

## Is Icelandic a Natural Language?

This paper gives some examples of how work on Icelandic has influenced the development of linguistic theory during the past 25 years, and how modern linguistic theory has in turn helped linguists learn more about the nature and properties of Icelandic. The basic purpose is to illustrate the constant and necessary interaction between linguistic description and linguistic theory: Descriptive facts shape and constrain linguistic theory, and linguistic theory shapes and constrains linguistic descriptions. For reasons of space, the illustrations are limited to two cases from the phonology of Icelandic (*u*-umlaut and preaspiration) and two cases from Icelandic syntax (reflexives, and the relationship between case and syntactic structure). These phenomena were chosen partly because some of the facts involved have puzzled theoretical linguists in the past and even prompted the question raised in the title of this paper. I want to show, however, that there is still some hope of being able to answer the question in the affirmative.

### 1 Introduction

As described in the abstract above, this paper discusses four issues in the description of Modern Icelandic and attempts to illustrate how these by their nature have influenced the development of modern linguistic theory, and how modern linguistic theory has in turn shaped the description of these phenomena in the linguistic literature\*. Sections 2-5 all have the same basic structure: In the first part of the section a linguistic phenomenon is introduced, with examples from Modern Icelandic, and it is explained how this particular phenomenon has presented a challenge for a particular version of phonological or syntactic theory. The second part of each section shows how linguistic theory has shaped the way linguists have thought, or how they now think, about the phenomenon in question and how this has changed our picture of what Icelandic is like — or what linguistic theory must be like. Section 2 deals with *u*-umlaut, section 3 with preaspiration, section 4 discusses long distance reflexives, and section 5 briefly touches on the relationship between case and syntactic structure. Section 6 contains some concluding remarks.

### 2 U-umlaut, Phonology and Morphology, and the Ordering of Phonological Rules

#### 2.1 The Theoretical Challenge

The so-called *u*-umlaut should be well known to all students of the history of the Nordic languages. A quick look at some paradigmatic alternations like the ones in (1) also suggests that it may still be alive and well as a phonological rule in

\* The title of this paper is identical to the name of the talk that it derives from. The conference organizers suggested the title, probably because I had once given a course with the same name at Harvard. The name is actually a quote from the famous linguist Tanya Reinhart, who allegedly claimed in a discussion session at a conference, when confronted with data on reflexives in Icelandic, that Icelandic is not a natural language. As the reader will note, the term "natural language" is not always used in the technical sense in the discussion in the paper. — I thank the audience at the IXth Conference on Nordic and General Linguistics in Oslo in January 1995 for their comments on the paper, the organizers for inviting me to present it and suggesting the title, and their reviewer for suggestions. All errors are mine (except for those embedded in theories advocated by other linguists).

Modern Icelandic:

- (1) saga (N), sögu (A/D/Gsg) 'saga, story'; hamar (N), hömrum (Dpl) 'hammer'; kalla (inf.), köllum (1pl) 'call'; halt (n., Nsg), höltu (n., Dsg) 'limping'

Examples like these suggest that there may be a regular alternation between /a/ and /ö/ ([œ]), conditioned by a /u/ (which has the phonetic value of [Y] or [ø]) in the modern language, cf. (6) below in the next syllable. A common semi-formal statement of a generative rule of this kind is given in (2) (for a good overview of the theoretical and descriptive issues raised by *u*-umlaut in Modern Icelandic see Eiríkur Rögnvaldsson 1981 and references cited there):

- (2) a → ö / \_\_\_\_ C<sub>0</sub> u

This rule is meant to be read as: /a/ shows up as /ö/ if it is followed by a /u/ with any number of consonants (including zero) intervening. If we assume that the basic (underlying) root vowel of all the words given in (1) is /a/, this rule accounts correctly for the alternations illustrated there.

As every student of Icelandic knows, however, there are various kinds of exceptions to this rule. First, alternation between /a/ and /ö/ is found in some paradigms in Modern Icelandic where there is no visible /u/ to trigger *u*-umlaut. Examples are given in (3):

- (3) barn (n., Nsg), börn (n., Npl) 'child'; sög (f., Nsg), sagir (f., Npl) 'saw'; halt (n., Nsg), hölt (f., Nsg) 'limping' (cf. the reconstructed Proto-Nordic forms \*barnu (Npl), \*sagu (Nsg), \*haltu (f., Nsg))

Here two solutions could come to the mind of a linguist with standard training in generative phonology. One is to recreate the history of Icelandic by postulating a /u/ in the umlaut forms in (3) and then delete it "after" it has done its job of triggering "synchronic" *u*-umlaut. The problem with such an analysis is that it is very difficult to write a synchronic rule that only deletes the appropriate examples of unstressed word-final /u/ and leaves other examples of word-final /u/ in place, namely where they are needed. This becomes clear when we compare minimal pairs like those in (4), for instance:

- (4) sög (Nsg) 'saw' vs. sögu (A/D/Gsg) 'story'; hölt (f., Nsg) vs. höltu (n., Dsg) 'limping'

The other alternative is to say that the examples in (3) illustrate morphological *u*-umlaut in Modern Icelandic, i.e. instances of *u*-umlaut that have no phonological trigger in the modern language and are only conditioned by the morphology, such as by a particular case and/or gender in certain inflectional classes of nouns and adjectives. But once we make this assumption, the question arises whether there is any reason to assume a phonologically conditioned *u*-umlaut in Modern Icelandic at all. Could we not simply say that all instances of *u*-umlaut in the modern language are morphologically conditioned? Apparent exceptions to the *u*-umlaut rule in (1), such as the ones in (5), may appear to support such an analysis (for a discussion of examples of this sort see e.g. Eiríkur Rögnvaldsson 1981, Kiparsky 1984):

- (5) dalur (Nsg) 'valley', kaktus (Nsg) 'cactus'

Attractive as this solution may seem, *u*-umlaut in Modern Icelandic does however show certain phonological properties.

First, it should be noted that a phonological process involving [a] → [œ] triggered by [Y] does have some phonological (or phonetic) naturalness to it (looks like a rule that a "natural language" could have). This can be seen in the schematic diagram of the Modern Icelandic vowel system given in (6) (cf. Höskuldur Thráinsson 1994), where the elements in question are highlighted:

	Front		Back	
	Unrounded	Rounded	Unrounded	Rounded
High	i [i]	u [Y]	ú [u]	
Mid	i [i]	ø [œ]		
Low	e [e]	a [a]		

As this diagram indicates, the relevant *u*-umlaut (turning an /a/ into an /ö/) would imply that a non-front, non-rounded vowel becomes front and rounded under the influence of a front and rounded vowel. This does not seem implausible.

Second, it appears that *u*-umlaut in Modern Icelandic interacts with a rule of weakening, which turns an unstressed /ö/ (i.e. [œ]) into a /u/ (i.e. [Y]). This weakening is illustrated in (7):

- (7) Weakening: meðal (n., Nsg), meðöl/meöl (Npl) 'medicine'; hérað (n., Nsg), héröð/héruð (Npl) 'district'

As the examples in (7) indicate, an unstressed /ö/ can (optionally) be "weakened" to /u/ ([Y]). Interestingly, this /u/ can in turn trigger *u*-umlaut, as shown in (8):

- (8) banani (m., Nsg) 'banana'  
 Dpl: 1. banönum, 2. \*bönönum, 3. \*banunum, 4. bönunum, 5. \*bununum  
 kastali (m., Nsg) 'castle'  
 Dpl: 1. kastöllum, 2. \*köstöllum, 3. \*kastulum, 4. köstulum, 5. \*kustulum

The examples in (8) indicate two things. First, it appears that *u*-umlaut does not apply across a syllable (cf. the forms number 2 in each set). Second, these examples show that *u*-umlaut can be triggered by a phonologically derived /u/ (cf. the forms number 4 in [8]). Further evidence supporting the claim that *u*-umlaut in Modern Icelandic does not apply across syllables is found in examples like those in (9):

- (9) aðili (m., Nsg), aðilum/\*öðilum 'party (in an issue), sbd. concerned'  
 akkeri (n., Nsg), akkerum/\*ökkerum (Dpl) 'anchor'

We have now seen two kinds of evidence supporting the claim that there may be a synchronic phonological rule of *u*-umlaut in Modern Icelandic. First, such a rule seems phonetically plausible. Second (and more importantly, perhaps), this rule seems to interact with the phonological rule of weakening. If the rule were

purely morphologically conditioned in the sense described above, there would be no reason to expect it to be influenced by the application (or non-application) of the phonological rule of weakening.

