	<i>Danish</i>	b.	<i>Det är vi/*oss.</i>	<i>Swedish</i>
	it is us.ACC			it is we.NOM	
	‘It is us.’			‘It is us.’	

Thus, structures that are arguably *exactly the same* can get different representations in morphology (PF) in even closely related languages. Icelandic vs. German is another very clear example of this (see Maling 2001, 2002, Wunderlich 2003), an issue I will return to in the next section.

In general, relations that are expressed with some particular case in one language are commonly expressed with different cases or by other means in other languages. Thus, Russian

Modern Greek than in Ancient Greek or German), but this does not affect the simple point I am making, namely that this kind of variation is unexpected if the cases are syntactic objects.

and the Germanic languages don't have any special partitive case, while Finnish does. However, partitive and pseudopartitive relations are often marked with the genitive in Russian and commonly with prepositions in the Germanic languages but also sometimes with the genitive or even with no marking, as in the German and Swedish pseudopartitive construction *zwei Flaschen Wein* / *två flaskor vin* 'two bottles of wine' (see Neidle 1988, Vainikka & Mailing 1996, Blake 2001, Delsing 1993 and Sigurðsson 2003, for some discussion of these and related issues).

It is not as if case languages don't have any similarities in their case systems. On the contrary, such similarities are numerous. However, the point is that if individual cases were *syntactic* features, we would not expect *any* differences of this sort, given the basic assumption that syntax operates with universal features only.¹⁴ It is of course not inconceivable that this basic assumption is on the wrong track, but it is unclear, to say the least, what alternative assumptions there could be.

It might seem to be a way out here to assume that case variation boils down to parametric variation, but, to put it bluntly (perhaps), that could hardly seem to be a plausible alternative to anyone who has ever spent some time on studying morphological case in more than minimally complex case languages of the English or the Romance type. Thus, it is not clear, to say the least, how a parameter, given or implanted in Universal Grammar, would account for the fact that the preposition meaning 'without' selects ACC in German (*ohne*), GEN in Modern Icelandic (*án*) and ACC, GEN or, most commonly, DAT in Old Norse (*án*), to mention only one of hundreds or thousands of tiny as well as more general differences of this sort (some of which will be discussed below). – After all, it is hardly a coincidence that case parameters have not been successfully proposed in the generative literature.

Also, 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 and some marking of a non-NP member of the relevant syntactic relation (see Sigurðsson 2003, for some discussion).

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 groups, with and without case-marking (see Nichols 1992: 90; cf. also Nichols and Bickel 2005: 98ff). This is

¹⁴ A reviewer points out that this argument should carry over to other categories, such as Tense. As briefly mentioned in the introduction, it does, morphological tense markers not being syntactic objects. The underlying relations are arguably syntactic and universal, but they always involve at least two temporal elements or 'arguments' ('an event time *X* prior to the time of speech *Y*', etc.). It is thus impossible to state the universal syntactic relations in terms of single features like +PAST, even though these relations are commonly expressed in morphology by overt markers that are traditionally characterized as 'past', 'future', etc. See further Sigurðsson & Maling (2009) and see also the analysis of abstract syntactic Person in other previous work (Sigurðsson 2004a etc.).

presumably not very different from the result one might expect if different marking strategies (i.e., NP-marking (=case) vs. non-NP marking = agreement, etc.) are randomly spread across languages. Moreover, if one looks at constructions, rather than only at whole languages, the little evidence there is suggests that *no marking* (as in German/Swedish *zwei Flaschen Wein/två flaskor vin*, lit. ‘two bottles wine’) is a third, highly common alternative.

As far as can be seen, the only general pattern in this is that NP relations are commonly marked in some manner. One could even phrase the putative ‘generalization’ such that NPs enter into syntactic relations, and that these relations are often marked or highlighted in one way or another, somewhere on the NP itself, or on some of its neighbors, or suprasegmentally, although nothing of this is necessarily the case, and commonly is not the case ...

4. On case assignment

4.1 Non-Isomorphism

Reconsider the distribution of the Icelandic dative and nominative sketched in (14) and (18) above, restated in a simplified manner in (24) and (25):

(24) The Icelandic *dative* marks: a) Agentive NPs in *af*- ‘by’ phrases; b) Certain experiencer subjects; c) Certain theme subjects; d) Free benefactives; e) Most benefactive indirect objects; f) Numerous direct objects; g) Complements of many prepositions; h) Complements of certain adjectives; i) Certain adverbial NPs

(25) The Icelandic *nominative* marks: a) Agentive subjects; b) Numerous non-agentive subjects; c) Certain ECM subjects; d) Certain objects; e) Predicative NPs in finite clauses; f) Predicative NPs in infinitives; g) Many other NP types

Clearly, it does not make much sense to assume there to be *syntactic* DAT and NOM ‘features’ that would be the common denominators for all the relations in (24) and (25), respectively. In other words, case instructions do *not* take the simple form in (26), hence the stars:

	<i>Narrow Syntax</i>	<i>transfer</i>	<i>Morphology (PF)</i>
(26) a.	* +NOM	→	morphological nominative case
b.	* +DAT	→	morphological dative case, etc.

As a matter of fact, it seems to be a fundamental property of language that it *never* applies mappings of this sort between *any* levels or derivational stages. Thus, there are no one-to-one

mappings from features in phonology onto soundwaves in phonetics, nor are there any such mappings from morphological features like +PLURAL and +FEMININE onto phonological features such as [–high] and [+labial] (not even onto bundles of phonological features, as simply evidenced by allomorphy). I refer to this fundamental fact about language (and plausibly about any biological transformation process), as NON-ISOMORPHISM, NI:

(27) NI: Linguistic processes are *non-isomorphic*

4.2 Surface adjustments

Given Non-Isomorphism, the question of how exactly individual cases are ‘produced’ in individual languages must be addressed. A part of the answer to this question is trivial: Certain instances of case-marking are simple adjustment rules, taking, roughly, the form in (28):

(28) $X_{\alpha} + NP \rightarrow X_{\alpha} + NP_{CASE-\alpha}$

This is illustrated in (29) for the above mentioned, most common prepositions meaning ‘without’ in German and Modern Icelandic:

(29) a.	ohne + NP	→	ohne + NP _{ACC}	e.g. <i>ohne mich/*meiner</i>	German
b.	án + NP	→	án + NP _{GEN}	e.g. <i>án mín/*mig</i>	Icelandic

This is not to say that the syntax of prepositions is simple, but it is to say that their case-marking properties are commonly trivial.¹⁵ Thus, any Icelandic preposition containing the string /um/, like *um* ‘about’, *kringum* ‘around’, *umfram* ‘in addition to’, etc., assigns accusative, and any (single-word) preposition or adverb containing /an/, *innan* ‘within’, *sunnan* ‘south of’, etc., assigns genitive.

Another type of surface case adjustments involves case agreement, as in adjectival, participial and NP predicates in Icelandic, and yet another instance of ‘mechanic’ case-marking strategy is genitive marking in ‘possessive’ NP/NP constructions (with an array of different semantic/syntactic properties). Again, the syntax of the constructions in question is everything but simple, while their case-marking properties are arguably trivial, at least in individual languages (notwithstanding the fact that, for instance, predicative case-marking shows curious variation across even closely related languages).

¹⁵ That does however not extend to prepositions that can assign either ACC or DAT, depending on the semantics of the P + NP relation.

(30) a. *Inherent over Structural*, I>S: Semantically related case (inherent case) takes precedence over non-semantically related case (so-called ‘structural’ case).¹⁶

b. *Nominative over Accusative*, N>A: Among the structural cases, nominative (CASE 1) takes precedence over accusative (CASE 2), that is, accusative cannot usually be assigned to an argument unless nominative is assigned to another argument in the same clause, whereas nominative is independent of the presence of an accusative argument (Burzio’s Generalization or the Sibling Correlation, see Sigurðsson 2003, 2006b).

Consider how this works for quirky vs. non-quirky case patterns, as in (31) and (32):

- | | | | | | | |
|---------|---|--------------------|---------------|----------------------|---------|-----|
| (31) | <i>Mér</i> | <i>áskotnuðust</i> | <i>ffórir</i> | <i>gullpeningar.</i> | DAT | NOM |
| | me.DAT | acquired.3PL | four | gold-medals.NOM | | |
| | ‘I got four gold medals (by some luck or coincidence).’ | | | | | |
| | | | | | | |
| (32) a. | <i>Ég</i> | <i>fékk</i> | <i>ffóra</i> | <i>gullpeninga.</i> | NOM/-AG | ACC |
| | I.NOM | got.1SG | four | gold-medals.ACC | | |
| | ‘I got four gold medals.’ | | | | | |

¹⁷ Accusative structures (NOM-ACC) are more complex than plain nominative structures, thus taking priority in a sense (as pointed out by a reviewer). However, in the approach in Sigurðsson (2006c) ‘nominatives to be’ are actually merged lower than other arguments, NOM thus taking structural priority (in a derivational approach). That approach is compatible with my present analysis, although I’m not pursuing it here. In an approach where accusative case is assigned by v^* (as in Chomsky 2001, cf. section 4.5 below), ACC can be understood as being assigned only when the structure contains v^* (as opposed to plain v), but something more is needed to account for the fact that ACC is normally only assigned when NOM is also activated, later in the derivation. An even simpler approach than both Chomsky’s approach and the present one is analyzing NOM as a non-assigned ‘no case’, showing up whenever an NP does not get case by (morphological) assignment, an ‘Anti Case Filter’ approach, as it were. That is arguably the most coherent analysis, but for expository ease, I assume the more traditional N>A here.

- b. *Ég tók fjóra gullpeninga.* NOM/+AG ACC
 I.NOM took.1SG four gold-medals.ACC

Evidently, some feature or features in (31) require that the subject of *áskotnast* ‘acquire, gain, get’ be dative, whereas the object is not subject to any such inherent case precedence or priority. Thus, by $\underline{I>S}$, the subject cannot get structurally case-marked, and, by $\underline{N>A}$, the object gets assigned nominative, rather than accusative. In (32), on the other hand, the subject (agentive or not) is assigned nominative by $\underline{N>A}$, the object being assigned accusative as CASE2.