Now it can be demonstrated that *u*-umlaut interacts with other phonological rules as well. First, consider the examples in (10), which illustrate the application of a syncope rule in Modern Icelandic, which deletes unstressed vowels from suffixes in various paradigms if the inflectional ending begins with a vowel:

(10)	a	masc. nouns:		b	adjectival (participial) forms:
	sg.	snepl-i	pl.	masc.sg.	fem.sg.
N	sg.	snepl-ar	pl.	rekn-n	rekn-ar
A	sg.	snepl-a	pl.	rekn-a	rekn-ar
D	sg.	snepl-um	pl.	rekn-um	rekn-um
G	sg.	snepl-s	pl.	rekn-na	rekn-na
		'scrap'		rekn-s	rekn-na
				'fired'	

As illustrated in (11), this syncope rule interacts with the *u*-umlaut rule:

(11)	a	masc. nouns:		b	adjectival (participial) forms:
	sg.	hamar	pl.	masc.sg.	masc.pl.
N	sg.	hamar	pl.	farin-n	farn-ir
A	sg.	hamr-a	pl.	farin-n	farn-a
D	sg.	hamr-i	pl.	förn-um	förn-um
G	sg.	hamar-s	pl.	farin-s	farin-na
		'hammer'		'gone'	

The examples in (11) indicate that rule of syncope has to precede (apply before) *u*-umlaut, since it may feed it (i.e. create new environment for it). As first illustrated by Anderson (see e.g. Anderson 1969, 1974), however, there are other examples in Icelandic where it appears that the order of these two rules has to be reversed, i.e. *u*-umlaut has to apply before syncope. Consider the examples in (12):

(12)	sg.	pl.	sg.	pl.
N	jökul-l	jökl-ar	jötun-n	jötn-ar
A	jökul	jökl-a	jötun	jötn-a
D	jökl-i	jökl-um	jötn-i	jötn-um
G	jökul-s	jökl-a	jötun-s	jötn-a
			'giant'	

Since the word *jökull* 'glacier' has an unstressed /u/ in it and is related to the word *jaki* 'block of ice', it seems natural to derive the stem vowel /ö/ from an /a/ by the synchronic *u*-umlaut rule under discussion here. The same argumentation holds for the word *jötunn* 'giant', which is presumably related to the noun *jata* 'manger'. This would mean, however, that in the highlighted examples in (12) the *u*-umlaut rule would have to apply before the syncope rule discussed above, i.e. before the syncope rule destroys the environment of the umlaut rule (bleeds it) by deleting the trigger /u/.

Before we go any further it is important to recall that standard generative phonology made the assumption stated in (13):

(13) Phonological rules apply in linear order.

However, if we assume that syncope and *u*-umlaut apply in paradigms like the ones in (11) and (12) above, we have an ordering paradox on our hands: Sometimes syncope has to precede *u*-umlaut (namely in examples like those in [11]), sometimes *u*-umlaut has to precede syncope (i.e. in examples like those in [12]). This raises the question stated in (14):

(14) Is this a natural state of affairs — or is Icelandic perhaps not a natural language?

Section 2.2 shows that this question can be answered in at least two ways that do not rule out the possibility of Icelandic being a natural language.

2.2 Meeting the Challenge

Anderson's response to the challenge described in section 2.1 was to propose a new theory of rule ordering in phonology (cf. Anderson 1969, 1974: 141, 185-189, 191-195, 200-202), namely the theory of local ordering. It can be stated as follows:

(15) Grammars contain ordering statements of two kinds:

- a Rule A precedes Rule B.
- b Rules A and B apply in the natural order in each derivation (where "natural order" is basically feeding and counter-bleeding). Thus Rule A may sometimes precede Rule B — and Rule B may sometimes precede Rule A.

The nature of Icelandic *u*-umlaut played a major role in the development of Anderson's theory. Thus this is probably one of the better known cases where facts from Icelandic have influenced the development of linguistic theory. However, although Anderson argued that it was entirely natural for languages to contain ordering statements like (15) (witness the name of that order), it seems that many linguists did not find this natural at all. Like many other theoretical innovations, Anderson's theory met with resistance and skepticism. One of the reasons was that there exists a more prosaic account of the apparent ordering paradox illustrated at the end of section 2.1. This solution is outlined in (16):

(16) *U*-umlaut does not apply in the derivation of words like *jökull* 'glacier', *jötunn* 'giant' (despite their derivational relationship with *jaki* 'piece of ice' and *jata* 'manger'). These words have been "reanalyzed" as having an underlying /ö/ in their root. Hence *u*-umlaut never needs to precede syncope.

Regardless of which of these two alternatives we choose, the main issue highlighted in this discussion is the problem of determining where phonological and morphophonemic alternations should be accounted for in the grammar. This is often a problem that is not easily solved. As for the problem at hand, it seems likely that Modern Icelandic has both a phonological and a morphological rule of *u*-umlaut (see e.g. the discussions in Eiríkur Rögnvaldsson 1981, Kiparsky 1982, 1984 and references cited there). The question is where the boundary lies. Linguists will draw that boundary in different places depending on the version of linguistic theory they adhere to. Drawing it the way suggested in (16) does not

rule out the possibility of Icelandic being a natural language, since reanalysis is frequently appealed to in accounts of linguistic change.

### 3 Preaspiration and the Development of Autosegmental Phonology

#### 3.1 The Theoretical Challenge

The so-called preaspiration in Icelandic has been widely discussed from both a phonological and a phonetic point of view (see e.g. Höskuldur Þráinsson 1978, Sigfrður Sigurjónsdóttir 1988-89, Jóhannes Gísli Jónsson 1994 and references cited there). The basic generalization about morphological alternations involving preaspiration is that whenever we would expect long /p, t, k/ we get preaspirated [hp, ht, hk]. This is most obvious in the case of /t/, since /t/ is common in inflectional endings in Icelandic (cf. (17)-(19)), but it can also be shown for /p/ and /k/ with examples from derivational morphology (cf. [20]-[21]):<sup>1</sup>

#### (17) Neuter of adjectives:

f.sg.	n.sg.	f.sg.	n.sg.
rík	rík-t 'rich'	feit	feit-t [feihʰ] 'fat'
sæl	sæl-t 'happy'	sæt	sæt-t [saiht] 'sweet'
a um	a um-t 'miserable'	ljót	ljót-t [ljouht] 'ugly'
græn	græn-t 'green'		

#### (18) Past tense of verbs:

inf.	pret.	inf.	pret.
leys-a	leys-ti 'untie'	mæta	[mai:t <sup>h</sup> a] mæt-ti [maiht] 'meet'
gláp-a	gláp-ti 'stare'	veita	[vei:t <sup>h</sup> a] veit-ti [veiht] 'grant'
vak-a	vak-ti 'wake'	nyta	[ni:t <sup>h</sup> a] nyt-ti [niht] 'utilize'

#### (19) Imperative formation:

formal	colloquial	formal	colloquial
leys þú	leys-tu 'untie'	mæt þú	[mai:t <sup>h</sup> θu:] mæt-tu [maihtY] 'meet'
gláp þú	gláp-tu 'stare'	veit þú	[vei:t <sup>h</sup> ] þú veit-tu [veihtX] 'grant'
vak þú	vak-tu 'wake'	nyt þú	[ni:t <sup>h</sup> ] þú nyt-tu [nihtX] 'utilize'

#### (20) Loanwords:

pöbb [p<sup>h</sup>æp:]<sup>2</sup> 'pub'

sjoppa [sjɔp<sup>h</sup>pa] 'shop'

#### (21) Nicknames:

Sigfrður → Sigga [sɪk:a] Fríðrika → Ríkka [rihk:a]

<sup>1</sup>As discussed in the literature referred to at the beginning of this section, /p,t,k/ are also preaspirated when they precede /l,m,n/. Here I will follow Höskuldur Þráinsson 1978 in assuming that, in such cases, the preaspiration rule is in such cases fed by a rule lengthening /p,t,k/, although I am aware that some linguists disagree with me on this. But this point is not very important in the present context.

<sup>2</sup>Stops are normally voiceless in Icelandic. Thus the so-called /b,d,g/ are usually just unaspirated, voiceless stops. This is discussed in some detail in Höskuldur Þráinsson 1978, Sigfrður Sigurjónsdóttir 1988-89, Jóhannes Gísli Jónsson 1994 and in references cited by these authors.