4.3 Voice and subject case

A number of complex issues arise. The fact that *all agentive subjects* in finite clauses are nominative, whereas numerous non-agentive subjects are quirky, suggests that subject case variation is in part a reflection of different Voice type heads (cf. Svenonius 2006). In the approach developed in Alexiadou et al. (2006) and Schäfer (2008), agentive subjects of finite clauses are introduced in the specifier of Voice, where Voice is marked [+AG(entive)]. I will instead assume that the subject is generated vP-internally but enters a matching relation with an AG(entive) Voice feature, Voice/AG, as well as with the Fin(iteness) head.¹⁸ Evidently, the subject also has to match the clausal Person head, Pn (see Sigurðsson & Holmberg 2008 and the references cited there, see also the discussion around examples (10)–(11) above).¹⁹ However, quirky subjects also match Fin and Pn.²⁰ Thus, as indicated with the connecting arrow in (33), only matching of Voice/AG seems to matter for PF case assignment to agentive subjects:

- (33) [CP ... Fin [IP Pn ... **Voice/AG** ... NP ... → NP/NOM in PF morphology
 ↑ ↑

A different Voice head is involved in the FATE ACCUSATIVE construction (type /*us.ACC drove to land*/ = ‘We drifted ashore’, etc.), call it Voice/FATE.²¹ As discussed in Sigurðsson (2006b), this fate Voice feature and Voice/AG are mutually exclusive (as one would expect). Thus, the matching relations in (34) commonly give rise to accusative marking in standard Icelandic

¹⁸ In the sense of Fin in Sigurðsson 2004a, 2009b (inspired, in turn, by Rizzi 1997). See also Sigurðsson 2004b, 2006a on the nature of feature matching and syntactic Agree (as distinct from morphological agreement).

¹⁹ I am abstracting away from other phi-features.

²⁰ Conversely, nominative PRO does not match Fin but is nonetheless assigned case.

²¹ Voice/X is just a convenient notation, where X is the active feature. It should thus read something like: ‘X, an active Voice feature, excluding other Voice features’. The term ‘Voice’ itself is a cover term, much like ‘Aspect’ in the approach of Cinque (1999).

(fate accusatives are like other quirky subjects in matching Pn and Fin, cf. Sigurðsson 2006b, 2009b):

(34) [CP ... Fin [IP Pn ... **Voice/FATE** ... **V** NP ...
 ↑ ↑ ↑

Voice features in dative subject constructions include experience, Voice/EXP, and success/failure, or, more generally, (non-agentive) gain/loss: Voice/GAIN, Voice/LOSS.²² Thus, the matching correlations in (35) (where I abstract away from little *v* type heads), often yield dative case in Icelandic morphology:

(35) [CP ... Fin [IP Pn ... **Voice/GAIN** ... **V** NP₁ ... (NP₂) ...

Notice that the verb is involved in the NP matching relations in (34) and (35), as opposed to (33). This is a necessary feature of the analysis, in view of the fact that quirky case is commonly licensed in part by lexical properties of individual predicates (as has been the received understanding since at least Zaenen et al. 1985).²³ Many quirky constructions are partly or entirely idiomatic. Thus, there does not seem to be any general reason why *áskotnast* ‘acquire, gain, get’ takes a dative subject, as in (31), whereas *fá*, the most central verb meaning ‘get’, takes a nominative subject, as in (32a).²⁴ Rather, *fá* is arguably embedded under Voice/GAIN, without the matching relation between the two leading to dative marking in morphology (see further below on object case marking). Similarly, Voice/FATE in (34) does not necessarily lead to or trigger accusative subject case, that is, some ‘fate predicates’

²² For a more detailed classification, see Barðdal (2001). See also the lists in Jónsson (2003, 2005; but note that Jónsson's lists do not reflect the idiomatic nature of many quirky constructions). Notice that I have no intention of giving a complete taxonomy of 'quirky relations' here. Notice also that many quirky subjects are derived by unaccusative/passive 'promotion' (cf. Sigurðsson 1989), their case thus being decided in relation to vP internal categories as well as in relation to Voice type heads (see section 4.5).

²³ However, 'lexical items' represent a larger structure than just the lexical (or conceptual) root. It is thus not self-evident what should count as a 'lexical property' and as an 'individual predicate'. I will not pursue these (extensively discussed) issues here.

²⁴ The same applies to a large number of similar minimal pairs (see Barðdal 2001 and Jónsson 2003, 2005 for examples and Sigurðsson 2003 for some general discussion). In this particular case, there might be some connection with the ‘middle’ *-st*-suffix in *áskotnast*, cf. also pairs like the NOM-ACC verbs *læra* ‘learn’ and *skilja* ‘understand’ vs. DAT-NOM taking *lærast* ‘learn’ (without purposeful or conscious effort) and *skiljast* ‘understand’ (also without trying to, but merely by experience or circumstances), but the putative connection could not be a straightforward one, as most *-st*-verbs do in fact take nominative subjects (cf. Zaenen & Maling 1984 and many since, e.g., Svenonius 2006). One such verb is actually *öðlast*, meaning ‘acquire, gain, get, obtain’, much as *áskotnast*, but differing from it in taking a nominative subject and an accusative abstract object (‘strength’, ‘courage’, etc.).

regularly take a nominative rather than an accusative subject.²⁵ In addition, many speakers actually use nominative rather than accusative in the Fate ‘Accusative’ construction (Eythórsson 2000a, 2000b), without any concomitant semantic effects, it seems.