As the examples in (17)-(21) indicate, whenever we would expect long (or double) /p,t,k/ we get the preaspirated variants [hp, ht, hk]. Note also that preaspirated stops behave like long stops or consonant clusters with respect to the vowel quantity rule in Modern Icelandic. Briefly, stressed vowels are short before preaspirated stops, just as they are before long (double) consonants or consonant clusters, whereas they are long before postaspirated stops (in the dialect that has intervocalic postaspirated stops) as they are before other single consonants. This means that typical quantity relations between words involving preaspirated stops, long (double) unaspirated stops and short postaspirated (or non-preaspirated) stops can be presented schematically as in (22), as first pointed out by Barnes (1976):

(22)

V	H	P
V	P:	
V:		P

lappir 'feet', hattur 'hat', hakka 'grind'  
 labbir 'walk', haddur 'hair', haggja 'move'  
 tapir 'lose', hatur 'hate', haka 'chin'

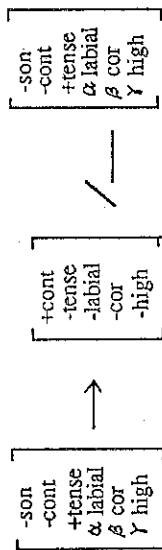
In (22) P stands for stop (i.e. a plosive), V for a vowel and H for the preaspiration 'segment'. This diagram is meant to indicate that preaspiration has "normal segment length". Postaspiration is generally much shorter. Icelandic phoneticians have long known this, and it was confirmed by extensive phonetic measurements by Magnús Pétursson in the 1970s (see e.g. Magnús Pétursson 1972).

Given this, then, it would seem that the preaspiration in Modern Icelandic can be stated informally as in (23):

(23) There is a rule of preaspiration in Icelandic which turns the first half of a double stop<sup>3</sup> into an [h].

So far so good. It turns out, however, that if we try to state this rule within the framework of classical generative phonology, it will seem quite complex. One such attempt is made in (24) (cf. the discussion in Höskuldur Þráinsson 1978:33):

<sup>3</sup>The reader may have noted that I have been very careful not to use the term geminate stop in my discussion of preaspiration here. There is a reason for this, which will be discussed presently.



The rule in (24) does not look like a very simple or natural rule in the sense that it has to change the value of a number of features in order to turn the first of a double "tense" stop (i.e. /pp,tt,kk/) into an [h]. Hence one might well wonder if a language with such a rule is a natural language. As before, however, there is an alternative. Maybe the rule is not as complex as classical generative phonology makes it appear to be. The problem could be theory-internal, i.e. resulting from the nature of the phonological theory in question. In a paper from 1977 Kristján Arnason remarks, for instance, that "generative phonology, with all the machinery it has been equipped with, is unable to state this [i.e. the preaspiration rule] in a natural fashion." So perhaps a different theory is called for.

### 3.2 Meeting the Challenge

One of the basic problems associated with a rule like (24) seems to be that it does not express the fact that [h] is in some sense a "default" consonant, namely a consonant without place features. The formulation of the preaspiration rule in terms of the so-called autosegmental phonology given by Höskuldur Thráinsson (1978) tries to express this fact.

A basic idea behind autosegmental phonology (see Goldsmith 1976 and also later ideas about "feature geometry" [or feature hierarchies] in the sense of Clements 1985) is that phonological features can, and must, be grouped into bundles. One basic division would then be between laryngeal and non-laryngeal features (cf. Höskuldur Thráinsson 1978). Before considering how this can enhance our understanding of the nature of the preaspiration rule, we have to make some assumptions about the feature specification of Icelandic (and other) stops, vowels and [h]. My assumptions include the following, and go back to Halle & Stevens's work (1971) on the system of laryngeal features. To make it easier to connect the table in (25) to the written forms of the examples I have used and will be using, the phonemes are represented by the letters they are most frequently represented by in conventional orthography, supplemented by a phonetic transcription to indicate the phonetic value:

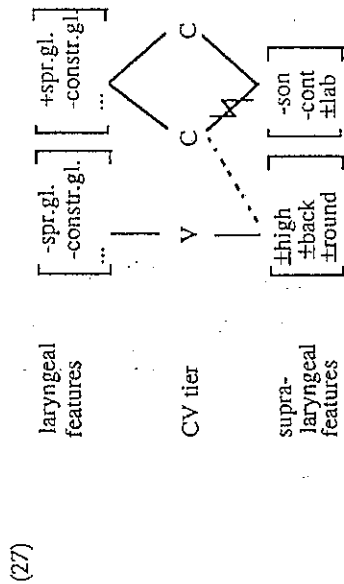
	b [p]	d [t]	g [k]	p [pʰ]	t [tʰ]	k [kʰ]	h [h]	ʔ	V	[ɸ]
spread glottis	-	-	-	+	+	+	+	-	-	-
constricted glottis	-	-	-	-	-	-	-	+	-	-
stiff vocal cords	-	-	-	+	+	+	+	-	-	-
slack vocal cords	-	-	-	-	-	-	-	-	-	+

Based on the feature specifications in (25), we can make the following observation among others:

(26) [h] has the same feature specification for laryngeal features as aspirated stops have.

What the table in (25) does not show, however, is that [h] does not have any "supralaryngeal" specifications of its own (e.g. no real place of articulation features) and typically becomes colored by the adjacent vowel in production — i.e. takes over this vowel's supralaryngeal features.

With this in mind, an attempt could be made to propose a more "natural" account of Icelandic preaspiration (see Höskuldur Thráinsson 1978). The basic idea of such an analysis can be expressed as in (27) (cf. Höskuldur Thráinsson 1978:36 — the notation has been modified slightly here):



The rule in (27) is meant to be interpreted as follows: If a vowel is followed by a stop (i.e. a segment with the specifications [-sonant, -continuant] on the supra-laryngeal tier) which carries an aspiration feature (i.e. is specified as [+spread glottis] on the laryngeal tier) and this stop occupies two timing slots (i.e. two C-slots on the segmental [CV] tier), then the first part of this stop loses its supra-laryngeal specification (the supra-laryngeal features are "delinked" from the segment — this is indicated by the mark on the line that associates the first C to its supra-laryngeal features) but keeps its laryngeal features. At the same time it is linked (as shown by the dotted line) to the supra-laryngeal features of the vowel. So, what this rule expresses is that the "first half" of a long /pp, t, kk/ in Icelandic turns into an [h]. That is what delinking of the supra-laryngeal features implies, and the linking to the supra-laryngeal features of the vowel expresses the fact that the preaspiration-[h] becomes colored by an adjacent vowel, just like any other [h], since it has no place (or any other supra-laryngeal) features of its own.

It can thus be said that an autosegmental account of Icelandic preaspiration along the lines of Höskuldur Thráinsson (1978) came closer than a classical generative phonological account like (24) does to capturing what phoneticians had discovered about the phonetic nature of preaspiration. At the same time it can be seen as a useful piece in the puzzle of figuring out what kinds of (linking and delinking) rules exist in phonology and how preaspiration is related to post-aspiration and devoicing (see also the discussion in Sigríður Sigurjónsdóttir 1988-89 and Jóhannes Gísli Jónsson 1994 and references cited there).

One potential problem associated with this analysis should be mentioned here, however. Although I have not so far used the term geminates about the /pp, t, kk/ that form the environment of the preaspiration rule, it would seem that this is exactly what they are. That would mean, however, that the account sketched here may seem unexpected or even unnatural to some. This is because

it has often been observed that geminates tend to be resistant to phonological rules and form a tight bond (see e.g. the overview in Kenstowicz 1994:410 ff. and references cited there). The analysis suggested by Höskuldur Thráinsson (1978), on the other hand, argues that the preaspiration rule applies to geminates and only affects one of them<sup>4</sup>. Once again, therefore, we are faced with a choice: Is the account of the Icelandic phenomenon too unnatural to be true, or do languages of the world allow more types of rules than linguists have liked to think?

I would still like to believe that the preaspiration phenomenon as described above is not a particularly unnatural one. That would imply, of course, that we would expect to find phenomena of a similar nature in other languages (and we do, see e.g. the Appendix in Höskuldur Thráinsson 1978 and references cited there). It would also mean that there must be some reason for the apparent "inalterability" of geminates in some languages other than a general restriction on rule application to geminates. Fortunately, there seems to be some reason to believe that this is indeed the case (see e.g. the discussion in Kenstowicz 1994:414 with references). If that is true, we can argue that facts from Icelandic have again helped to shape linguistic theory, and have thus made a contribution towards the general understanding of what human languages can be like.

#### 4 Long Distance Reflexives

##### 4.1 The Theoretical Challenge

Linguists who are familiar with discussions of pronouns and reflexives in the generative syntactic literature from the past 25 years or so will know that the basic facts about pronouns and reflexives in English can be illustrated by sentences like the ones in (28)-(29)<sup>5</sup>:

- (28) a John<sub>i</sub> shaved himself<sub>i</sub>  
 b \*John<sub>i</sub> said [<sub>S</sub> that I had shaved himself<sub>i</sub> ]  
 c \*John<sub>i</sub> asked me<sub>j</sub> [<sub>S</sub> PRO<sub>j</sub> to shave himself<sub>i</sub> ]  
 d I<sub>i</sub> asked John<sub>j</sub> [<sub>S</sub> PRO<sub>j</sub> to shave himself<sub>i</sub> ]  
 e \*I<sub>i</sub> shaved himself.

- (29) a \*John<sub>i</sub> shaved him<sub>j</sub>  
 b John<sub>i</sub> said [<sub>S</sub> that I had shaved him<sub>j</sub> ]  
 c John<sub>i</sub> asked me<sub>j</sub> [<sub>S</sub> PRO<sub>j</sub> to shave him<sub>j</sub> ]  
 d \*I<sub>i</sub> asked John<sub>j</sub> [<sub>S</sub> PRO<sub>j</sub> to shave him<sub>j</sub> ]  
 e I shaved him.

As is standard in generative grammar, identical indices are meant to indicate co-reference and asterisks ungrammaticality. The classical generative account (pre-

<sup>4</sup>As the reader may know, the stop that follows the preaspiration segment is not aspirated in Icelandic. Höskuldur Thráinsson (1978) claims that this is due to a general devoicing rule applying to all stops that follow a voiceless sound, and that this "deaspiration" is thus not a part of the preaspiration rule per se. For somewhat different accounts see Sigríður Sigurjónsdóttir 1988-89 and Jóhannes Gísli Jónsson 1994.

<sup>5</sup>I use S here to indicate the presence of an embedded clause boundary without making any claims as to the exact nature of the clause, i.e. whether it is to be considered a CP or an IP or whatever in X-bar syntactic terms in the sense of Chomsky 1986, for instance.

Chomsky 1981) of the grammaticality patterns observed in (28)-(29) can then be summarized as in (30):

- (30) a Reflexives have to have a coreferential antecedent within their own clause.  
 b Personal pronouns cannot have a coreferential antecedent within their own clause.  
 c Personal pronouns do not have to have a linguistic antecedent at all. They can for instance have deictic reference.

Thus (28a) is grammatical because the reflexive has a coreferential antecedent (John) within its clause. In (28b,c) there is no such antecedent to be found within the clause (i.e. the subordinate S) that the reflexive belongs to, nor is there one in (28e), so all these examples are ungrammatical. In (28d), on the other hand, the (invisible or understood) subject of the infinitival clause, represented here by PRO, is coreferential with the reflexive. Hence the sentence is grammatical. The pattern in (29) is the mirror image of the one in (28), and this follows from the rules stated in (30): Reflexives have to have a coreferential antecedent within their clause, personal pronouns cannot have one.

A somewhat more technical account of facts of this sort is given in the so-called Binding Theory within the Government Binding framework outlined by Chomsky (1981). Within that theory three Binding Principles can be said to define the major (or perhaps all?) types of NPs (noun phrases), and the syntactic properties of personal pronouns and reflexives observed above are supposed to follow from these principles. The principles can be stated as follows (cf. Chomsky 1981, the principles are simplified here for the time being — a more formal version comes later):

- (31) A Anaphors must be bound within their minimal clause.  
 B Pronominals must be free within their minimal clause.  
 C Referential expressions must be free.

To be able to make any sense of this we must know what the terms bound and free mean. Definitions are given in (32):

- (32) a An NP is bound if it is coreferential with another NP that c-commands it.  
 b An NP is free if it is not bound.

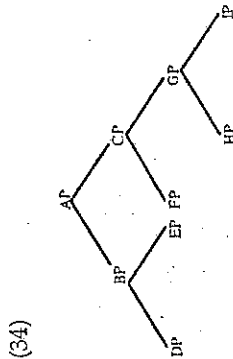
Unless we know what c-commands means, we cannot interpret (32). A standard definition is given in (33), going back to Reinhart's pioneering work (1976):

<sup>6</sup>Although the reader may think that there is nothing particularly "generative" about the rules or generalizations in (30), it should be pointed out that traditional grammars very rarely tell the reader anything about the syntactic constraints on pronouns and reflexives. The attention that such phenomena have enjoyed in recent decades is a prime example of how linguistic theory guides linguistic research by "telling" the researcher what is interesting and why and where to look for new data. As a result, we now know a lot about the general syntactic properties of pronouns and reflexives in general.

(33) A c-commands B iff

- a A does not dominate B and B does not dominate A — and
- b the first branching node dominating (= “above”) A also dominates B.

This is can be illustrated by means of a tree diagram as in (34):



In the structure in (34), the following c-command relations, among others, hold good, as the reader can verify by comparing the statements in (35) with the definition in (33):

- (35) a AP does not c-command IP (because AP dominates IP, i.e. there is a path from AP to IP that goes downward only).
- b BP c-commands IP — but DP does not c-command IP (BP does not dominate IP).
- c CP does not c-command IP (because CP dominates IP)
- d FP c-commands IP...

Given the above statements, the Standard Binding Theory (SBT) as outlined by Chomsky (1981), for instance, accounts for the grammaticality patterns in (28)-(29) if we make the following assumptions:

- (36) a Reflexives (in English) are “anaphors” in the sense of (31).
- b Personal pronouns are “pronominals” in the sense of (31).
- c Names are “referential expressions” in the sense of (31).

The relevance of assumption (36c) becomes clearer, however, if we look at examples like the ones in (37):

- (37) a \*John<sub>i</sub> shaved John<sub>i</sub>
- b \*John<sub>i</sub> asked me<sub>j</sub> [S PRO<sub>j</sub> to shave John<sub>i</sub> ]
- c \*John<sub>i</sub> said [S that I had shaved John<sub>i</sub> ]
- d I shaved John.

As the reader should be able to verify, the grammaticality pattern of (37) follows from SBT as outlined above.

Although it can be argued that SBT was motivated to a large extent by examples from English in the initial stages, it goes without saying that it is meant to say something interesting about human language in general. Note, for instance, that the statement in (31A) about anaphors is about anaphors in general, and is not restricted to English or any other specific language. More generally

the SBT can be seen as a typology of NPs in general, not just English NPs. That means, for instance, that Icelandic reflexives, personal pronouns and names should fit somewhere into this general typology, just like their English counterparts do. A quick attempt to construct Icelandic examples to compare with the English ones in (28), (29) and (37) reveals some differences between the two languages:

- |        |                     |   |                  |         |        |                    |
|--------|---------------------|---|------------------|---------|--------|--------------------|
| (38) a | Jón <sub>i</sub>    | rakaði                                      | sig <sub>i</sub> | himself |        | (= [28a])          |
|        | John                | shaved                                      |                  |         |        |                    |
| b      | Jón <sub>i</sub>    | sagði [S að                                 | ég               | hefði   | rakað  | sig <sub>i</sub> ] |
|        | John                | said that I                                 | had              | had     | shaved | self               |
| c      | Jón <sub>i</sub>    | bað mig <sub>j</sub> [S PRO <sub>j</sub> að | raka             |         |        | (~ [28c])          |
|        | John                | asked me to                                 | shave            |         |        |                    |
| d      | Ég <sub>i</sub> bað | Jón <sub>i</sub> [S PRO <sub>j</sub> að     | raka             |         |        | (= [28d])          |
|        | I asked John        | to shave                                    |                  |         |        |                    |
| e      | *Ég                 | rakaði                                      | sig.             |         |        | (= [28e])          |
|        | I shaved            | self  |                  |         |        |                    |
- 
- |        |                   |   |   |       |        |                     |
|--------|-------------------|---|---|-------|--------|---------------------|
| (39) a | *Jón <sub>i</sub> | rakaði                                      | hann <sub>j</sub>                       |       |        | (= [29a])           |
|        | John              | shaved                                      | him                                     |       |        |                     |
| b      | Jón <sub>i</sub>  | sagði [S að                                 | ég                                      | hefði | rakað  | hann <sub>j</sub> ] |
|        | John              | said that I                                 | had                                     | had   | shaved | him                 |
| c      | *Jón <sub>i</sub> | bað mig <sub>j</sub> [S PRO <sub>j</sub> að | raka                                    |       |        | (~ [29c])           |
|        | John              | asked me to                                 | shave                                   |       |        |                     |
| d      | *Ég <sub>i</sub>  | bað   | Jón <sub>i</sub> [S PRO <sub>j</sub> að | raka  |        | (= [29d])           |
|        | I asked John      | to shave                                    |   |       |        |                     |
| e      | Ég                | rakaði                                      | hann                                    |       |        | (= [29e])           |
|        | I shaved          | him   |   |       |        |                     |
- 
- |        |                   |   |                  |                    |        |                              |
|--------|-------------------|---|------------------|--------------------|--------|------------------------------|
| (40) a | *Jón <sub>i</sub> | rakaði                                      | Jón <sub>i</sub> |                    |        | (= [37a])                    |
|        | John              | shaved                                      | John             |                    |        |                              |
| b      | *Jón <sub>i</sub> | bað mig <sub>j</sub> [S PRO <sub>j</sub> að | raka             | Jón <sub>i</sub> ] |        | (= [37b])                    |
|        | John              | asked me to                                 | shave            | John               |        |                              |
| c      | *Jón <sub>i</sub> | sagði [S að                                 | ég               | hefði              | rakað  | Jón <sub>i</sub> ] (= [37c]) |
|        | John              | said that I                                 | had              | had                | shaved | John                         |
| d      | Ég                | rakaði                                      | Jón.             |                    |        | (= [37d])                    |
|        | I shaved          | John  |                  |                    |        |                              |