Again, complex issues arise. Thus, some general approach to the inventory of Voice heads and the relation between their properties and argument theta- and case-properties across languages (including ergative languages) needs to be developed. However, the wonders of case-markings in individual languages are not central to my present purposes (but for some recent discussion, see, e.g., Jónsson 2003, 2005, McFadden 2004, 2009, McIntyre 2006, Svenonius 2005, 2006, Thráinsson 2007). What matters here is the following:

- First, while Voice/AG in (33) certainly precludes quirky case-marking of subjects (presumably by precluding ‘quirky Voice features’), there is no mention of a +NOM feature in the syntactic derivation (and there is also no mention of +ACC or +DAT in (34) and (35)).
- Second, the other instances of nominative case-marking, listed for Icelandic in (18)/(25), are *not* interpretations or ‘translations’ of the Voice/AG matching relation in (33), instead interpreting several different syntactic correlations.

Consider the second point for only nominative objects, as in (31) = (36):

- (36) *Mér áskotnuðust fjórir gullpeningar.*
 me.DAT acquired.3PL four gold-medals.NOM
 ‘I got four gold medals (by some luck or coincidence).’

As illustrated in (35), the dative subject enters into a matching ‘chain’ with V and Voice, in addition to Pn and Fin (the nominative object, in turn, matching Number, cf. (10) above). Thus, matching Voice does not ‘produce’ nominative case. One could argue that specifically matching Voice/AG triggers nominative marking, but different kinds of matching relations yield nominative as well, as in (36) (see also the discussion around (19) above). The most coherent understanding is thus that Voice/AG (e.g. in (32b) above), is not a ‘nominative assigner’, instead precluding Voice features that are active in quirky constructions, thereby allowing the PF strategy of Nominative over Accusative, N>A, in (30b) to apply to the subject, in the absence of I>S.

4.4 On dative direct objects

²⁵ Thus, *hrekja* ‘drive’ can take a fate accusative subject (type /*us.ACC drove there because of the weather*/ = ‘We were driven there by the weather’), whereas *hrekjast* with the fate reading ‘be driven’ takes a nominative subject (type /*we.NOM drove-st there because of the weather*/ = ‘We were driven there by the weather’).

Discussing all the case facts listed in (24)-(25) requires much more space than available here. However, consider at least the fact, stated in (24f), that Icelandic has numerous direct objects that are assigned dative case. Typically, the corresponding verbs assign accusative in German. Compare the Icelandic *a*- and the German *b*-examples in (37)-(42):

- (37) a. *Hún kastaði **steininum**/*steininn.* Icelandic DAT
 she threw stone.the.DAT/*ACC
 ‘She threw the stone.’
 b. *Sie hat **den Stein**/*dem Stein geworfen.* German ACC
 she has the stone.ACC/*DAT thrown
- (38) a. *Hún hellti **víninu**/*vínið niður.* Icelandic DAT
 she poured wine.the.DAT/*ACC down
 ‘She spilled the wine.’
 b. *Sie hat **den Wein**/*dem Wein verschüttet.* German ACC
 she has the wine.ACC/*DAT spilled
- (39) a. *Hún stýrði **skipinu**/*skipið.* Icelandic DAT
 she steered ship.the.DAT/*ACC
 ‘She steered the ship.’
 b. *Sie hat **das Schiff**/*dem Schiff gesteuert.* German ACC
 she has the ship.ACC/*DAT steered
- (40) a. *Hún gleymdi **mér**/*mig.* Icelandic DAT
 she forgot me.DAT/*ACC
 ‘She forgot me.’
 b. *Sie hat **mich**/*mir vergessen.* German ACC
 she has me.ACC/*DAT forgotten
- (41) a. *Hún heilsaði **mér**/*mig ekki.* Icelandic DAT
 she greeted me.DAT/*ACC not
 ‘She did not greet me.’
 b. *Sie hat **mich**/*mir nicht begrüßt.* German ACC
 she has me.ACC/*DAT not greeted
- (42) a. *Hún bauð **mér**/*mig ekki.* Icelandic DAT
 she invited me.DAT/*ACC not
 ‘She did not invite me.’

- b. *Sie hat mich/*mir nicht eingeladen.* German ACC
 she has me.ACC/*DAT not invited

Minimal pair differences of this sort between these two closely related languages, with the same inventory of cases, are strikingly numerous. I quote Maling (2002: 31):

Maling (1996) [an unpublished work] contains a list of more than 750 [Icelandic] verbs which in at least one sense occur with a dative object ... The corresponding number of verbs for German is approximately 140, and for Russian fewer than 60 ...