If we first look at the examples in (40) we see that Icelandic names are “well behaved” with respect to SBT. As for the personal pronouns, the ungrammaticality of (39c) is unexpected, since the pronoun seems to be free in its “minimal clause”, i.e. there is no coreferential c-commanding antecedent in the infinitival clause that contains the personal pronoun. Hence principle B of the SBT as formulated in (31) does not predict the ungrammaticality of (39c), assuming that Icelandic personal pronouns are “pronominals” in the sense of the SBT. Finally, the reflexive

<sup>7</sup>The Icelandic reflexive *sig*, like its Scandinavian cognates, can only have 3rd person antecedents.

xive pronoun *sig* shows unexpected behavior from the point of view of SBT since (38b,c) are grammatical, although no c-commanding binder for *sig* is in sight in its (i.e. *sig*'s) minimal clause (the embedded clause), as there should be if the Icelandic reflexive is an anaphor and thus obeys condition A of the SBT as formulated in (31).

We are now faced with the same question as before: Does the aspect of linguistic theory under consideration need to be modified or is Icelandic not a natural language? To put it slightly differently (and more seriously): Is the theory in need of modification or have we misinterpreted the facts?

#### 4.2 Meeting the Challenge

While the discovery of the basic syntactic (and semantic) facts about the so-called Long Distance Reflexive (LDR) in Icelandic goes back at least 20 years, i.e. to the time before the formulation of the SBT (see e.g. Höskuldur Þráinsson 1976 [1990]), it seems that Kayne (1981:106, fn. 20) was the first to point out the relevance of these Icelandic facts for the SBT, as mentioned in Maling's well known paper on the topic (1984). Since then there have been numerous attempts to deal with the problem and the analyses are far too many to discuss here. They can, however, be divided into two main types. The first type maintains that LDRs, like *sig* in Icelandic, are anaphors and principle A of the SBT has to be modified in order to account for them. This line of research has been made famous by Manzini and Wexler (see e.g. Manzini & Wexler 1987 and Wexler & Manzini 1987, who base their account mainly on facts presented in Johnson 1984). The other type argues that LDRs are a special class of NPs and not really anaphors in the technical sense of SBT (see e.g. Anderson 1986, Höskuldur Þráinsson 1991, 1992).

The basic claims of the Manzini & Wexler approach can be stated as in (41):

- (41) a Icelandic reflexives are anaphors in the technical sense of the binding theory, but their binding domain (i.e. the domain within which they have to be bound) is (considerably) wider than that of their English counterparts.  
 b Icelandic personal pronouns are pronominals in the technical sense of the binding theory, but the domain within which they have to be free is (slightly) wider than that of their English counterparts.

The important notion here is that of binding domain, which replaces minimal clause in our simplified formulation in (31). The main idea is that this binding domain can vary from one language (or possibly one type of NP) to another. This domain was actually called governing category in the original formulation of the SBT, so that principle A of the SBT did in fact read as in (42):

- (42) Anaphors must be bound in their governing category.

The SBT was an integral part of the so-called Government Binding (GB) framework, where the notions of government and governors played a major role. A common definition of governing category (GC) is given in (43):

- (43) A is a "governing category" for B iff A is the minimal (= smallest) category that contains B and a governor for B and a subject.

To see how this is supposed to work, consider (44), where the relevant governor

and the relevant subject are highlighted:

- (44) a I think [<sub>S</sub> that John<sub>i</sub> shaved himself<sub>i</sub> ]  
           (GC for *himself* is the embedded S)  
 b \*John<sub>i</sub> said [<sub>S</sub> that I had shaved myself<sub>i</sub> ]  
           (GC for *himself* is the embedded S)  
 c \*John<sub>i</sub> asked me<sub>j</sub> [<sub>S</sub> PRO<sub>j</sub> to shave himself<sub>i</sub> ]  
           (GC for *himself* is the embedded S)  
 d John<sub>i</sub> believes [<sub>S</sub> himself<sub>i</sub> to be a genius ]  
           (GC for *himself* is the whole sentence)

As the reader will see, the grammatical sentences in (44) are exactly those where the anaphor (i.e. the English reflexive *himself*) is bound within its governing category. (44b) and (44c) are ungrammatical because there is no appropriate binder (= coreferential c-commanding NP) for the reflexive in its GC (the embedded clause). (44a) and (44d) are grammatical on the other hand since in these cases there is an appropriate binder available for the reflexive in its GC (which is the embedded clause in [44a] and the whole sentence in [44d]).

Thus, according to the Manzini & Wexler approach, the reason why the Icelandic reflexive *sig* does not behave like the English reflexive is not that *sig* is immune from principle A of the SBT. Rather, the GC for Icelandic (or for *sig*) is different from a GC in English. More specifically, Manzini and Wexler argue that GCs can vary as described in (45) (again, I have made some simplifications for ease of exposition):

- (45) A is a governing category for B iff A is the minimal category that contains B and a governor for B and  
 a has a subject; or  
 b has a Tense; or  
 c has a "referential" Tense; or ...

The reader is referred to Manzini & Wexler's work for details, but it is easy to see that (45a) is virtually identical to the original Chomskyan definition in (43). Thus the claim is that (45a) is the notion that works for English. The main idea then is that in some other language (or for some special kind of NPs) (45b) could be the appropriate definition, in a third language (or for a third type of NPs) it could be (45c) and so on.

To see how this works for Icelandic, let us first look at Icelandic reciprocals, which seem to be well-behaved anaphors that need to be bound within a GC of type (45a), as has been claimed for English reflexives (and reciprocals too for that matter). This is illustrated in (46):

- (46) a Þeir<sub>i</sub> rökuðu hvor annan<sub>i</sub>  
           they shaved each other  
 b \*Þeir<sub>i</sub> sögu [<sub>S</sub> að ég hefði rakað hvor annan<sub>i</sub> ]  
           they said that I had(subjunct.) shaved each other  
 c \*Þeir<sub>i</sub> báðu mig<sub>j</sub> [<sub>S</sub> PRO<sub>j</sub> að raka hvor annan<sub>i</sub> ]  
           they asked me to shave each other  
 d Ég<sub>i</sub> bað þá<sub>j</sub> [<sub>S</sub> PRO<sub>j</sub> að raka hvor annan<sub>i</sub> ]  
           I asked them to shave each other



e \*Ég rakaði hvor annan.  
I shaved each other

In the simple sentences (46a) and (46e) the GC is the whole sentence. In (46a) the reciprocal *hver annan* 'each other' is bound within the GC (it has the coreferential c-commanding antecedent *þeir*) but in (46e) it is not bound within the GC (in fact, it is not bound at all). Hence (46a) is grammatical but (46e) is ungrammatical. In (46b,c,d) the GC for the reciprocal is the embedded clause, but it is only in (46d) that the reciprocal is bound within its GC. Hence the others are ungrammatical.

The definition in (45b) would be appropriate for an element that needed to be bound (or free) within the smallest tensed clause. Consider the following Danish examples, for instance:

- (47) a Jensi barberede sigi  
Jens shaved himself  
b \*Jensj sagde [S at jeg havde barberet sigi]  
Jens said that I had shaved self  
c Jensj bad mig; om [S PROj at barbere sigi]  
Jens asked me to shave self  
d Jegj bad Jensj om [S PROj at barbere sigi]  
I asked Jens to shave self  
e \*Jeg barberede sig.  
I shaved self

Here the only difference from the pattern exemplified in (46) is the grammaticality of (47c). This can be accounted for by saying that the Danish reflexive *sig* is an anaphor and the relevant GC is as defined in (45b). This means that while the tensed embedded clause in (47b) is a GC for the reflexive, the non-tensed (i.e. the infinitival) embedded clause in (47c) is not. Hence it does not matter if there is no appropriate antecedent for *sig* within the infinitival clause. This is not required because it is not the GC as it contains no tense. The CG is the whole sentence, with the finite (i.e. tensed) verb *bad* 'asked', and an appropriate antecedent can be found within this domain, as is required. Hence (47c) is grammatical.

The relevant definition of GC for the Icelandic reflexive *sig* is the one given in (45c), according to Manzini & Wexler. They base this claim on contrasts like the following, first reported in the generative literature by Höskuldur Þráinsson (1976, but see Halldór Ármann Sigurðsson 1990):

- (48) a Jónj sagði [S að ég hefði rakað sigi]  
John said that I had(subjunct.) shaved himself  
b \*Jónj vissi [S að ég hefði rakað sigi]  
John knew that I had(indicat.) shaved himself

The crucial distinction here is supposed to be that tense in subjunctive clauses is determined by the so-called sequence of tense rule, i.e. it is determined by the tense of the matrix verb and is thus not independent or "referential" in the Manzini & Wexler terminology. Hence the embedded subjunctive clause is not a GC under the definition in (45c) and thus the reflexive does not have to be bound within the embedded subjunctive clause. On the other hand, tense in indicative clauses is independent. Hence the reflexive needs to be bound within an embed-

ded indicative clause like the one in (48b). Since it is not, the sentence is ungrammatical.

While the approach exemplified here by Manzini & Wexler to the general problem of accounting for LDRs has been very influential, it faces a serious problem in Icelandic. The problem is that Icelandic LDRs need not be syntactically bound at all (cf. Halldór Ármann Sigurðsson 1990; Höskuldur Þráinsson 1991, 1992; see also Maling 1984, Hellberg 1984). This is illustrated in (49)<sup>8</sup>:

- (49) a Sigvaldi neitaði því að þetta væri vilji þjóðarinnar.  
S. denied it that this was will the nation's  
Að minnsta kosti væri það ekki sinnj vilji.  
at least were(subj.) it not self's will  
b An "inner monologue":  
Hannj lá í rúminu og hugsaði.  
he lay in the bed and thought.  
María var alltaf svo andstyggileg. Þegar Ólafur, kæmi  
M. was always so nasty. When Ólaf came(subj.)  
segði hún sérj/\*j áreiðanlega að fara...  
told(subj.) she self certainly to leave...

It is difficult to see how the notion of GC could be extended in such a way as would make it possible to maintain the claim that Icelandic (and Faroese) LDRs are anaphors. So let us consider the alternative mentioned above, namely that these LDRs are not anaphors in the technical sense.

One account along these lines can be found in work by Höskuldur Þráinsson (1991, 1992)<sup>9</sup>. The basic ideas are summarized in (50):

- (50) a Languages do have anaphors, pronominals and referential expressions in the sense of SBT. But some languages also have reflexive pronouns, which are similar to anaphors in that they are "referentially dependent" (cannot have deictic reference like pronominals) but are different from them in the sense that they do not have to be syntactically bound.  
b The reason why these reflexives are "referentially dependent" is that they are lexically underspecified (e.g., they typically lack gender and number features). Languages that have NPs like this include Icelandic, Faroese, Korean, Ewe, etc., etc.

While an account along these lines indicates that Icelandic does not only have the types of NPs defined by SBT, the fact that LDRs of a similar type are found in other languages indicates that there is still some hope that Icelandic is a natural language.

<sup>8</sup>The same is true for Faroese LDRs, as shown by Barnes 1986.

<sup>9</sup>Höskuldur Þráinsson 1991 owes much to Anderson 1986, and ideas similar to those of Höskuldur Þráinsson 1992 can be found in Burzio 1991.

## 5 Case and Syntactic Structure

### 5.1 The Theoretical Challenge

Finally, I will briefly mention some facts that have to do with the relationship between (morphological) case and word order. First, consider a common relationship between case marking and grammatical relation like the one illustrated in (51):

- (51) a She/\*her has kissed \*he/him.  
 b He<sub>i</sub>/\*him<sub>i</sub> was kissed t<sub>i</sub>  
 c \*It/there was kissed he/him.

Based on examples of this sort, a theory of case marking could be suggested like the one in (52):

- (52) a Nom(inative) (subject case) is assigned to NPs in the subject position, Acc(usative) (object case) is assigned to NPs in the object position. (Accounts for [51a])  
 b Objects of passive verbs do not get Acc. case in the object position of passives. They get assigned Nom. case if they are moved to subject position. (Accounts for [51b].)  
 c All lexical NPs must have case. Since objects of passive verbs cannot get case in situ, they must move to subject position. (Accounts for [51c].)

But as the reader might suspect by now, Icelandic case marking is not as simple as this (see, e.g., Andrews 1976; Höskuldur Thráinsson 1979; Zaenen, Maling & Höskuldur Thráinsson 1985; Yip, Maling & Jackendóff 1987; Halldór Ármann Sigurðsson 1989, 1991; Jóhannes Gíslí Jónsson 1995). For one thing, it appears that NPs in "subject" position are not always assigned Nom. This is illustrated by the examples in (53):

- (53) a Ólaf/\*Ólafur hefur aldrei vantað peninga.  
 Olaf(A/\*N) has never lacked money(A)  
 b Ólaf<sub>i</sub>/\*Ólafur hefur alltaf leiðst María/\*Maríu.  
 Olaf(D/\*N) has always bored Mary(N/\*A...)  
 c 'Olaf has always found Mary boring.'  
 Vindsin<sub>i</sub>/\*Vindurinn hefur alltaf grætt meira hérna.  
 the wind(G/\*N) has always been-noticeable more here

It can be shown that the initial NPs in these sentences have a number of subject properties in Icelandic (see e.g. Halldór Ármann Sigurðsson (1989:204-209) and references cited there), despite their morphological case. First, they undergo "subject-verb inversion" if a non-subject is fronted in the clause, as seen in (54):

- (54) Aldrei hefur Ólaf vantað peninga.  
 never has Olaf lacked money

Second, they undergo "subject-verb inversion" in direct *yes/no* questions:

- (55) Hefur Ólaf aldrei vantað peninga?  
 has Olaf never lacked money

Third, they can immediately follow the finite verb in expletive constructions, like regular subjects:

- (56) a Það hefur einhver strákur tekið peningana.  
 there has some boy(N) taken the money(A)  
 b Það hefur einhver strák vantað peningana.  
 there has some boy(A) lacked the money(A)

Fourth, they can occur in the "Accusative" position in "accusativus-cum-infinitivo" (Aci) constructions, just like other subjects (although they "keep" their case in such constructions):

- (57) a Ég tel Ólaf hafa tekið peningana.  
 I believe Olaf(A) have taken the money  
 b Ég tel Ólaf<sub>i</sub> hafa leiðst María.  
 I believe Olaf(D) have bored Mary(N)  
 'I believe that Olaf was bored by Mary.'

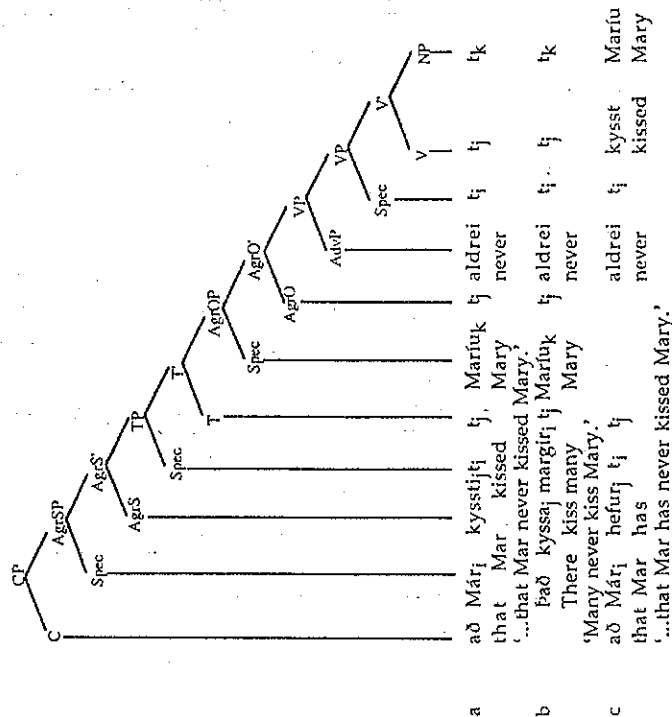
This is obviously not what we would expect on the basis of the statement in (52a). Neither is the fact that Icelandic has verbs that appear to assign Nom. to their objects. The verb *leiðast* 'get bored by' is one, as illustrated above. The Nom. object of *leiðast* can for instance undergo Object Shift, just like a regular Acc. object can. This is illustrated in (58)-(59) (where the "trace" or basic position of the moved [shifted] object is indicated by a coindexed t)<sup>10</sup>:

- (58) a Ólafur kyssit ekki Maríu.  
 Olaf(N) kissed not Mary(A)  
 b Ólafur kyssit Maríu<sub>i</sub> ekki t<sub>i</sub>  
 Olaf(N) kissed Mary(A) not  
 (59) a Ólaf<sub>i</sub> leiðist ekki María  
 Olaf(D) bores not Mary(N)  
 b Ólaf<sub>i</sub> leiðist Maríu<sub>i</sub> ekki t<sub>i</sub>  
 Olaf(D) bores Mary(N) not  
 'Olaf is not bored by Mary.'