Dative direct objects in Icelandic primarily have four thematic interpretations (for further discussion, see e.g. Barðdal 2001, Maling 2002, Svenonius 2002, Jónsson 2005, Thráinsson 2007: 208ff):

- (43) a. THE OBJECT (AS A WHOLE) IS PUT INTO MOVEMENT:
ausa ‘scoop’ *bylta* ‘overturn’ *dreifa* ‘spread’
fleygja ‘throw away’ *fleyta* ‘float’ *hella* ‘pour’
henda ‘throw, throw away’ *yta* ‘push, shift’ etc.
- b. THE OBJECT (AS A WHOLE) IS UNDER EXTERNAL CONTROL:
beina ‘direct’ *fljúga* ‘fly’ (e.g. an aeroplane) *ráða* ‘decide’
ríða ‘ride’ (e.g. a horse) *róa* ‘row’ *sigla* ‘sail’
snúa ‘turn’ *stjórna* ‘control, govern’ etc.
- c. THE OBJECT IS BENEFACTIVE:
bjarga ‘rescue’ *borga* ‘pay’ *hjálpa* ‘help’
hjúkra ‘nurse’ *hlífa* ‘protect, spare’ *launa* ‘pay, reward’
þjóna ‘serve’ *þóknast* ‘please’ etc.
- d. THE ACTION DESCRIBED BY THE VERB IS POTENTIALLY RECIPROCAL:²⁶
andmæla ‘contradict’ *blandast* ‘get mixed with’ *fagna* ‘welcome’
giftast ‘marry’ *heilsa* ‘greet’ *misþyrma* ‘torture’
skrifa ‘write to’ *svara* ‘answer’ etc.

The first two classes, in (43a) and (43b), seem to have a common *aspect of wholeness* (the opposite to partitive). Thus, some verbs can either take a dative object that is moved or controlled as a whole or an accusative object that is effected or affected. This is illustrated in (44):

²⁶ Thus, both the subject and the object of these verbs are commonly (but not exclusively) +HUMAN. To be ‘potentially reciprocal’ is not a very specific characterization, but I have not been able to come up with a better one.

	DATIVE:	ACCUSATIVE:
(44) a.	<i>hlaða steinum</i> ‘pile bricks’	<i>hlaða hús</i> ‘build a house (of bricks)’
b.	<i>moka sandi</i> ‘shovel sand’	<i>moka skurð</i> ‘dig a ditch’
c.	<i>nudda kremi</i> ‘rub cream (onto/into)’	<i>nudda augun</i> ‘rub one’s eyes’
d.	<i>skjóta kúlunni</i> ‘shoot the bullet’	<i>skjóta dýrið</i> ‘shoot the animal’
e.	<i>snúa lyklinum</i> ‘turn the key’	<i>snúa fótinn</i> ‘twist one’s foot/ankle’
f.	<i>sópa ryki</i> ‘sweep up dust’	<i>sópa gólfíð</i> ‘sweep the floor’

Similarly, a few verbs make a distinction between dative benefactive objects (commonly animate) and accusative affected objects (commonly inanimate). This is illustrated in (45):

	DATIVE:	ACCUSATIVE:
(45) a.	<i>greiða barninu</i> ‘comb the child’	<i>greiða hárið</i> ‘comb the hair’
b.	<i>strjúkja henni</i> ‘stroke her’	<i>strjúkja enni hennar</i> ‘stroke her forehead’
c.	<i>þurrka sér</i> ‘dry oneself’	<i>þurrka heyið</i> ‘dry the hay’
d.	<i>þvo sér</i> ‘wash oneself’	<i>þvo bílinn</i> ‘wash the car’

Assume that the dative direct object in Icelandic matches one of a limited number of a little v -type heads, $v^{wholeness}$, v^{gain} , and perhaps a few other, call them simply v^{**} in general (on a par with v^* in Chomsky’s work, see below).²⁷ This would yield the following matching relations (where higher matching relations are not indicated, but see shortly):

(46)	...	[IP ...	v^{**}	...	V	NP
		↑	_____	↑↑	__	↑

Again, there is no mention of a case feature, like +DAT, in the syntactic derivation. Importantly, also, there are no discernable semantic correlates with the Icelandic-German case differences exemplified in (37)-(42). There is thus no reason to assume that German, or other languages for that matter, lack v^{**} -type heads or features. Rather, the relevant difference here

²⁷ Similar ideas have been proposed for other kinds of arguments (with different labels of the heads involved and more elaborated structural proposals), for instance indirect objects and free datives. See McFadden (2004) and Schäfer (2008) and the references cited in these works. It is of course an important task of linguistics to study the inventory and nature of little v -type heads, much as the inventory and nature of the Voice heads discussed above, but this is not one of the goals of the present study. Svenonius (2006) refers to the relevant head type as V_{DAT} , but using the DAT ‘index’ implies that syntax has a unitary object or feature that could be referred to as ‘dative’, contrary to fact (a more positive interpretation is to understand the DAT ‘index’ as just a convenient way of saying that whatever semantic/syntactic properties the head and its matching relations may have, they will be represented by dative case in Icelandic morphology).

between the languages is morphological: Icelandic morphology commonly interprets the presence of a syntactic v^{**} feature in terms of dative object case, whereas German morphology does so much less frequently.²⁸

There are exceptions from this central pattern in both languages, that is, German has some dative direct objects and Icelandic has a number of accusative objects with thematic properties that are otherwise typical of dative direct objects in the language. This is illustrated by pairs like the following ones:

	DATIVE:	ACCUSATIVE:
(47)	a. <i>bifa</i> ‘(slightly) move’	<i>hreyfa</i> ‘move’
	b. <i>ýta</i> ‘push, shift’	<i>flytja (til)</i> ‘shift, move’
	c. <i>fylgja</i> ‘follow, accompany’	<i>elta</i> ‘follow, pursue’
	d. <i>ljúka</i> ‘finish’	<i>klára</i> ‘finish’
	e. <i>hjálpa</i> ‘help’	<i>aðstoða</i> ‘assist’
	f. <i>þjóna</i> ‘serve (e.g., at the table)’	<i>uppvarta</i> ‘serve (at the table)’
	g. <i>bjarga</i> ‘rescue’	<i>lífga (við)</i> ‘revive’
	h. <i>hjúkra</i> ‘nurse’	<i>lækna</i> ‘cure’

The natural interpretation of this fact is that not only v^{**} but also the verb itself (or some verb related feature) matches the object, as shown in (46), and therefore can ‘switch off’ or block the otherwise prevailing case interpretation of v^{**} .

In short, the presence of a v^{**} feature is commonly signaled on direct objects by dative case in Icelandic morphology as opposed to German morphology, but there are numerous exceptions from this generalization in both languages. Such idiosyncratic exceptions, as well as sporadic changes of the case-marking of individual items, are expected if case-marking takes place in post-syntactic morphology, but they would be truly troublesome if case-marking took place already in syntax.

Assuming that case-marking is syntactic apparently forces one of two rather unfortunate options. The first one is that syntax operates with arbitrary features, which would preclude coherent semantic interpretation of syntax (thus being incompatible with the central goal of linguistics, to develop an understanding of the content-form relationship in language). The second one is to assume arbitrary case-deletion (cf. Chomsky’s deletion approach to agreement features in 2000, 2001, etc.). Thus, one could say that *uppvarta* ‘serve (at the table)’ in (47f) takes a ‘deep’ dative, just like *þjóna* ‘serve (e.g., at the table)’, and that its deep dative is subsequently deleted prior to or under transfer to PF (leading to accusative object case in PF morphology, as CASE2, in accordance with N>A in (30b)). Presumably, one

²⁸ I am abstracting away from free (bare, non-prepositional) datives, highly common in German (see, e.g., Schäfer 2008) but relatively rare in Icelandic (for some Icelandic examples, see Thráinsson 2007: 218f).

would furthermore have to say that dative deletion is also involved in the derivation of the German examples in (37b)-(42b) above.

There is a conceivable alternative here, though, namely that the semantic factors involved in inherent case-making of subjects and objects are too subtle to be detectable. As for dative vs. accusative direct objects one could for instance hypothesize that events can be seen from either the subject's or the object's point of view (regardless of animacy), and that only the object's point of view activates ν^{**} , resulting in dative object case in PF. If so, one would have to conclude that Icelandic for some reason expresses object point of view more frequently than German.

I leave it to the reader to judge the viability of these potentially conceivable alternatives.

4.5 Case 'preservation', Voice, and little ν

The passive and certain other NP-movement constructions 'preserve' or respect the matching relations in (46), thereby also 'preserving' the inherent case interpretation of these relations, as has been widely discussed (Zaenen & Maling 1984, Zaenen et al 1985, Sigurðsson 1989, Jónsson 1996, Svenonius 2006, Thráinsson 2007, among many). In addition, however, case 'preservation' is dependent on Voice. This is, for instance, suggested by the fact that anticausative ('middle') *-st*-verbs differ from passives in not 'preserving' inherent case on themes, as illustrated in (48):

- | | | |
|------|--|--------------------------------|
| (48) | a. <i>Við lokuðum glugganum.</i>
we closed window.the.DAT | Active NOM-DAT _i |
| | b. <i>Glugganum var lokað.</i>
window.the.DAT was closed (by sby) | Passive DAT _i |
| | c. <i>Glugginn lokaðist.</i>
window.the.NOM closed-ST
'The window closed.' | Anticausative NOM _i |

The reason why the anticausative cannot 'preserve' dative case (on themes) is arguably that it represents or expresses a different Voice structure than the passive (Svenonius 2006, see also Zaenen & Maling 1984). Suppose that passives have Voice_{PASS}/AG whereas anticausatives have an expletive Voice feature, Voice/EXPL (closely following Alexiadou et al. 2006 and Schäfer 2008). If so, dative themes are not only licensed by a ν^{**} feature but also by active Voice/AG and Voice_{PASS}/AG in contrast to Voice/EXPL. The relevant matching relations for both the nominative subject and the dative object in (48a) are thus as illustrated in (49):²⁹

²⁹ In the approach in Sigurðsson (2006c), a nominative subject is merged lower or sooner than its object, later being shifted around the object for independent reasons, having to do with object P_n and N_r matching. As

- (49) [CP ... Fin [IP Pn ... **Voice/AG** ... NP₁ ... **v**** ... V NP₂
 \uparrow _____ \uparrow \rightarrow NP₁/NOM in PF
 \uparrow _____ $\uparrow\uparrow$ _____ $\uparrow\uparrow$ _____ \uparrow \rightarrow NP₂/DAT in PF

The relevant matching relations for the quirky passive in (48b) are sketched in (50):

- (50) [CP ... Fin [IP Pn ... **Voice_{PASS}/AG** ... **v**** ... V NP
 \uparrow _____ $\uparrow\uparrow$ _____ $\uparrow\uparrow$ _____ \uparrow \rightarrow NP/DAT in PF