It is also possible to find Icelandic facts that appear problematic with respect to the part of case theory expressed in (52b,c). Thus it has been pointed out many times in the literature (e.g. by Zaenen, Maling & Höskuldur Thráinsson 1985) that verbs which assign Dat(ive) or Gen(itive) to their objects can undergo Passivization. The logical objects then show up in subject position but "keep" their Dat. or Gen. case. This is illustrated in (60):

<sup>10</sup>Object Shift in Icelandic was first discussed by Holmberg, see e.g. Holmberg 1986. For further references see the discussion in section 5.2 below.

(62)



The a-example is supposed to show an embedded clause where so-called Object Shift has applied, moving the object to the left across the adverb *aldrei* 'never'. The b-sentence is an example of a transitive expletive construction which also involves Object Shift of the same kind. The c-example contains an auxiliary verb present, the so-called Holmberg's Generalization [cf. Holmberg 1986]).

As should be clear from the diagram, the account to be described here assumes general binary branching of syntactic constituents and the version of the X-bar theory outlined in Chomsky (1986). Furthermore, it assumes the "expanded IP" structure first advocated by Pollock (1989 — but see the discussion in Höskuldur Thráinsson 1995 and references cited there). The indexed traces (indicated by the subscripted t's) are supposed to show "movement" of various constituents, more specifically the subject, the verb and the object. The analysis is also based on a number of further assumptions about base (i.e. pre-movement or pre-transformational) positions of the elements involved, where they "move" to and why. Before offering any explanations, I shall simply list the most important structural assumptions:

- (63) a The subject (e.g. *Mári* in the a-example) is base-generated in SpecVP and moves to SpecIP and then to SpecAgrSP (not required if the subject is indefinite, cf. [62b]).

- (60) a Active: hjálpuðu Harald. they(N) helped Harold(D)  
Passive: Haraldur var hjálpað. Harald(D/\*N) was helped  
b Active: þeir sóknuðu hennar. they(N) missed her(G)  
Passive: Hennar/\*Hún var saknað. she(G/\*N) was missed

Once again, then, it seems that some unexpected facts can be found in Icelandic. The question is whether they are natural and the theory has to be changed to accommodate them, or whether they have perhaps been misinterpreted.

### 5.2 Meeting the Challenge

Icelandic case marking has been discussed extensively in recent syntactic literature (see for instance the extensive overview in Schütze 1993). There is obviously no way to do justice to that discussion here. Instead, I will simply outline an alternative way of thinking about case in syntax, namely an approach which involves case checking in the sense of Chomsky (1993) rather than case marking. The basic idea is outlined in (61):

- (61) a NPs are not "assigned" case in the syntax. They "emerge" from the lexicon fully inflected but they must have their case checked (i.e. licensed) in a particular position.  
b In languages like Icelandic, which case is licensed in subject and object position depends on the (lexical) verb. Some languages license NPs marked Acc., Dat. or Gen. in subject position; some verbs license Dat., Gen. or Nom. in object position.  
c The default case for subject position is Nom., the default case for object position is Acc. (This holds for Nom.-Acc. languages only, not ergative languages.)

This approach should be considered in terms of the so-called Minimalist Program first outlined by Chomsky (1993). Although it is still in its infancy, it is probably fair to say that data from Icelandic have influenced its development to a considerable extent (see e.g. references in Chomsky 1995a, b). To illustrate how this might work, it is first necessary to show the basic syntactic structure assumed. This can be done as in (62) (see e.g. Jonas 1992, 1994, 1995; Jonas & Bobaljik 1993; Höskuldur Thráinsson 1993, 1995; Bobaljik & Jonas [to appear]).

- b A finite main verb moves to T and to AgrS. If an auxiliary verb is present (as in [62c]) the main verb does not move at all<sup>11</sup>.
- c The object may move to SpecAgrOP.
- d The expletive *það* is base-generated in SpecAgrS.

Analyses along these lines can be found in some recent work on Icelandic syntax, such as Jonas & Bobaljik (1993), Jonas (1994, 1995), Bobaljik (1995), Höskuldur Þráinsson (1993, 1995), etc. Needless to say, they are based on much previous research on Icelandic word order and clause structure, such as work by Halldór Armann Sigurðsson (1989, 1991), Eiríkur Rögnvaldsson & Höskuldur Þráinsson (1990), Kjartan G. Ottósson (1989), etc. Since it is obviously impossible to go into all the argumentation for the various assumptions listed in (63) and other assumptions implicit in this kind of an analysis (for a useful overview of many of them see Jóhannes Gísl Jónsson 1995), I will just list a few that seem particularly important for the topic of this paper in general and this subsection in particular. For reasons of space I have to skip most of the technical details and try to focus on the basic ideas.

To put it simply, there is evidence that all the syntactic "positions" illustrated in (62) are needed in languages like Icelandic. For instance, subjects can, for instance, either occur immediately before the finite verb (as in [62a, c]) or immediately after the finite verb and before a shifted object and a sentential adverb like *aldrei* (as in [62b]). The main verb can either occur in second position, namely when it is finite (as in [62a,b]) or after sentential adverbs like *aldrei*, i.e. when it is non-finite (as in [62c]). Objects can precede sentential adverbs, as in (62a,b), or follow them as in (62c). The expletive *það* occurs in clause-initial position before the finite verb.

From a theoretical point of view, it is not sufficient, however, to simply claim that constituents "move around" in the fashion described above and then maintain that all the positions illustrated in (62) are needed because, in that way, it is possible to make the analysis "work". The theoretical linguist has to offer some reasons or arguments for the analysis. What counts as a legitimate argument depends on the theoretical framework. Within the so-called checking theory of the Minimalist Program outlined in Chomsky (1993) and later work, syntactic movement is supposed to be triggered by the need to "check morphological features", i.e. license constituents of particular types in specific positions. The following is a brief outline of a checking-theoretic account of what was just described.

Let us first consider the subject positions. The assumption that the subject is base-generated in the specifier (Spec) position of VP is made here (and in many of the analyses cited) in accordance with the so-called VP-Internal Subject Hypothesis (see, e.g., Burton & Grimshaw 1992 and references cited there) and I will make no attempt to argue for it. The subject moves out of the VP and to SpecTP to check its case feature and to check off the corresponding feature on the functional head T. This implies that SpecAgrSP is not a case checking position in Icelandic. The reason why some subjects move to SpecAgrSP may then have to do with something else. One possibility is checking of the agreement features

<sup>11</sup>As the diagram indicates, I assume that finite auxiliaries pass through the T-position, but details about the base position of auxiliaries are not important here. One possibility would be to assume that every auxiliary heads its own VP in underlying structure, although I have not indicated this in the diagram.

(person and number) against the finite verb in AgrS. But why would that not be necessary in sentences like (62b), where the SpecAgrSP position is arguably filled by the overt expletive and the indefinite subject is in SpecTP? One answer is that SpecAgrSP is a position for checking some sort of a definiteness feature (see e.g. Jonas 1995. See also the discussion in Vangnes 1995.) The expletive itself is arguably "definite", being pronominal in origin, and it is well known that expletive constructions are typically impossible with definite subjects (the well known "definiteness effect"). This is illustrated in (64) (compare [62b]):

- (64) a \*það kyssa strákar Maríu aldrei.  
 there kiss the boys Mary never  
 b Strákarnir kyssa Maríu aldrei.  
 the boys kiss Mary never  
 'The boys never kiss Mary.'

Thus the fact that a definite subject like *strákarnir* 'the boys' in (64) cannot follow the finite verb in an expletive construction, but is very happy preceding it, could be seen as an argument for the claim that SpecAgrSP is a position for definite subjects, and if no definite subject is present then the expletive can be used as a "last resort" to check the definiteness feature on the AgrS head.