Plain little *v*, in contrast, does not affect case-marking, as sketched in (51) for regular, non-quirky passives:

- (51) [CP ... Fin [IP Pn ... **Voice_{PASS}/AG** ... **v** ... V NP
 \uparrow _____ \uparrow \rightarrow NP/NOM in PF

Notice, however, that there is no ACC-to-NOM ‘conversion’. What is going on here is simply that the single argument in the clause is assigned nominative, in accordance with *Nominative over Accusative*, N>A in (30b). In this respect, passives are no different from regular unaccusatives, as illustrated in (52):

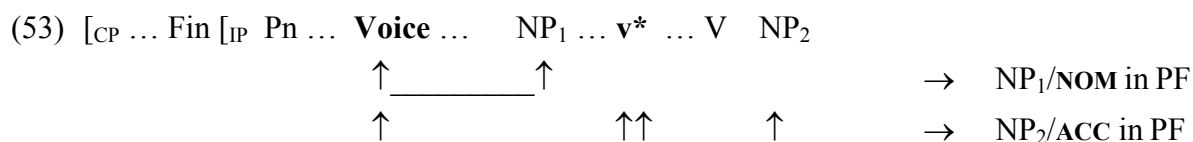
- (52) a. *Þá var byggð ný kirkja í þorpinu.* PASS
 then was built new church.NOM in village.the
 ‘Then a new church was built in the village.’
 b. *Það var þá horfin mynd úr safninu.* UNACC
 there was then disappeared painting.NOM from gallery.the
 ‘Then a painting had disappeared from the gallery.’

As for anticausatives like *lokast* ‘close’ in (48c), it is evident that their Voice/EXPL ‘deactivates’ *v***, the result being nominative case assignment in PF by N>A, as in non-quirky passives and unaccusatives.³⁰

Regular NOM-ACC constructions, in contrast, can be analyzed as in (53), where I adopt *v** from Chomsky (2001, etc.):

previously mentioned, the present approach is compatible with this low analysis of ‘nominatives to be’, but it is also independent of it (i.e., assuming that NP₁ in (49) has been raised prior to Voice matching does not alter the present analysis). As I am not considering object Pn and Nr here, I put this aside (but see McFadden 2009 for a discussion).

³⁰ The same applies to nominalizations and adjectival ‘passives’ (*The door is unlocked*, etc.). I will not consider the mechanism of *v***-deactivation here (but see Svenonius 2006 for discussion and a suggestion).



Voice in transitive structures may or may not be AG(entive). It is not AG in (32a) above, for instance. The hypothesis that accusative objects not only match v* but also Voice captures *Nominative over Accusative* (the Sibling Correlation), namely, that assignment of ‘structural’ accusative is dependent on nominative being activated in the clause, whereas nominative is independent of accusative.

This analysis presupposes that a head may in certain cases probe more than one goal. Other facts, for instance multiple case agreement facts, suggest that this is needed in any event. Notice also that the approach forces one of two conclusions: Either vP is not a full phase, or objects generally shift (even when there is no visible Object Shift) to the left edge of vP, where they can be probed by Voice without inducing a violation of PIC, the Phase-Impenetrability Condition (see Chomsky 2000: 108, 2001: 13f, 2008). I will not pursue these issues here, though.

On the present approach, the syntactic message sent to the morphology/PF interface under transfer does not contain any morphological information, that is, the only information transferred is abstract structural information of the sort sketched in (49)-(51) and (53) above. PF is evidently a complex, layered system, with roughly the following ordered sub-interfaces in oral languages (see Sigurðsson 2006a: 204).³¹

transfer to PF

(54) [NS —————→] Sign formation → Morphology → Phonology → Phonetics

After transfer and sign formation, morphology interprets syntactic matching relations like the ones in (49)-(51) and (53) in terms of abstract morphological features, such as +NOM, etc. The morphological features are subsequently transferred to phonology, which in turn interprets them in terms of phonological features.³²

Syntax does not operate with or even ‘produce’ case features. Morphology does.

4.6 A note on A'-movement and case

³¹ How much of ‘PF’ (Perceptible Form) is common to oral languages and sign languages is an intriguing and an important question (see e.g. MacNeilage 2008: 273ff).

³² Thus, to give just two examples, when combined with the Icelandic root /róʂ/ ‘rose’ the feature complex NOM.FEM.PL gets the phonological value /ir/, whereas it gets /ar/ when combined with the root /nál/ ‘needle’, in the forms *róʂir* and *skálar* ([-Ir] and [-ar] in subsequent phonetics).

Movement of arguments, be it A'-movement or A-movement, does not affect case-marking (case being “divorced from movement”, Chomsky 2001: 17). This was illustrated for various A-movement contexts in (2)-(8) and it is seen again in (52) above. Nominative and accusative case-marking of subjects and objects is plainly decided by single versus double Voice matching in syntax and *Nominative over Accusative* in PF morphology.³³ In the absence of inherent case-marking, double Voice matching (plus *v** matching) is interpreted as NOM-ACC in morphology, whereas single Voice matching is interpreted as NOM. Whether the argument in question undergoes A- or A'-movement is irrelevant. The question of why A-movement is CP clause-bounded, in contrast to A'-movement, is an interesting but a different question. A-movement is largely driven by IP-internal matching relations, most importantly Person matching, whereas A'-movement is triggered by more distant, IP-external relations.