Next consider the object positions. Since objects are also case marked NPs, it would seem natural to assume that the Object Shift illustrated in (62a,b) is triggered by the need to check the case feature of the object in SpecAgrOP. It is interesting to note in this connection that Object Shift (involving non-pronominal objects) is not found in the Mainland Scandinavian languages (MSc), cf. (65), for instance:

- (65) a \*Jens kysede Marie ikke. (Da)  
 Jens kissed Mary not  
 b Jens kysede Marie.  
 Jens kissed not Mary  
 'Jens did not kiss Mary.'

It seems tempting to relate this to the fact that nouns do not have overt morphological case in MSc. But this cannot be the whole story. Note, for instance, that indefinite objects do not undergo Object Shift<sup>13</sup>:

- (66) a \*Jón borðar kjöt aldrei.  
 John eats meat never  
 b Jón borðar kjöt.  
 John eats never meat  
 'John never eats meat.'

<sup>12</sup>Because the overt expletive in Icelandic is always in clause-initial position and never follows the verb it has been argued that it is in SpecCP rather than SpecAgrSP (or SpecIP if a non-expanded IP-structure is assumed). As pointed out by Kjartan G. Ottósson (1989), however, the expletive is very different in nature from typical SpecCP elements, such as topics. For a detailed overview of Germanic expletives see Vikner 1991, 1995.

<sup>13</sup>This is a simplification, as discussed, for instance, by Diesing and Jelinek 1993 and Diesing 1992.

It thus seems that definiteness has something to do with the shift to SpecAgrOP position, just as it has with the shift to SpecAgrSP position (see Jonas 1995). It can be shown, however, that definiteness is not a sufficient condition for argument shift to SpecAgrOP. Thus it is only case marked NPs that can undergo this shift, not argumental PPs, for instance. Consider the near-minimal pair in (67)-(68):

- (67) a Mar snerti ekki bokina.  
 Mar touched not the book  
 b Mar snerti bokina ekki  
 Mar touched the book not  
 'Mar did not touch the book.'
- (68) a Mar kom ekki vi bokina  
 Mar came not with the book  
 'Mar did not touch the book.'  
 b \*Mar kom vi bokina ekki.  
 Mar came with the book not

Thus it can be argued that Object Shift does indeed have something to do with case checking<sup>14</sup>.

As already mentioned, it is not possible to shift the object when the relevant main verb does not move out of the VP. Positioning of the verb to the left of a sentential adverb like *aldrei* 'never' or the negation *ekki* 'not' is a diagnostic for verb movement, and it seems to be inapplicable when an auxiliary is present (cf. [63b]). This is illustrated in (69):

- (69) a \*Mar hefur Maru ekki kysst.  
 Mar has Mary not kissed  
 b Mar hefur ekki kysst Maru.  
 Mar has not kissed Mary.

Furthermore, it has been argued (first by Jonas & Bobaljik 1993) that Object Shift (involving full NPs) only occurs in languages where there is evidence for the presence of SpecTP as a special case marking position for subjects. This is supposed to follow from the so-called principles of Shortest Move and Equidistance of Chomsky's Minimalist Program (1993). It would take us too far afield to try to explain these notions here. It is sufficient for us to note that the licensing of SpecTP as a subject position seems to be dependent on movement of the main verb to T, something for which there is no evidence in MSc (see e.g. Vikner 1991, 1995, and Jonas 1995, and references cited there)<sup>15</sup>.

<sup>14</sup>In this respect Icelandic Object Shift is different from Scrambling in German, for instance, since PPs can scramble in German. Thus it is possible that Scrambling in German is of a different nature, possibly an A-bar movement rather than A-movement. For discussions of such issues see Weibelhuth 1992, for instance.

<sup>15</sup>If the existence of Transitive Expletives is an indication that SpecTP is available in the language, and if that means in turn that there is verb movement to T in the language, as argued by Jonas (1995), then Dutch should have verb movement to T since it appears to have Transitive Expletives (see Zwart 1992). That means, however, that TP must be head-final in Dutch, contrary to Zwart (1993) and Kayne (1994), since it does not seem that there is any finite verb movement to the left in Dutch embedded clauses. This needs to be investigated further in the

This brief sketch of how linguists are now addressing problems of case marking and clause structure within the so-called Minimalist Framework first outlined in Chomsky (1993) obviously does not do justice to that framework. It does not really try to show in what respect an analysis developed within this framework might be superior to previous analyses. It is rather presented here as an illustration of how a new theory suggests new ways of looking at "old" data, new ways of interpreting cross-linguistic variation — and where to look for new data. Although the formal mechanism and the representation of the clause structure assumed by this theory may seem complex at first, some of the points that are emerging from this approach should be fairly clear. One is that it seems that only some languages show any evidence for the presence of SpecTP as a subject position. Hence it has been argued that we may have to allow for cross-linguistic variation in basic clause structure — and this variation may even be related to differences in overt morphology (see Hoskuldur Thrainsson 1995 and references cited there; but see also Bobaljik 1995 and Jonas 1995 for slightly different claims). However, the jury is still out on this question, and it would be premature to discuss it further here.

## 6 Conclusion

The purpose of this paper was to give some examples of how there can — and must — be constant cross-fertilization between linguistic theory and the descriptions of individual languages. I have tried to demonstrate this by giving examples from the study of Icelandic phonology and syntax during the past 25 years. By picking a number of different descriptive topics and theoretical frameworks I hoped to make at least some of the paper interesting to linguists of different persuasions and with different backgrounds. At the same time I wanted to show that different theories lead to discoveries of different types of facts. That is why we should always greet new theoretical approaches with an open mind. If they make explicit and testable predictions, they are bound to enrich our knowledge of human language in general and of our favorite language in particular, even though some linguists may like to claim that it is not a natural language.

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Ulf Telemann

## Referensgrammatiken och språkteorierna

The paper is a presentation of some considerations underlying the work on an extensive descriptive grammar of modern spoken and written Swedish. The borderline between descriptive and normative grammar is not always easy to draw. Some particularly difficult cases are discussed, e.g. standard spoken language versus dialects, adult standard versus the language of children and adolescents. A reference grammar is descriptive also in the sense that it does not explain the grammatical rules of the specific language. This goes for all kinds of explanation: historical, psychological (cognitive), communicative (interactional), biological (as in grammatical theories with universalistic ambitions). A reference grammar has a wide audience of readers, which is one reason why its theoretical and terminological basis should be rather traditional and eclectic. Furthermore, modern theories of grammar develop so fast that a reference grammar would be outdated very soon, if it were to follow one of them too closely. It is essential, though, that a reference grammar can incorporate new insights without being totally committed to any one theory in particular. It is shown how features from various contemporary grammatical traditions can be fruitfully used. The paper concludes with some conceptual and rhetorical innovations in the Swedish Academy grammar.

Referensgrammatiken kan betraktas som en uppslagsbok vid sidan av ordboken. Liksom ett lexikon talar om vilka ord som finns i ett språk ska referensgrammatiken tala om hur orden kan sättas ihop till större konstruktioner i språket och vad dessa konstruktioner kan betyda.

Referensgrammatiken är i sin egenskap av text underkastad de basala retoriska kraven sanning, relevans och begriplighet. Relevans- och begriplighetskraven innebär respekt för de tänkta grammatikanvändarnas förutsättningar och syften. Sanningskravet innebär trohet mot data, dvs. mot det beskrivna språkets faktiska grammatik.

Referensgrammatiken är en handbok, snarare än ett inlägg i den grammatikteoretiska diskussionen. I detta ligger att grammatiken är ett redskap för läsaren: den förmedlade kunskapen om det beskrivna språkets grammatik ska kunna användas av läsaren för bestämda syften. Det underförstås också att referensgrammatiken är verkligen omfattande, en slags encyklopedi över det beskrivna språkets grammatik. Detta medför att grammatiken i huvudsak måste byggas på föreliggande kunskap snarare än på redaktörernas egna grammatiska undersökningar. Det i grunden praktiska ändamålet gör också att boken endast sekundärt kan ha som syfte att vara vetenskapligt intressant, även om det är klart att den mer eller mindre tydligt bär spår av de grammatikteoretiska kulturerna som blomstrar vid tiden för dess tillkomst. Man kan alltså säga att en referensgrammatik över ett visst språk framför allt kommer att präglas av följande fyra faktorer (fig. 1):

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*The Nordic Languages  
and Modern Linguistics*

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Proceedings of The Ninth International Conference  
of Nordic and General Linguistics  
University of Oslo  
January 11-12, 1995

Edited by Kjartan G. Ottósson,  
Ruth V. Fjeld and Arne Torp

Published in cooperation with  
The Nordic Language Secretariat



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NOVUS FORLAG  
OSLO 1996