Even so, A'-movement differs from A-movement in showing that morphological case-marking sometimes ‘survives’ across CP-boundaries, as in *Whom do you believe [Mary has invited ~~whom~~]*?³⁴ This is unproblematic (and uninteresting) on an approach where *whom* is assigned a case feature in syntax, carrying it along under movement. On the present approach, in contrast, it is an intriguing issue. It could be taken to suggest that A'-movement applies in PF (rendering the reconstruction observations in Chomsky 1993: 37ff unaccounted for) or that A'-moved constituents ‘absorb’ or inherit the morphological properties of their silent copies by some kind of a late PF probing, in violation of PIC. Alternatively, and perhaps more plausibly, it could be taken to suggest that the standard phase theory (Chomsky 2007, 2008) must be revised somehow, presumably relativized with respect to features and domains. Other long distance relations, including nominal reference, can in fact cross arbitrarily many phase boundaries, suggesting that a relativized phase theory is needed in any case.³⁵ I leave it at that. A convincing account of ‘case preservation’ under A'-movement remains to be developed.

5. Conclusion

The present approach to the syntax underlying argument PF case (albeit not ‘producing’ it) is close in spirit to the ideas pursued by Chomsky in his minimalist research (see, in particular, Chomsky 2000, 2001).³⁶ The following differences are important, though:

³³ Alternatively, NOM is decided in morphology by the ‘Anti Case Filter’ mentioned in fn. 17 above.

³⁴ I am indebted to Terje Lohndal and a reviewer for a helpful and knowledgeable discussion of this issue (and to Noam Chomsky, p.c., for having raised it in relation to the research questions pursued here).

³⁵ For a more specific structural approach to phase extension (in terms of head movement), see den Dikken 2007.

³⁶ But it is different in spirit from Sigurðsson (2006b, 2006c), where I did not try to pin down the structural correlates of PF case. The present results could not have been achieved without the ‘case in tiers’ insights of Yip et al. (1987) and the introduction of Voice into the minimalist discussion of Icelandic case by Svenonius (2005,

- First, it is Voice matching, and not Tense matching, that is commonly interpreted or reflected by morphological case.³⁷ Other things being equal, it follows that PRO infinitives should get a parallel case interpretation as finite clauses, and, as briefly mentioned in section 2, that is indeed the case.
- Second, direct objects match not only marked little *v* (*v** or *v****) but also Voice; this captures the Sibling Correlation (Burzio’s Generalization).

Crucially, however, *syntax contains no case features*, such as +NOM and +DAT (or any other more general or abstract case features like +/–OBLIQUE; all such features are morphological, inasmuch as they are ‘real’). Thus, syntactic processes, such as NP-movement, could not be driven by a ‘case-need’, such a need being nonexistent in syntax. Syntax computes relations between various kinds of elements. Such relations include matching relations between Voice heads, little *v*-heads and arguments (= argument structure), and these relations are commonly interpreted in terms of nominative and accusative case in PF. However, as we have seen, other NP relations may also be interpreted or expressed by either nominative or accusative case. This is not in principle any different from other relations between syntax and morphology. Thus, past tense verb forms in e.g. Romance and Germanic not only express shifted (true) past time readings (in relation to speech time) but also unshifted (simultaneous) or future subjunctive readings (in which case the past morphology is copied by PF tense agreement across clause boundaries, in apparent violation of PIC), suggesting that syntax does not contain and operate with a unitary +PAST feature. Similarly, to mention just one additional well-known example (see Thráinsson 2007: 465ff), Icelandic reflexives not only express locally bound anaphors but also long distance and even (overtly) unbound logophors, commonly expressed by plain pronouns in related languages, including English.

In sum: Syntax contains abstract relations (such as NP-matching of Voice and little *v*), and the morphology of individual languages interprets or expresses these relations with the optimal (commonly the least ambiguous) means available to them in their language-specific PFs. Thus, there are no one-to-one mappings from syntax onto morphology or PF in general, the derivation instead being fundamentally non-isomorphic.³⁸ Case features operate in morphology. Hence, they cannot be syntactic as well.

2006). It seems to me that the development of this subfield is thus reassuringly or at least hopefully becoming convergent.

³⁷ This first difference is however not radically distinct from Chomsky’s approach if T in his work is understood to be a cover term for a T-feature domain, including not only T itself but also clausal Pn, Nr and Voice features.

³⁸ See also previous work (e.g., Sigurðsson 2006a, 2009a, 2009b). As mentioned in note 3 above, this is different from Distributed Morphology (where morphology is basically an extension of syntax). It seems possible that morphology has some universal features, but I do not know of any Universal Morphology, or Universal PF in general (cf. MacNeilage 2008). Putative Universal PF should, for instance, offer a coherent account of how oral

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languages relate to sign languages, and also of how both oral languages and sign languages relate to extinct written languages, such as Sumerian. No such account has been developed. In Otto Jespersen's words (1992: 52, cited in Chomsky 1995: 3, and also in a preliminary version of Chomsky 2007): "no one ever dreamed of a universal morphology."

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